

# izobil<sup>®</sup>

CONSTRUCTION CHEMICALS

- ❖ Waterproofing Materials
- ❖ Primers
- ❖ Top Coatings
- ❖ Floorings
- ❖ Complementary Products

**Maris Polymers<sup>®</sup>**  
POLYURETHANE SYSTEMS

***BILIZO<sup>®</sup>***



## **İZOBİL® CONSTRUCTION CHEMICALS COMPANY PROFILE**

Having started its activities on Feb. 1<sup>st</sup>, 2005, İzobil® Construction Chemicals is dedicated to provide high-quality and reliable services over a period of time from importation to implementation of the line of products, and carries on importation and exportation business as the exclusive distributor of Maris Polymers SA, which began its manufacturing activities in 1989.

Single and two component polyurethane products put by İzobil® Construction Chemicals on insulation market are widely used in the fields of construction and industry. With its wide range of products including Water Insulation Materials, Floor Coatings, Primers and Mastics, İzobil® offers effective solutions for every insulation problem. İzobil® has succeeded in becoming a well-known, reliable and highly-demanded brand, as it has become customer satisfaction-oriented in a short period of time with its network of dealers/resellers throughout Turkey, Turkic Republics, Middle East, Russia and Georgia.





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# BILIZO® POLYUREA PR

## Aromatic Pure Polyurea System



### Product Description

It is a fast set, rapid curing, 100% solids, mixing ratio with 1:1 by volume, solventless, two component spray aromatic pure polyurea that can be applied to suitably prepared concrete, metal and different surfaces. It is a hard – flexible waterproofing membrane with high mechanical, chemical resistance. It must be applied with special machines cause of its fast reaction.

### Application Areas

- ✦ Roof, balcony, terrace,
- ✦ Water insulation of foundation and concrete shear wall,
- ✦ Indoor of flower beds, waste water and eaves trough, concrete flumes,
- ✦ Tunnels, underpass and overpass,
- ✦ Trick beds,
- ✦ Aircraft hangar floors,
- ✦ Petroleum refineries and petrochemical industries,
- ✦ As a anticorrosive and protective coating for steel structure of steel silos indoors, ports facility, ships, chemical industry.

### Consumption

Apply 2, 0-2, 2 kg/m<sup>2</sup> to obtain 2 mm of dry film thickness.

### Advantages

- ✦ It can be used on many surfaces with the use of the correct primer,
- ✦ 100 % solid, zero VOC and odorless,
- ✦ Can be applied on horizontal and vertical surfaces,
- ✦ It creates a monolithic and do not require grouting surfaces,
- ✦ Application and the surface to be ready for use is very fast,
- ✦ It is proper for contact with water,
- ✦ Flexible, high mechanical and corrosive resistance,
- ✦ Resistance to the underground of chemicals.

### Packaging

A set of BILIZO® POLYUREA PR Component A weighs 200 kg in a drum and the Component B weighs 220 kg in a drum.

### Technical Data

Appearance	Semi-Matt
Color:	Colorless or Grey/Oxide red/Black
Density:	A:1,02 – B:1,1 ± 0,02 kg/lt
Mixing ratio	1:1 (A:B – by volume)
Solid by Volume	%100 (A+B)
Pot life (+10°C)	3-5 secs
Tack free time(@3 mm. thickness)	10-30 secs
Recoat time	0 – 8 hours / at 20°C
Viscosity A Component (25°C)	500±50 cps. (Brookfield)
Viscosity B Component (25°C)	1300± 200 cps. (Brookfield)
VOC Content	0 gr/ml
Hardness (ASTM D-412)	55 ± 5 Shore D
Tensile Strength (ASTM D-412)	2000 ± 200 psi
Elongation (ASTM D-412))	200 ± 20%
Tear (ASTM D-624) (Angle Type)	90 – 100 N
Tear (ASTM D-624) (Trouser Type)	40 – 50 N
Service Temperature – Dry	-30 / +120°C
Service Temperature – Wet	+4 / +50°C
Recommended Applied Thickness /Consumption	2mm/2,0 – 2,5 kg/m <sup>2</sup>
Return to Service: Foot Traffic	1 – 4 hour / at 20°C
Return to Service: Full Service	> 24 hour / at 20°C
Water Absorption (ASTM D471)	<%0,5 (max.25°C, 24 hours)
Crack Bridging (ASTM C836)	Pass (-25°C, 1.6mm crack, 25 cycles)
Impact Resistance (TS EN 12691)	800 mm
Pull-Off Strength (ASTM D4541)	
Concrete (Shot blasted profile)	≥2 N/mm <sup>2</sup>
Steel (75-100 micron)	≥5 N/mm <sup>2</sup>
Flexibility (ASTM D1737)	Pass (1/8"(3mm) Mandrel Bend Test)

### Application

**Surface Preparation:** In general, coating performance and adhesion are directly proportional to surface preparation. Cause of this, application surface should be free of any damages and surfaces must be free of dust, oil, grease, rust, corrosion and contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. It should be free of any loose and friable particles paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Should be prepared a high adherence and strength mechanical surfaces.

**New and Old Concrete:** New concrete must be cured for 28 days prior to product application and concrete surface must contain maximum %4 moisture. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations.. If old concrete has a surface that has deteriorated to an unacceptably rough surface, BILIZO® MACRO PRIMER and a mixture of sand/powder should be used as a repair agent for cracks, spalls, bug holes and voids. If the old surfaces are very glossy, it must be roughen or primed with BILIZO® MACRO PRIMER.

**Wood Surfaces:** All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be primed using BILIZO® MACRO PRIMER.

**Steel Surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After cleaning, scraping should be performed at level of 2½ as per ISO 8501-1 to get a surface profile of 70 – 100 microns. After scraping the surface, must be primed.

**Textiles, Canvas, Fabrics:** Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

**All Other Surfaces:** An adhesion test is recommended prior to starting the project. Please consult to Izobil Construction Chemicals – Technical Service for application to different surfaces.

**Application to Surface:** BILIZO® POLYUREA PR may not be diluted under any circumstances. Thoroughly mix B compenent (resin side), with air driven power equipment until a homogeneous mixture and color is obtained. Surface temperature should be 3°C above the then dew point. Both materials (A and B sides) must be warm up to 25-30°C before application. Should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment to the ready application surface.

Both Part-A and Part-B materials should be sprayed at a minimum of 2000 (135 bar) psi and at temperatures above 70-80°C. Adequate pressure and temperature should be maintained at all times.

BILIZO® POLYUREA PR should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance. Should be adhered to the recomendad consumption on application, out of the special cases, 45 degrees with the surface to be sprayed.

The system must be protective from UV with aliphatic topcoat paint on outdoor applications.

### Storage

The product must be storage in a cool and dry area.The product has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Store drums on wooden pallets to avoid direct contact with the ground and the temperature must be above 15°C. If stored for a long period of time, rotate Side-A and Side-B drums regularly.

### Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.





# BILIZO® POLYUREA HB

High Mechanical Strength and Chemical Resistance Hybrid Polyurea



## Product Description

It is a fast set, rapid curing, 100% solids, mixing ratio with 1:1 by volume, solventless, two component aromatic spray polyurea that can be applied to suitably prepare concrete, metal and different surfaces. It is a hard – flexible waterproofing membrane with high mechanical, chemical resistance. It must be applied with special machines cause of its fast reaction.

## Application Areas

- ✦ Roof, balcony, terrace,
- ✦ Water insulation of foundation and concrete shear wall,
- ✦ Indoor of flower beds, waste water and eaves trough, concrete flumes,
- ✦ Tunnels, underpass and overpass,
- ✦ Truck beds,
- ✦ Aircraft hangar floors,
- ✦ Petroleum refineries and petrochemical industries,
- ✦ As a anticorrosive and protective coating for steel structure of steel silos indoors, ports facility, ships, chemical industry.

## Consumption

Apply 2, 0-2, 2 kg/m<sup>2</sup> to obtain 2 mm of dry film thickness.

## Advantages

- ✦ It can be used on many surfaces with the use of the correct primer,
- ✦ 100 % solid, zero VOC and odorless,
- ✦ Can be applied on horizontal and vertical surfaces,
- ✦ It creates a monolithic and do not require grouting surfaces,
- ✦ Application and the surface to be ready for use is very fast,
- ✦ It is proper for contact with water,
- ✦ Flexible, high mechanical and corrosive resistance,
- ✦ Resistance to the underground of chemicals.

## Package

A set of BILIZO® POLYUREA HB consists of 200 kg A component in a drum and 220 kg B component in a drum.

## Technical Data

Appearance	Semi-Matt
Color:	Colorless or Grey/Oxide red/Black
Density:	A:1,00 – B:1,1 ± 0,02 kg/lt
Mixing ratio	1:1 (A:B – by volume)
Solid by Volume	%100 (A+B)
Pot life (+10°C)	3-5 secs
Tack Free Time (@ 3 mm. thickness)	10-30 secs
Recoat Time	0 – 8 hours / at 20°C
Viscosity A Component (25°C)	700±50 cps. (Brookfield)
Viscosity B Component (25°C)	1300± 200 cps. (Brookfield)
VOC Content	0 gr/ml
Hardness (ASTM D-412)	50 ± 5 Shore D
Tensile Strength (ASTM D-412)	1400 ± 200 psi
Elongation (ASTM D-412))	340 ± 20%
Tear (ASTM D-624) (Angle Type)	75 – 85 N
Tear (ASTM D-624) (Trouser Type)	30 – 40 N
Service Temperature – Dry	-30 / +120°C
Service Temperature – Wet	+4 / +50°C
Recommended Applied Thickness /Consumption	2mm/2,0 – 2,5 kg/m <sup>2</sup>
Return to Service: Foot Traffic	1 – 4 hour / at 20°C
Return to Service: Full Service	> 24 hour / at 20°C
Water Absorption (ASTM D471)	<%0,5 (max.25°C, 24 hours)
Crack Bridging (ASTM C836)	Pass (-25°C, 1.6mm crack, 25 cycles)
Impact Resistance (TS EN 12691)	360 mm
Pull-Off Strength (ASTM D4541)	
Concrete (Shot blasted profile)	≥2 N/mm <sup>2</sup>
Steel (75-100 micron)	≥5 N/mm <sup>2</sup>
Flexibility (ASTM D1737)	Pass (1/8”(3mm) Mandrel Bend Test)

## Application

**Surface Preparation:** In general, coating performance and adhesion are directly proportional to surface preparation. Cause of this, application surface should be free of any damages and surfaces must be free of dust, oil, grease, rust, corrosion and contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. It should be free of any loose and friable particles paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Should be prepared a a high adherence and strength mechanical surfaces.

**New and Old Concrete:** New concrete must be cured for 28 days prior to product application and concrete surface must contain maximum %4 moisture. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations.. If old concrete has a surface that has deteriorated to an unacceptably rough surface, BILIZO® MACRO PRIMER and a mixture of sand/powder should be used as a repair agent for cracks, spalls, bug holes and voids. If the old surfaces are very glossy, it must be roughen or primed with BILIZO® MACRO PRIMER.

**Wood Surfaces:** All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be primed using BILIZO® MACRO PRIMER.

**Steel Surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After cleaning, scraping should be performed at level of 2½ as per ISO 8501-1 to get a surface profile of 70 – 100 microns. After scraping the surface, must be primed.

**Textiles, Canvas, Fabrics:** Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

**All Other Surfaces:** An adhesion test is recommended prior to starting the project. Please consult to Izobil Construction Chemicals – Technical Service for application to different surfaces.

The system must be protective from UV with aliphatic topcoat paint on outdoor applications.

**Application to Surface:** BILIZO® POLYUREA HB may not be diluted under any circumstances.

Thoroughly mix B component (resin side), with air driven power equipment until a homogeneous mixture and color is obtained. Surface temperature should be 3°C above the then dew point. Both materials (A and B sides) must be warm up to 25-30°C before application. Should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment to the ready application surface. Both Part-A and Part-B materials should be sprayed at a minimum of 2000(135 bar) psi and at temperatures above 70-80°C. Adequate pressure and temperature should be maintained at all times.

BILIZO® POLYUREA HB should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance. Should be adhered to the recommended consumption on application, out of the special cases, 45 degrees with the surface to be sprayed.

In outdoor applications, the system should be taken to protect with UV resistant aliphatic polyurethane topcoat.

## Storage

The product must be storage in a cool and dry area. The product has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Store drums on wooden pallets to avoid direct contact with the ground and the temperature must be above 15°C. If stored for a long period of time, rotate Side-A and Side-B drums regularly.

## Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO<sup>®</sup> ECO HYBRID

Polyurethane Based, Hybrid Polyurea, Two component, Solvent Free Waterproofing Membrane



## Product Description

BILIZO<sup>®</sup> ECO HYBRID is two – component, polyurethane based, waterproofing membrane which has crack bridging property.

## Application Areas

Can be applied;

- ✦ On roofs, balconies and terraces,
- ✦ Water insulation of foundation and concrete shear Wall,
- ✦ Indoor of flower beds, waste water and eaves trough, concrete flumes,
- ✦ Foundations,
- ✦ Decorative pools,
- ✦ Underground water tanks,
- ✦ Insulation and covering of carparks.

## Consumption

Apply 2,0-2,2 kg/m<sup>2</sup> to obtain 2 mm of dry film thickness.

## Advantages

- ✦ 100 % solid, zero VOC and odorless.
- ✦ Can be applied on horizontal and vertical surfaces.
- ✦ It creates a monolithic and do not require grouting surfaces.
- ✦ Application and the surface to be ready for use is very fast.
- ✦ It is proper for contact with water.
- ✦ Flexible.

## Package

BILIZO<sup>®</sup> ECO HYBRID A component is 200 kg in a drum and B component is 220 kg in a drum.



## Technical Data

Finish:	Semi-Matt	
Color:	Grey/ rubigo / black	
Density:	A:1,05 – B:1,01 ± 0,02 kg/lt	
Volume of Solids:	100% (A+B)	
Mixing ratio	1:1 (A:B – by volume)	
Pott life (+10°C)	5 – 8 secs	
Tack Free Time (@ 3 mm. thickness)	50 – 60 secs	
Component A Viscosity:	1300±200cps. (Brookfield)	
Component B Viscosity:	1000±200 cps. (Brookfield)	
Recoat time	0 – 8 hours / at 20°C	ASTM D-412
Tensile Strength (ASTM D 412)	1200 ± 200 psi	ASTM D-412
Hardness (ASTM D-412)	70 ± 5 Shore A	ASTM D-412
Elongation (ASTM D-412)	350 ± 20%	ASTM D-624
Service Temperature – Dry	-30 / +120°C	ASTM D-624
Service Temperature – Wet	+4 / +50°C	
Return to Service: Foot Traffic	1 – 4 hours / 20°C	
Return to Service: Full Service	> 24 hours / 20°C	
Water absorption (ASTM D471):	<%0,5 (max.25°C, 24 hours)	
Crack bridging (ASTM C836):	Pass (-25°C, 1.6mm crack, 25 cycles)	ASTM D471
Impact Resistance (ASTM G14):	>200lbs	ASTM C836
Volatile organic compound (VOC %) (ASTM D1259)	%0	ASTM G14
Concrete (shotblasted / primed):	>500psi (concrete breakout)	ASTM D4541
Steel (with 75-100 micron surface profile):	>900psi	ASTM D4541
Flexibility (ASTM D1737)	Pass(1/8”(3mm) MandrelBend Test)	ASTM D1737
Tear (ASTM D-624) (Angle Type)	100 – 120 N	ASTM 1259
Tear (ASTM D-624) (Trouser Type)	30 – 40 N	

## Application

**Surface Preparation:** In general, coating performance and adhesion are directly proportional to surface preparation. Cause of this, application surface should be free of any damages and surfaces must be free of dust, oil, grease, rust, corrosion and contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. It should be free of any loose and friable particles paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Should be prepared a high adherence and strength mechanical surfaces.

**New and Old Concrete:** New concrete must be cured for 28 days prior to product application and concrete surface must contain maximum %4 moisture. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations.. If old concrete has a surface that has deteriorated to an unacceptably rough surface, BILIZO<sup>®</sup> MORTAR THIX or BILIZO<sup>®</sup> MORTAR FIX should be used as a repair agent for cracks, spalls, bug holes and voids. If the old surfaces are very glossy, it must be roughen or primed with BILIZO<sup>®</sup> PUR PRIMER or BILIZO<sup>®</sup> MACRO PRIMER.

**Wood Surfaces:** All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be primed using BILIZO<sup>®</sup> PUR PRIMER or BILIZO<sup>®</sup> MACRO PRIMER.

**Steel Surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After cleaning, scraping should be performed at level of 2½ as per ISO 8501-1 to get a surface profile of 70 – 100 microns. After scraping the surface, must be primed.

**Textiles, Canvas, Fabrics:** Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

**All Other Surfaces:** An adhesion test is recommended prior to starting the project. Please consult to Izobil Construction Chemicals – Technical Service for application to different surfaces.

**Application to Surface:** BILIZO<sup>®</sup> ECO HYBRID may not be diluted under any circumstances. Thoroughly mix B component (resin side), with air driven power equipment until a homogeneous mixture and color is obtained. Surface temperature should be 3°C above the then dew point.

Both materials (A and B sides) must be warm up to 25-30°C before application.

Should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment to the ready application surface.

Both Part-A and Part-B materials should be sprayed at a minimum of 2000 (135 bar) psi and at temperatures above 70-80°C. Adequate pressure and temperature should be maintained at all times.

BILIZO<sup>®</sup> ECO HYBRID should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance. Should be adhered to the recommended consumption on application, out of the special cases, 45 degrees with the surface to be sprayed.

The system must be protective from UV with aliphatic topcoat paint on outdoor applications.

## Storage

The product must be storage in a cool and dry area. The product has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Store drums on wooden pallets to avoid direct contact with the ground and the temperature must be above 15°C. If stored for a long period of time, rotate Side-A and Side-B drums regularly.

## Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use

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# BILIZO® BITUM POLYUREA

Bitum Modified, Elastic, Polyurea Based Waterproofing Material



• **Product Description**

It is a bitume modified, fast curing, mixing ratio with 1:1 by volume, two component spray polyurea that can be applied to suitably prepared concrete, metal and different surfaces. It is a water insulation membrane and protective coating with high water vapour diffusion resistance coefficient, hard – flexible structure. It must be applied with special machines cause of its fast reaction.

• **Consumption**

It should be applied using special airless spray machine, depending on application with 1,8 – 2,2 kg/m² consumption.

• **Application Areas**

- Roof, balcony, terrace,
- Water insulation of foundation and concrete shear wall,
- Corrosion protective for underground of steel and buildings.

• **Advantages**

- It can be used on many surfaces with the use of the correct primer,
- Protective of foundation and concrete shear wall to the underground of chemicals and high moisture,
- Can be applied on horizontal and vertical surfaces,
- It creates a monolithic and do not require grouting surfaces,
- Application and the surface to be ready for use is very fast,
- It is proper for contact with water,
- Flexible, high mechanical and corrosive resistance,
- Resistance to the underground of chemicals.

• **Package**

BILIZO® BITUM POLYUREA, A component is 200 kg in a drum and B component is 220 kg in a drum.



• **Technical Data**

Finish	Semi-Matt
Color	Black
Density	A:1,00 – B:1,1 ± 0,02 kg/lt
Mixing Ratio	1:1 (A:B – by volume)
Solid by Volume	% 91 (A+B)
Pot life (+10°C)	5-10 secs
Tack Free Time (@ 3 mm. thickness)	30 – 50 secs
Component A Viscosity (25°C)	500±50 cps. (Brookfield)
Component B Viscosity (25°C)	1300± 200 cps. (Brookfield)
VOC Content	77 gr/ml
Hardness (ASTM D-412)	45 ± 5 Shore D
Tensile Strenght (ASTM D-412)	800 ± 100 psi
Elongation (ASTM D-412)	200 ± 20%
Tear (ASTM D-624) (Angle Type)	40 – 50 N
Tear (ASTM D-624) (Trouser Type)	30 – 40 N
Service Temperature – Dry	-30 / +120°C
Service Temperature – Wet	+4 / +50°C
Recommended Applied Thickness /Consumption	2mm/2,0 – 2,5 kg/m²
Return to Service: Foot Traffic	1 – 4 hour / at 20°C
Return to Service: Full Service	> 24 hour / at 20°C
Water Absorption (ASTM D471)	<%0,5 (max.25°C, 24 hours)
Crack Bridging (ASTM C836)	Pass (-25°C, 1.6mm crack, 25 cycles)
Impact Resistance (ASTM G14)	>200 lbs
Pull-Off Strength(ASTM D4541)(Concrete,Shotblasted profile)	>500 psi
Pull-Off Strength (Steel 75-100 micron surface profile)	>900 psi
Flexibility (ASTM D1737)	Pass (1/8”(3mm) Mandrel Bend Test)

• **Application**

**Surface Preparation:** In general, coating performance and adhesion are directly proportional to surface preparation. Cause of this, application surface should be free of any damages and surfaces must be free of dust, oil, grease, rust, corrosion and contaminants. When coating substrates previously used, it is important to consider the possibility of substrate absorption, which may affect the adhesion of the coating system, regardless of the surface preparation. It should be free of any loose and friable particles paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Should be prepared a a high adherence and strength mechanical surfaces.

**New and Old Concrete:** New concrete must be cured for 28 days prior to product application and concrete surface must contain maximum %4 moisture. Surface must be clean, dry, sound and offer sufficient profile for product adhesion. Remove all dust, dirt, oil, form release agents, curing compounds, salts, efflorescence, laitance and other foreign matter by shotblasting and/or suitable chemical means, in accordance with local chemical regulations.. If old concrete has a surface that has deteriorated to an unacceptably rough surface, BILIZO®PUR PRIMER and a mixture of sand/powder should be used as a repair agent for cracks, spalls, bug holes and voids. If the old surfaces are very glossy, it must be roughen or primed with BILIZO®PUR PRIMER.

**Wood Surfaces:** All wood should be clean, dry and free of any knots, splinters, oil, grease or other contaminants. Splintered or rough areas should be sanded. Knots should be primed using BILIZO®PUR PRIMER.

**Steel Surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After scraping the surface, must be primed.

**Textiles, Canvas, Fabrics:** Adhesion to most fabrics, geothermal membranes and textiles does not require a primer.

**All Other Surfaces:** An adhesion test is recommended prior to starting the project. Please consult to Izobil Construction Chemicals – Technical Service for application to different surfaces.

**Application to Surface:** BILIZO® BITUM POLYUREA may not be diluted under any circumstances. Thoroughly mix B compenant (resin side), with air driven power equipment until a homogeneous mixture and color is obtained. Surface temperature should be 3°C above the then dew point.

Both materials (A and B sides) must be warm up to 25-30°C before application. Should be applied using a plural component, heated, high pressure 1:1 spray mixing equipment to the ready application surface. Both Part-A and Part-B materials should be sprayed at a minimum of 2000(135 bar) psi and at temperatures above 70-80°C. Adequate pressure and temperature should be maintained at all times. BILIZO® BITUM POLYUREA should be sprayed in smooth, multidirectional passes to improve uniform thickness and appearance.Should be adhered to the recomended consumption on application, out of the special cases, 45 degrees with the surface to be sprayed.

• **Storage**

The product must be storage in a cool and dry area.The product has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Store drums on wooden pallets to avoid direct contact with the ground and the temperature must be above 15°C.If stored for a long period of time, rotate Side-A and Side-B drums regularly.

• **Safety Measures**

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# BILIZO® POLYUREA CL

## Cold Curing of Polyure



### Product Description

BILIZO® POLYUREA CL , two component, is a polyurea system which is composed of % 100 solid material. For multi-component system (roller or trowel) has been developed for applications. It has excellent elasticity. In addition to this feature, has specially formulated polymerized profile to enhance adhesion. It is an ideal product requiring a high level of abrasion and impact resistance for commercial and industrial applications.

To be used in open areas, as a final coat, non-yellowing polyurethane (aliphatic) paint should be applied.

### Uses

- Industrial floors
- Balconies and roof protections
- Sealing of cementitious substrates
- Bridges and tunnels

### Packaging

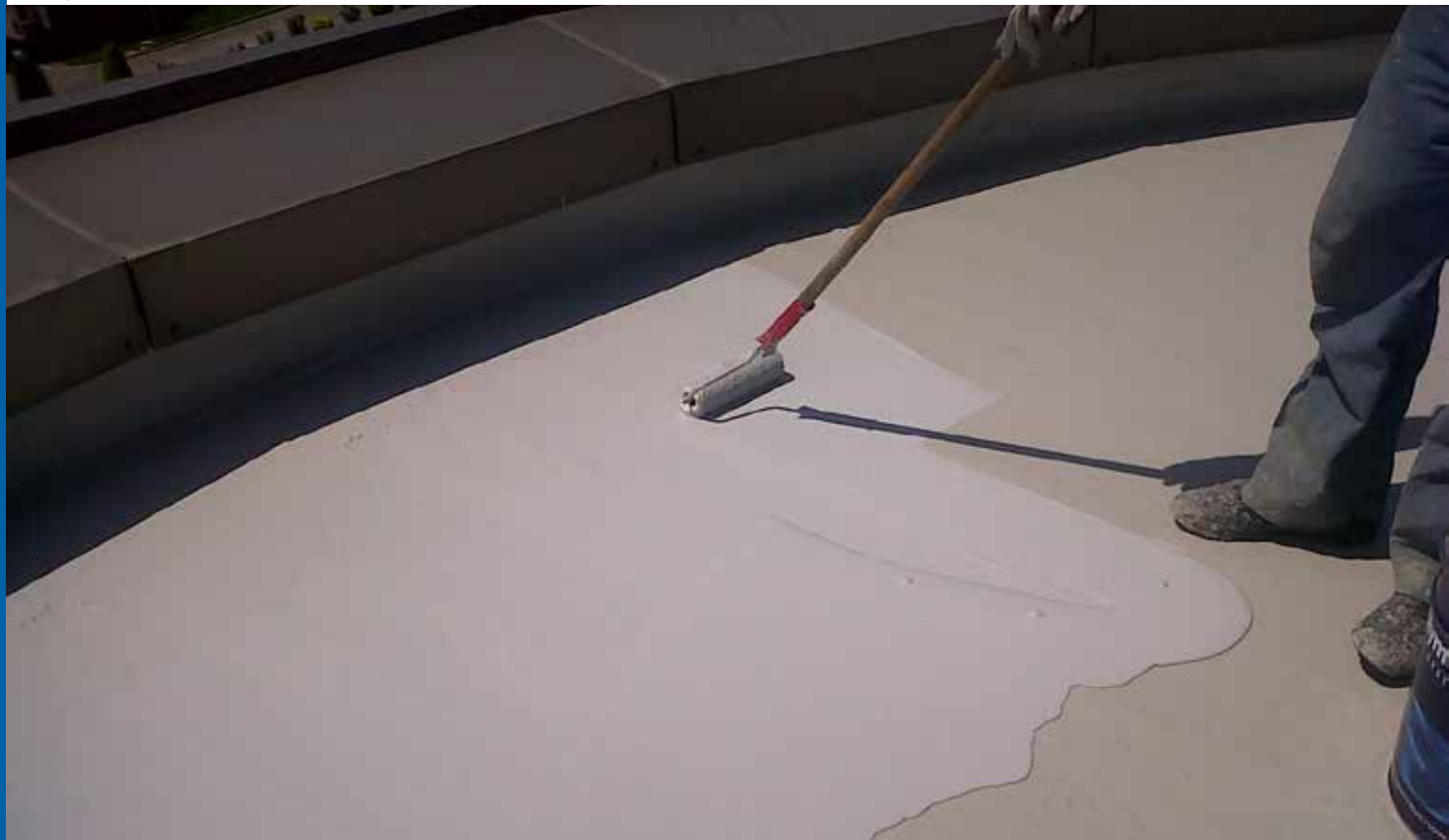
12 kg a team BILIZO POLYUREA CL; The net consists of 8 kg of component A and 4 kg of the compound B in a one gallon pail.

### Consumption

- Minimum consumption of 1.5-2 kg / m²

### Advantages

- Fast curing
- Provides fast curing.
- Does not bubbling and deterioration.
- It is composed of 100% solid materials.
- Does not contain plastics materials.
- Does not contain toxic catalysts consisting of heavy metals.
- It has excellent thermal resistance. Product never soften again.
- It is resistant to cold. Film, even retains its elasticity at -40°C
- Excellent mechanical properties; high tensile and abrasion strength, high wear resistance is exhibited.
- Shows good degree of chemical resistance.
- It is effective at moisture vapor transmission. The film is breathable and thus prevents the accumulation of moisture beneath the film layer.



### Technical Data

#### Liquid product (before application):

QUALIFICATION	UNIT	METHOD	PROPERTIES
Viscosity (Brookfield)	cP	ASTM D2196-86, at 25°C	Component A:1300 Component B: 1000
Pot life	minute		20-30 minutes
Touch dry	Minute	-	120 minutes
Curing time	hour	-	24

#### Film (dry film):

QUALIFICATION	UNIT	METHOD	PROPERTIES
Hardness	Shore A Shore D	ASTM D2240 / DIN 53505 / ISO R868	80 30
At 23 o C break (tensile) strength	(N/mm2)	ASTM D412 / DIN 52455	12
At 23 o C stretch percentage	%	ASTM D412 / DIN 52455	450
Tear dispersion resistance	[N/mm]		40
Service temperature	°C		Between -40 and 80

### Application

**Surface Information:** Surface Information: Application surface should be stable. Surface must have at least 25 N / mm² compressive strength and at least 1.5 N / mm² pull-off test results. According to the seasons, new concrete's age must be at least 28 days, concrete surfaces should have a maximum moisture content of 5-6%. Remove all loose and friable material, oil, paint residues, must be free from cement slurry. Large cracks and defects should be repaired in advance. Cement shell and bright screed on concrete surface should be cleaned, roughened and wiped by tools such as sanding, notching machine, tumble diamond grinding machines and forced grinding machines. All surfaces should be cleaned with industrial vacuum cleaner from dust.

#### Environmental Conditions:

- A relative humidity of air should be maximum of 80%, application temperature (ambient and substrate) between + 3 ° C and + 35 ° C should be.
- At open areas for 24 hours before starting the application, during the application and 24 hours after application should not be rainy.
- Surface temperature must be 3 ° C above of the current dew drop temperature. ( Want Ambient Temperature Ambient Humidity- Dew Drop Temperature table from your company ).

#### According to the surface condition primer options:

Damp substrates: BILIZO MACRO PRIMER or MARISEAL AQUA PRIMER  
Highly porous substrates: BILIZO PUR PRIMER or MARISEAL 710  
Highly porous damp substrates: BILIZO MACRO PRIMER or MARISEAL AQUA PRIMER

**Preparation Mixing:** Wherein the two-component product, taking into account pot life, consumed by the amount specified mix ratio should be prepared. To achieve a homogeneous mixture, product temperature should be taken to not less than 15°C. A component is mixed rapidly with a mechanical stirrer within, paying attention to the mixing ratio of hardener (component B) should be added. A and B components must be mixed with a mechanical mixer until homogenous.

**Applied to the surface:** The mixture was ready for application, should be spread with the help of roller or trowel until all surface is covered and closed pores. Second coat application period for at least 8 hours ( at 20 ° C ), at most 1 day. Applying the second coat of the above-mentioned new coating application time is very important.

**Cleaning of tools:** With cellulosic thinner.

### Storage

Material should be stored in a cool and dry place. When stored properly in unopened original packing, materials pot life of the components A and B is 1 year.

### Safety Measures

Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives.

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# MARISEAL<sup>®</sup> 250

Liquid-Applied, One Component Polyurethane Waterproofing Membrane



• **Product Description**

MARISEAL<sup>®</sup> 250 is liquid-applied, highly permanent elastic, cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. Cures by reaction with ground and air moisture.

• **Uses**

- Waterproofing of roofs, balconies, terraces and concrete curtains.
- Waterproofing of wet areas (under-tile) in bathrooms, swimming pools, kitchens etc.
- Protection of polyurethane foam insulation.
- Waterproofing of flowerbeds and planter boxes.
- Waterproofing of water storage and water distribution channels.
- Waterproofing and protection of concrete constructions like bridge decks, tunnels etc.
- Waterproofing of metal surfaces.

• **Packaging**

MARISEAL<sup>®</sup> 250 is supplied in white and grey in 25 kg and 6 kg.

• **Consumption**

2,0 kg/m<sup>2</sup> consumption should be applied in two or three layers.

(In mesh application, you may need extra 500-700 gr consumption.)

• **Advantages**

- UV resistant.
- When applied forms seamless membrane without joints.
- As it is pure polyurethane, it can continually contact with water.
- Maintains its mechanical properties over a temperature span of – 30°C to +90°C.
- Crack-bridging up to 2mm, even at – 10°C.
- Provides water vapor permeability.
- Full surface adherence without any additional anchoring.
- The waterproofed surface can be walked on.
- Even if the membrane gets damaged, it can be easily repaired locally within minutes.
- ANTIROOT certified; roots piercing resistance.



• **Technical Data**

PROPERTIES	RESULTS	TEST METHOD
Composition	High-strength polyurethane pre-polymer	
Elongation at Break	% 900 + 80	ASTM D 412
Tensile Strength	7,45 + 0,30 N/mm <sup>2</sup>	ASTM D 412
Water Vapor Permeability	25,8 + 4,4 gr/m <sup>2</sup> /day	ISO 9932:91
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to Concrete	2,2 + 0,2 N/mm <sup>2</sup>	ASTM D 903
Hardness (Shore A Scale)	65 + 5	ASTM D 2240
Construction Material Fire Class	B2	DIN 4102-1
Resistance to sparks and radiating heat	Passed	DIN 4102-7
Application Temperature	5°-30°C	Conditions: 20°C, 50% RH
Rain Stability Time	4 hours	
Light Pedestrian Traffic Time	12 hours	
Final Curing Time	7 days	
Density	1.40gr/cm <sup>3</sup>	
Solid Content	84%	
Surface Temperature	Min +10°C Max +40°C	
Ambient Temperature	Min +10°C Max +40°C	
Relative air Humidity	Max %70-80	
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

• **Application**

**Surface Preparation:** The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

**Priming:** Prime absorbent surfaces like concrete, cement screed or wood with MARISEAL<sup>®</sup> 710 or with MARISEAL<sup>®</sup> AQUA-PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL<sup>®</sup> AQUA-PRIMER.

**Waterproofing membrane:** Stir well before using. Poor the MARISEAL<sup>®</sup> 250 onto the primed surface and lay it out by roller or brush, until all surface is covered. After 12 hours (not later than 36 hours) apply another layer of the MARISEAL<sup>®</sup> 250. If desired apply a third layer of the MARISEAL<sup>®</sup> 250.

**Finishing:** If a color stable and chalking-free surface is desired, apply one or two layers of the MARISEAL<sup>®</sup> 400 Top-Coat over the MARISEAL<sup>®</sup> 250. The application of the MARISEAL<sup>®</sup> 400 Top-Coat, is especially required, if a dark final color, is desired. (e.g. red, grey, green, etc.). If a heavy duty, abrasion resistant surface is desired (e.g. car parking), apply two layers of the MARISEAL<sup>®</sup> 420 Top-Coat.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL<sup>®</sup> 250 contains isocyanates. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application. Keep out of reach of children. Please study the Safety Data sheet.

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# MARISEAL® 250 AQUA

Liquid-Applied, 100% Polyurethane Waterproofing Membrane



• **Product Description**

MARISEAL® 250 AQUA is liquid-applied, highly permanent elastic, cold applied and cold curing, water based, one component, 100% polyurethane-based membrane used for long-lasting waterproofing.

**PUD Technology™: The Green revolution in Polyurethane**  
MARISEAL® 250 AQUA is based on the innovation PUD Technology™ of MARIS POLYMERS SA, which enables, long-chain polyurethan macro molecules to be incorpareted in a water medium, forming stable dispersions. The PUD Technology™ based products, have theadvantage that they offer the high level properties of solvent based products, in an ecological, consumer and enviromentally friendly, water-based, low VOC, no ADR transport product. The PUD Technology™ is the entry to the Gren revolution in Polyurethane based products.

• **Uses**

- Waterproofing of Rooftops
- Waterproofing of wet areas (under-tile) in bathrooms, balconies, kitchens etc.
- Protection of polyurethane foam insulation.
- Waterproofing of Balconies and Terraces.
- Waterproofing and protection of concrete constructions like bridge decks, tunnels etc.

• **Packaging**

MARISEAL® 250 AQUA is supplied in white, grey and red in 20 kg.

• **Consumption**

2,0 kg/m² consumption should be applied in two or three layers.

(In mesh application, you may need extra 500-700 gr consumption.)

• **Advantages**

- Simple application(roller or airless spray)
- Water based
- When applied forms seamless membrane without joints.
- As it is pure polyurethane, it can continually contact with water.
- Provides high levels of crack bridging.
- Maintains its mechanical properties over a temperature span of – 40°C to +90°C.
- Provides water vapor permeability.
- Full surface adherence without any additional anchoring.
- The waterproofed surface can be walked on.
- Even if the membrane gets damaged, it can be easily repaired locally within minutes.
- Low VOC content <100 g/l
- Low cost.
- The MARISEAL® 250 AQUA was awarded with the SINGAPORE GREEN LABEL certification.



• **Technical Data**

PROPERTIES	RESULTS	TEST METHOD
Elongation at Break at 20°C	2000%	ASTM D 412
Tensile Strength 20°C	5 N/mm²	ASTM D 412
E – Modulus at 20°C	1,5 N/mm²	ASTM D 412
Elongation at Break at – 25°C	1900 %	ASTM D 412
Tensile Strength at – 25°C	4,2 N/mm²	ASTM D 412
E – modulus at – 25°C	1,3 N/mm²	ASTM D 412
Elongation at Break at 20°C	29,3 N/mm	ASTM D 412
E – Modulus at 20°C	5 N/mm²	ASTM D 412
Elongation at Break at – 25°C	4,2 N/mm²	ASTM D 412
Tensile Strength at – 25°C	2000%	ASTM D 412
E – modulus at – 25°C	1,3 N/mm²	ASTM D 412
Tear Resistance	29,3 N/mm	ASTM D 412
Water Vapor Permeability	>15 gr /m²/day	ISO 9932:91
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to Primed Concrete	>1,5 N/mm²	ASTM D 903
Hardness (Shore A Scale)	60	ASTM D 2240
Light Pedestrian Traffic Time	18-24 hours	Conditions: 20°C, 50% RH
Final Curing Time (ponding test)	10 days	
Density	1,22 gr/cm³	
Surface Temperature	Min +10°C Max +40°C	
Ambient Temperature	Min +10°C Max +40°C	
Relative Air Humidity	Max %70-80	
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

• **Application**

**Surface Preparation:** The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**Priming:** Prime highly absorbent and brittle surfaces like concrete, cement screed, mortar, plaster, wood and non-absorbent surfaces like metal and ceramic tiles with MARISEAL® AQUA PRIMER. Allow the primer cure according its instruction.

**Waterproofing membrane:** Stir well before using. Poor the MARISEAL® 250 AQUA onto the primed surface and lay it out by roller or brush, until all surface is covered. After 18-36 hours (not later than 36 hours) apply another layer of the MARISEAL® 250 AQUA. For better waterproofing results apply a third layer of the MARISEAL® 250 AQUA.

**NOTE:** Do not apply the MARISEAL® 250 AQUA over 0.5 mm thickness (dry film) per layer.

**NOTE:** Do not apply the MARISEAL® 250 AQUA in negative (degC) temperatures or when rain or frost is imminent in the next 48 hours. For best results, the temperatures during application and cue should be between 5°C and 35°C.

**Finishing:** If a color stable, chalking-free, heavy duty, more abrasion resistant surface is desired (e.g. car parking), apply two layers of the MARISEAL® 400 AQUA Top-Coat over the MARISEAL® 250 AQUA.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

MARISEAL® 250 AQUA pails should be stored in dry and cool rooms for up to 18 months. Protect the materials against moisture and direct sunlight. Storage temperature: 5°-30°C.

• **Safety Measures**

Keep away from children. Do not use empty containers for food storage.

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# MARISEAL® 260

Liquid-Applied, One Component Polyurethane Waterproofing Membrane



• **Product Description**

MARISEAL® 260 is liquid-applied, highly permanent elastic, cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. Cures by reaction with ground and air moisture.

• **Uses**

- Waterproofing of foundation curtain concretes.
- Waterproofing of terraces (under-tile).
- Waterproofing of wet areas (under-tile) in balconies, bathrooms etc.
- Waterproofing of parts not exposed to direct sun.

• **Package**

MARISEAL® 260 is supplied in white and grey in 25 kg and 6 kg pails

• **Consumption**

2,0 kg/m² consumption should be applied in two or three layers.

(In mesh application, you may need extra 500-700 gr consumption.)

• **Advantages**

- Simple application (roller or airless spray).
- When applied forms seamless membrane without joints or leak possibilities.
- As it is pure polyurethane, it can continually contact with water.
- Maintains its mechanical properties over a temperature span of – 30°C to +90°C.
- Provides water vapor permeability.
- Full surface adherence without any additional anchoring.
- The waterproofed surface can be walked on.
- Even if the membrane gets damaged, it can be easily repaired locally within minutes.
- Low cost.



• **Technical Data**

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane high-solids pre-polymer	
Elongation at Break	% 800 + 80	ASTM D 412
Tensile Strength	5,00 + 0,30 N/mm²	ASTM D 412
Water Vapor Permeability	52,5 + 9 gr/m²/day	ISO 9932:91
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to Concrete	2,0 + 0,2 N/mm² (concrete failure)	ASTM D 903
Hardness (Shore A Scale)	65 + 5	ASTM D 2240
Construction Material Fire Class	B2	DIN 4102-1
Resistance to sparks and radiating heat	Passed	DIN 4102-7
Application Temperature	5°C to 35°C	Conditions: 20°C, 50% RH
Tack Free Time	6 hours	
Light Pedestrian Traffic	12 hours	
Final Curing Time	7 days	
Density	1.46 gr/cm³	
Solid Content	84%	
Surface Temperature	Min +10°C Max +40°C	
Ambient Temperature	Min +10°C Max +40°C	
Relative Air Humidity	Max %70-80	
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

• **Application**

**Surface Preparation:** The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

**Repair of cracks and joints**

The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results. Clean concrete cracks and hairline cracks, of dust, residue or other contamination. Prime locally with the MARISEAL® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with BILIZO®-FLEX® PU 30 sealant. Then apply a layer of MARISEAL® 260, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the geotextile. Press it to soak. Then saturate the geotextile with enough MARISEAL® 260, until it is fully covered.

**Priming**

Prime absorbent surfaces like concrete, cement screed or wood with MARISEAL® 710 or with MARISEAL® AQUA-PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA-PRIMER.

**Waterproofing membrane**

Stir well before using. Poor the MARISEAL® 260 onto the primed surface and lay it out by roller or brush, until all surface is covered. After 12 hours (not later than 36 hours) apply another layer of the MARISEAL® 260. If desired apply a third layer of the MARISEAL® 260.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL® 260 contains isocyanates. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application.

NOTE: Keep out of reach of children. Please study the Safety Data sheet.

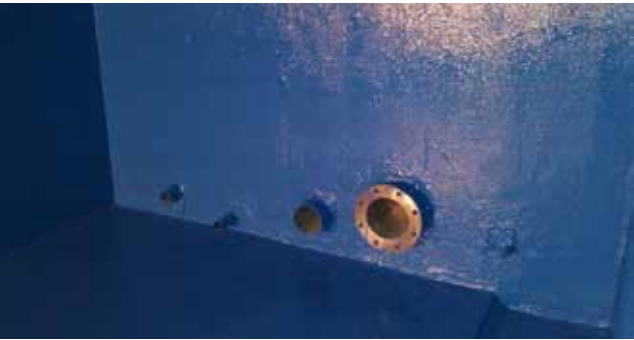
Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.





# MARISEAL® 300

Liquid-Applied, Two Component Polyurethane Waterproofing Membrane



• **Product Description**

MARISEAL® 300 is a liquid-applied, solvent-free, hard-elastic, cold applied and cold curing, two component polyurethane membrane used for long-lasting waterproofing and protection. Cures by reaction (cross linking) of the two components.

• **Advantages**

- UV resistant.
- Certified for safe use in potable (drinking) water reservoirs.
- When applied forms seamless membrane without joints or leak possibilities.
- As it is pure polyurethane, it can continually contact with water.
- Maintains its mechanical properties over a temperature span of – 40°C to +100°C.
- Remains elastic even at low (frost) temperature.
- Full surface adherence.
- The waterproofed surface can be walked on.
- Low cost.

• **Packaging**

MARISEAL® 300 A+B is supplied in off-white, light and dark blue in 12+2 and 6+1 kg pails.

• **Consumption**

2,0-2,4 kg/m² consumption should be applied in two or three layers.  
(In mesh application, you may need extra 500-700 gr consumption.)

• **Certifications**

The MARISEAL® 300 is certified according the current European and German legislation for use on surfaces in direct contact with potable (drinking) water, and potable (drinking) water storage tanks. The MARISEAL® 300 conforms with the German Standard (Kunststoffe im Lebensmittelverkehr, par. 1.3.2.5.2), the Greek Standard (Codex Alimentarius, articles. 21,21a,24,26,28) and the current relevant European Union directives. Tests conducted following the ELOT EN 1484, prEN 12873-1, prEN 14395-1 standards.

• **Uses**

- Waterproofing of drinking water supply channels and pipes.
- Waterproofing of drinking water storage tanks and reservoirs.
- Odorless waterproofing of wet areas (under-tile) in bathrooms, swimming pools, kitchens, etc.
- Coating and waterproofing of outdoor swimming pool and ornamental ponds.
- Used for waterproofing of surfaces in direct contact with potable (drinking) water.



• **Technical Data**

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane Resin + Hardener	
Mixing Ratio	A+B = 6:1 by weight	ASTM D 412
Resistance to Water Pressure	No Leak (1m water column, 24h)	ASTM D 412
Elongation at Break	>100%	ISO 9932:91
Adhesion to Concrete	>2,0 N/mm²	DIN EN 1928
Hardness (Shore A Scale)	70 + 5	ASTM D 903
Solids Content	100%	ASTM D 2240
Application Temperature	5°C to 35°C	Conditions: 20°C, 50% RH
Pot-Life	30 minutes	
Tack Free Time	6 hours	
Light Pedestrian Traffic Time	12 hours	
Final Curing Time	7 days	
Density	1,48 gr/cm³	
Solid Content	100%	
Surface Temperature	Min +10°C Max +40°C	
Ambient Temperature	Min +10°C Max +40°C	
Relative Air Humidity	Max %70-80	
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

• **Application**

**Surface Preparation**

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old, loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed. **WARNING:** Do not wash the surface with water.

**Repair of Cracks and Joints**

The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results. Clean concrete cracks and hairline cracks, of dust, residue or other contamination. Prime locally with the MARISEAL® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with BILIZO®-FLEX® PU 30 sealant. Then apply two layers of MARISEAL® 300, 200mm wide centered over all cracks. Clean concrete expansion joints and control joints of dust, residue or other contamination. Widen and deepen joints (cut open) if necessary. The prepared movement joint should have a depth of 10-15 mm. The width: depth ratio of the movement joint should be at a rate of approx. 2:1. Apply some BILIZO®-FLEX® PU 30 Joint-Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of MARISEAL® 300, 200mm wide centered over and inside the joint. Then place a polyethylene cord of the correct dimensions inside the joint and press it deep inside onto the saturated fabric. Fill the remaining free space of the joint with BILIZO®-FLEX® PU 30 sealant. Allow 12 hours to cure.

**Priming**

Prime surfaces, like concrete, cement screed, metal and ceramic tiles with enough MARISEAL® 750 primer (min. 150-200 gr/m²). Allow 12 hours to cure.

**Mixing**

Stir MARISEAL® 300 Component A well before using. Then add the MARISEAL® 300 Component B at the stipulated mixing ratio. MARISEAL® 300 Component A and Component B should be mixed by low speed mechanical stirrer, for about 3–5 min. ATTENTION: The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

**Waterproofing Membrane**

Poor the entire MARISEAL® 300 A+B mixture, onto the primed and prepared surface and lay it out by roller or brush, until all surface is covered. Please ensure consumption within the pot life of the product (~30min). Please do not leave the mixed MARISEAL® 300 A+B coating in the pail for long, because the exothermic reaction accelerates the curing and will shorten the pot-life. Directly after mixing poor the mixture on the surface on in smaller pails to minimize the exothermic reaction. After 12 hours – but not later than 36 hours –apply another layer of the MARISEAL® 300, by using roller or brush. RECOMMENDATION: For best results, the temperature during application and cure should be between 5°C and 30°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish. **WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL® 300 B contains isocyanates. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application. NOTE: Keep out of reach of children. Please study the Safety Data sheet.

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# MARISEAL® 600

Liquid-applied, Two Component Polyurethane Waterproofing Membrane



### Product Description

MARISEAL® 600 is a fast-curing, liquid-applied, highly permanent elastic, cold applied and cold curing, bitumen extended, two component polyurethane membrane used for long-lasting waterproofing. Solvent based. The MARISEAL® 600 is based on pure elastomeric hydrophobic polyurethane resins, and is extended with chemically polymerized virgin bitumen, which result in excellent mechanical, chemical, thermal and natural element resistance properties. Cures by reaction (cross linking) of the two components.

### Uses

- Waterproofing of Foundations
- Waterproofing of Retaining Walls
- Under-tile Waterproofing in Bathrooms, Terraces, Roofs, etc
- Waterproofing of Roofs with inverted insulation
- Waterproofing of Asphalt – and Bitumen-felts, EDPM membranes, etc.
- Also used as a joint sealant for horizontal low-movement joints and control joints.

### Packaging

MARISEAL® 600 A+B is supplied in black in 20+20 and 5+5 kg pails. Storage Temperature: 5°-30°C

### Consumption

2,0 kg/m² consumption should be applied in two or three layers. (In mesh application, you may need extra 500-700 gr consumption.).

### Advantages

- Simple application and fast curing.
- When applied forms seamless membrane without joints.
- Resistant to water and frost.
- Thick, bubble-free membrane possible.
- Provides excellent crack-bridging properties.
- Good water vapor bl°cking properties.
- Provides excellent thermal resistance, it never turns soft.
- Maintains its mechanical properties over a temperature span of – 30°C to +90°C.
- Provides excellent adhesion to almost any type of surface.
- The waterproofed surface can be walked on.
- Resistant to detergents, oils, seawater and domestic chemicals.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes.
- Does not need the use of open flames (torch) during application.
- Components easy mixing ratio, 1:1 by volume.



### Technical Data

PROPERTIES	RESULTS	TEST METHOD
Elongation at 23°C	> 2400 %	ASTM D 412 / DIN 52455
Tensile Strength	> 7 N/mm²	ASTM D 412 / DIN 52455
E-Modulus	~1,0 N/mm²	ASTM D 412 / DIN 52455
Tear Resistance	20 N/mm	ASTM D 624
Puncture Resistance	290 N	ASTM E 154
Resistance to Hydrostatic pressure	No Leak @ 3 bar (30 m water column)	DIN 16726
Adhesion to concrete	1,1 N/mm²	ASTM D 903
Hardness (Shore A Scale)	35	ASTM D 2240 (15")
Thermal Resistance(80°C – 100 days)	Passed – No significant changes	EOTA TR-011
Pot-Life	30-35 min	Conditions: 20°C, 50% RH
Tack Free Time	2-4 hours	
Light Pedestrian Traffic Time	18-24 hours	
Final Curing time	7 days	
Density	0,99 gr/cm³	
Solid Ratio	84%	
Surface temperature	Min +10°C Max +40°C	
Ambient temperature	Min +10°C Max +40°C	
Relative air humidity	Max %70-80	
Dew point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

### Application

**Surface Preparation:** Careful surface preparation is essential for optimum finish and durability. The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane.

Maximum moisture content should not exceed 5%. Substrate compressive strength should be at least 25MPa, cohesive bond strength at least 1.5MPa. New concrete structures need to dry for at least 28 days. Old loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash surface with water!

**Priming:** Prime very absorbent and brittle concrete or brittle cement screed surfaces with MARISEAL® 710, BILIZO PUR PRIMER, MARISEAL® AQUA PRIMER, BILIZO AQUA PRIMER; for bituminous or asphalt surfaces MARISEAL® 750 or MARISEAL® AQUA PRIMER, BILIZO MACRO PRIMER and prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA PRIMER or BILIZO MACRO PRIMER. Allow the primer to cure according its technical instruction. Flat, high-quality concrete surfaces do not require priming.

**Waterproofing membrane:** Apply the MARISEAL® 600 A+B mixture onto the surface by roller, brush or teeth trowel, until all surface is covered. After 6-24 hours (not later than 72 hours) apply another layer of the MARISEAL® 600. For demanding applications, apply a third layer of the MARISEAL® 600.

If the MARISEAL® 600 is to be covered with ceramic tiles, fully saturate with oven-dry silica sand (corn-size 0,4-0,8mm) the last layer while still wet. This saturation will create an adhesion bridge to the tile adhesive that will follow.

For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

**ATTENTION:** Please ensure consumption within the Pot Life.

The MARISEAL® 600 is slippery when wet. In order to avoid slipperiness, sprinkle suitable aggregates onto the still wet coating to create an anti-slip surface. Please contact our R+D Dept. for more details.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

### Storage

MARISEAL® 600 is supplied in 20+20 l and 5+5 l metal pails. Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Safety Measures

MARISEAL® 600 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet. PROFESSIONAL USE ONLY.

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# MARISEAL® 650

Liquid-Applied, One Component Polyurethane Waterproofing Membrane



Product Description

MARISEAL® 650 is a liquid-applied, highly permanent elastic,cold applied and cold curing, bitumen extended, single component Polyurethane membrane used for longlasting waterproofing. Solvent based. The MARISEAL® 650 is based on pure elastomeric hydrophobic Polyurethane resins, and is extended with chemically polymerized virgin bitumen, which result in excellent mechanical, chemical, thermal and natural element resistance properties. Cures by reaction with ground and air moisture.

Uses

- Waterproofing of Foundations
- Waterproofing of Retaining Walls
- Under-tile Waterproofing in Bathrooms, Kitchens, Terraces,
- Waterproofing of Wet Areas
- Waterproofing of Roofs with inverted insulation
- Waterproofing of Asphalt – and Bitumen-felts, etc

Packaging

MARISEAL® 650 is supplied in 20kg and 5kg metal pails. Pails should be stored in dry and cool rooms for up to 9 months.. Storage temperature: 5° – 30° C.

Consumption

2,0 kg/m² applied in two or three layers. This coverage is based on application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature and application method can alter consumption.

(In mesh application, you may need extra 500-700 gr consumption.)

Advantages

- Simple application.
- When applied forms seamless membrane without joints.
- Resistant to water.
- Resistant to frost.
- Provides excellent crack-bridging properties.
- Good water vapor bl°Cking properties.
- Provides excellent thermal resistance, it never turns soft.
- Maintains its mechanical properties over a temperature span of – 40° C to +90° C.
- Provides excellent adhesion to almost any type of surface.
- Resistant to domestic chemicals.
- Even if the membrane gets mechanically damaged, it can be easily repaired locally within minutes.
- Does not need the use of open flames (torch) during application.
- Positive feedback worldwide



Technical Data

PROPERTY	RESULTS	TEST METHOD
Elongation at Break	>850 %	ASTM D 412 / DIN 52455
Tensile Strength	>4,5 N/mm²	ASTM D 412 / DIN 52455
E-Modulus	~0,6 N/mm²	ASTM D 412 / DIN 52455
Tear Resistance	14,1 N/mm	ASTM D 624
Puncture Resistance	150 N	ASTM E 154
Resistance to Hydrostatic pressure	No Leak @ 3 bar (30 m water column)	DIN 16726
Adhesion to concrete	>1,0 N/mm²	ASTM D 903
Hardness (Shore A Scale)	35	ASTM D 2240 (15)
Thermal Resistance (80°C-100 days)	Passed – No significant changes	EOTA TR-011
Hydrolysis (5% KOH, 7days cycle)	No significant elastomeric change	Inhouse lab.
Service Temperature	-40°C +90°C	Inhouse lab.
Max. Temperature (15min SHOCK time)	250°C	Inhouse lab.
Tack Free Time	5 hours	Koşullar: 20°C, %50 RH
Light Pedestrian Traffic Time	24-48 hours	
Final Curing time	7 days	
Density	1,06 gr/cm³	
Solid Content	84%	
Surface temperature	Min +10°C Max +40°C	
Ambient temperature	Min +10°C Max +40°C	
Relative air humidity	Max %70-80	
Dew point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions(5%), detergents, sweater and oils.	

Application

**Surface Preparation:**Careful surface preparation is essential for optimum finish and durability. The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Maximum moisture content should not exceed 5%. Substrate compressive strength should be at least 25MPa, cohesive bond strength at least 1.5MPa. New concrete structures need to dry for at least 28 days. Old loose coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash surface with water!

**Repair of cracks and joints:** The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

• Clean concrete cracks and hairline cracks, of dust, residue or other contamination. Prime locally with the MARISEAL® 710 Primer and allow 2-3 hours to dry. Fill all prepared cracks with BILIZO® FLEX PU 30 sealant. Then apply a layer of MARISEAL® 650, 200mm wide centered over all cracks and while wet, cover with a correct cut stripe of the BILIZO® MESH. Press it to soak. Then saturate the BILIZO® MESH with enough MARISEAL® 650, until it is fully covered. Allow 12 hours to cure.

• Clean concrete expansion joints and control joints of dust, residue or other contamination. Widen and deepen joints (cut open) if necessary. The prepared movement joint should have a depth of 10-15 mm. The width:depth ratio of the movement joint should be at a rate of approx. 2:1. Apply some BILIZO® FLEX PU 30 Joint-Sealant on the bottom of the joint only. Then with a brush, apply a stripe layer of MARISEAL® 650, 200 mm wide centered over and inside the joint. Place the BILIZO® MESH over the wet coating and with a suitable tool, press it deep inside the joint, until it is soaked and the joint is fully covered from the inside.Then fully saturate the fabric with enough MARISEAL® 650. Then place a polyethylene cord of the correct dimensions inside the joint and press it deep inside onto the saturated fabric. Fill the remaining free space of the joint with BILIZO® FLEX PU 30 sealant. Do not cover. Allow 12 – 18 hours to cure. The careful sealing of existing cracks and joints before the application is extremely important for long lasting waterproofing results.

**Priming:** On sound, high quality concrete surfaces no primer is necessary.

Prime very absorbent and brittle concrete or brittle cement screed surfaces with MARISEAL® 710 or with MARISEAL® AQUA PRIMER or BILIZO® MACRO PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL® AQUA PRIMER or BILIZO® MACRO PRIMER. Allow the primer to cure according its technical instruction.

**Waterproofing membrane:** Stir well before using, with mechanical paddle drill, for at least 2-3 minutes. Apply the MARISEAL® 650 onto the surface by roller or brush, until all surface is covered. After 8-24 hours, apply another layer of the MARISEAL® 650. For demanding applications, apply a third layer of the MARISEAL® 650.Reinforce always with the BILIZO® MESH at problem areas, like wall-floor connections, 90° angles, chimneys, pipes, waterspouts (siphon), etc. In order to do that, apply on the still wet MARISEAL® 650 a correct cut piece of BILIZO® MESH press it to soak, and saturate again with enough MARISEAL® 650. For detailed instructions with the BILIZO® MESH, contact our R+D department. If the MARISEAL® 650 is to be covered with ceramic tiles, fully saturate with oven-dry silica sand (corn-size 0,4-0,8mm) the last layer while still wet. This saturation will create an adhesion bridge to the tile adhesive that will follow. For best results, the temperature during application and cure should be between 5°C and 35°C, RH50-70%. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

**WARNING:** The MARISEAL® 650 is slippery when wet. In order to avoid slipperiness, sprinkle suitable aggregates onto the still wet coating to create an anti-slip surface. Please contact our R+D Dept. for more details.

Storage

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

Safety Measures

MARISEAL® 650 contains isocyanates. See information supplied by the manufacturer. Please study the Safety Data sheet. PROFESSIONAL USE ONLY.

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# MARISEAL® 700

High Humidity Resistant Polyurethane Waterproofing Material



### Product Description

MARISEAL® 700 is a transparent-yellowish, semi-rigid, deep penetrating, one component polyurethane sealer, used for sealing basement walls, with a humidity problem due to negative pressure. Solvent based. Cures by reaction with ground and air moisture

### Uses

MARISEAL® 700 is a highly resistant, ascending humidity sealer. It can be applied on mortar, cement screed, gypsum boards, concrete or wooden walls in:

- Basement walls.
- Interior ground level walls, etc.

### Packaging

MARISEAL® 700 is supplied in 17 kg pails.

### Consumption

0,5-0,7 kg/m² in three layers. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

### Advantages

- Simple application (roller or brush).
- Deep penetrating.
- Excellent sealing and waterproofing properties, because it transforms the mortar, the screed, or the concrete surface in a uniform joint free waterproofing barrier.
- Can be over painted with all common wall paints.
- Bacteria and fungus resistant.
- Balances the surface; protects plaster and wall paint against formation of moisture.
- Chemical resistance to oil, grease, moisture, chemical and other liquid dirt stains.



### Technical Data

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane Pre-polymer, solvent based	
Resistance to Water Pressure	No Leak (1m water column, 24h)	DIN 1928, Test A
Adhesion to Concrete	2,2 + 0,2 N/mm² (concrete failure)	ASTM D 903
Hardness (Shore A Scale)	>95	ASTM D 2240
Application Temperature	5°C to 35°C	Conditions: 20°C, 50% RH
Tack free Time	2-3 hours	
Over Painting Time	12 hours	
Final Curing time	4 days	
Density	1,00 gr/cm³	
Solid Content	65%	
Surface Temperature	Min +10°C Max +40°C	
Ambient Temperature	Min +10°C Max +40°C	
Relative air Humidity	Max %70-80	
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.	
Chemical Properties	Good resistance against acidic and alkali solutions (10%), detergents, seawater, oils.	

### Application

#### Surface Preparation

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the sealer. Dirt, fats, oils, organic substances and dust need to be removed by mechanical grinding. Possible surface irregularities need to be smoothened. Any loose surface pieces and dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

#### Sealing

For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish. Apply the MARISEAL® 700 by roller or brush, until the surface to be sealed, is covered. After 2-3 hours (not later than 4 hours) and while the first coat is still a bit tacky, apply the second layer of the MARISEAL® 700 sealer. If the humidity problem is severe or high negative pressure is expected, apply a third coat of the MARISEAL® 700 sealer. After 12 hours (but not later than 36 hours), cover with normal wall paint.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

### Storage

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Safety Measures

MARISEAL® 700 contains isocyanates. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application.

**NOTE:** Keep out of reach of children. Please study the Safety Data sheet.

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# MARITRANS®

Transparent, Liquid-Applied Polyurethane Waterproofing Membrane



### Product Description

MARITRANS® is a transparent, hard-elastic, one component, aliphatic polyurethane, high-solids coating, used for long-lasting waterproofing. MARITRANS® is using a unique curing system (moisture triggered), and unlike other similar systems it does not react with moisture (moisture-cured) and does not form bubbles.

### Uses

- Waterproofing of balconies and terraces.
- Waterproofing of glass and metal-mesh reinforced glass.
- Waterproofing of glass-brick walls.
- Waterproofing and protection of natural stones.
- Waterproofing of transparent plastics (e.g. GFK, Polycarbonate).
- Waterproofing and protection of wood and bamboo.
- Waterproofing of metal surfaces.

### Packaging

MARITRANS® is supplied in 20 kg, 10 kg, 5 kg and 1 kg pails.

### Consumption

0,8 – 1,2 kg/m² in two or three layers. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

### Advantages

- Simple application (roller or airless spray).
- UV-stable.
- Non-yellowing.
- When applied forms seamless membrane without joints or leak possibilities.
- Water resistant.
- Maintains its mechanical properties over a temperature span of – 30°C to +90°C.
- Frost resistant.
- Full surface adherence.
- The waterproofed surface can be walked on.
- Alkali and chemical resistance. Even after years it preserves the transparency and elasticity.
- Protects mineral surfaces against frost, steam and acid rain.
- Gives a more transparent view at aging and oxidized plastic surfaces.
- Water allows the isolation of the damaged glass surfaces and at breaking case it prevents fragmentation of the glass



### Technical Data

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane high-solids pre-polymer	
Elongation at break	322%	DIN EN ISO 527
Tensile Strength	25.4 N/mm²	DIN EN ISO 527
E-modulus	69.5 N/mm²	DIN EN ISO 527
Tear Resistance	56.9 N/mm	DIN ISO 34, Method B
Elongation at break after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m²)	298%	DIN EN ISO 527
Tensile strength after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m²)	25.5 N/mm²	DIN EN ISO 527
Gloss retention after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m²)	Good	DIN 67530
Surface chalking after 2000h of accelerated aging (DIN EN ISO 4892-3, 400 MJ/m²)	No chalking observed.	DIN EN ISO 4628-6

### Application

#### Surface Preparation

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the membrane. Old coatings, dirt, fats, oils, organic substances and dust need to be removed. Possible surface irregularities need to be smoothened. Any loose pieces and dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

**ATTENTION:** Surfaces with trapped moisture (e.g. trapped moisture under balconies tiles) must be left to dry completely (max. 5% moisture), before the application of the MARITRANS® coating.

**WARNING:** Do not apply the MARITRANS® on ceramic surfaces with ascending nitric salts in the joints, without suitable pre-treatment.

**WARNING:** Do not apply the MARITRANS® on surfaces treated in the past with active silane, siloxane, silicon or other water-repellents, because of expected poor adhesion. We recommend an adhesion test, if circumstances and surface history are not clear.

#### Priming

Prime (activate) non-absorbent glazed surfaces, like glazed ceramic tiles, glass and glass bricks with MARITRANS® TILE-PRIMER.

Apply the MARITRANS® TILE-PRIMER by soaking a clean and dry cloth, and wipe the entire surface off. By this application Procedure, you ensure that besides the chemical activation (priming) of the surface, the surface is getting also very effectively degreased. Change cloths often. Make sure that enough quantity of MARITRANS® TILE-PRIMER is applied on the entire surface to primed and make sure that you do not leave any untreated spots.

#### Transparent Waterproofing Membrane

Poor the MARITRANS® coating onto the primed surface and lay it out by roller or by suitable teeth trowel, until all surface is covered. After 12 hours – but not later than 18 hours – apply a second layer of the MARITRANS® coating, by using roller or brush.

For better waterproofing and wear resistance results, apply a third layer of the MARITRANS® coating.

**ATTENTION:** Do not apply the MARITRANS® over 1mm thickness (dry film) per layer. For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

### Storage

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Safety Measures

MARITRANS® contains isocyanates. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application.

**NOTE:** Keep out of reach of children. Please study the Safety Data sheet.

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# MARISEAL®DETAIL

Liquid-Applied Polyurethane Waterproofing Membrane(Fiber-Reinforced)



• **Product Description**

MARISEAL®DETAIL is a liquid-applied, thixotropic permanent elastic, fiber-reinforced cold applied and cold curing, one component polyurethane membrane used for long-lasting waterproofing. Cures by reaction with ground and air moisture.

• **Uses**

- Wall-floor connections.
- Flashings and 90° angles.
- Light domes.
- Roof lights.
- Pipes.
- Chimneys and elevator towers.
- Ditches etc.
- Filters.
- Wood surfaces, on PVC membrane, bituminous surfaces, concrete, stem, cement-coated surfaces. Excellent adhesion to various metal surfaces.

• **Packaging and Color**

MARISEAL®DETAIL is supplied in titan grey in 6 kg pails.

• **Consumption**

1,0 – 3,5 kg/m² in one or two layer with roller or brush.

• **Advantages**

- Simple application.
- It forms a seamless membrane without joints or leak possibilities.
- Water and frost resistant.
- Maintains its mechanical properties over a temperature span of -30°C to +80°C.
- Provides water vapor permeability.
- Full surface adherence without any additional anchoring.
- The waterproofed surface can be walked on.
- Even if the membrane gets damaged, it can be easily repaired locally within minutes.
- Low cost.



• **Technical Data**

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane high-solids pre-polymer	
Elongation at Break	> 250 %	ASTM D 412
Tensile Strength	> 2 N/mm²	ASTM D 412
Water Vapor Permeability	> 20 gr/m² per 24 hours	ISO 9932:91
Resistance to water pressure	No Leak (1m water column, 24h)	DIN EN 1928
Adhesion to concrete	2,2 N/mm² (concrete failure)	ASTM D 903
Hardness (Shore A Scale)	65-70	ASTM D 2240
Application temperature	5°C to 35°C	Conditions: 20°C, 50% RH
Rain Stability Time	3-4 hours	
Light Pedestrian Traffic	12-18 hours	
Final curing time	7 days	
Chemical properties	Good resistance against acidic and alcalic solutions (5%), detergents, seawater and oils.	

• **Application**

**Surface Preparation**

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the coating. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

**Priming**

Prime absorbent surfaces like concrete, cement screed or wood with MARISEAL®710 or with MARISEAL®AQUA-PRIMER. Prime non-absorbent surfaces like metal, ceramic tiles and old coatings with MARISEAL®AQUA-PRIMER.

**Waterproofing Membrane**

Stir MARISEAL®DETAIL well before using. Apply one coat MARISEAL®DETAIL onto the prepared and/or primed surface by roller or brush.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL®DETAIL contains isocyanates. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately.

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# BILIZO® BITUPOL 100

Polymer And Bitumen Based, Two Component, Crack Sealer, Solvent Free Waterproofing Material



• **Product Description**

Polymer and bitumen based, two component, crack sealer, solvent free waterproofing material for roofs.

• **Uses**

- ⌘ Against ground humidity and stabilize waste water,
- ⌘ Wall insulations,
- ⌘ Balcony and flower beds,
- ⌘ All kinds of roofs and terraces ((under tile),
- ⌘ Wet areas (kitchen, bath, laboratory etc.)

• **Packaging**

BILIZO® BITUPOL 100 A Component: 22 kg liquid / B Component: 8 kg powder polyethylene sack, totally 30 kg combi set plastic pail.

• **Consumption**

Minimum consumption is 3 kg/m² in 2-3 layer. During the application, consumption may increase according to surface roughness.

• **Advantages**

- ⌘ Low cost
- ⌘ Short curing time
- ⌘ Perfect covering
- ⌘ Ability to cover surface cracks
- ⌘ Easy application

• **Technical Data**

Color	Brown, black
Density	1.05 ± 0.01 kg/lt
Ph	10.5 – 11.5
Viscosity	50 d Pa.s
Solids (A Component)	53.0 % ± 1.0 %
Solids (A+B Component)	64.0 % ± 1.0 %
Surface Application Temperature	+5°C / +35°C
Ambient temperature	+5°C / +35°C
Initial Curing Time	4-6 hours
Complete Curing Time	1 – 5 days
Contact time with water	48 hours

PS: The informations above is given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

• **Application**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellent, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm. Tie-rod holes should be plugged with polyurethane mastic or epoxy repair mortar.

Ready to use material can be applied by trowel. Temperature must be within the range of +5°C and +30°C during the application. In case of rainy weather, do not apply the material on wet surface.

**Cleaning the tools:** with cellulosic thinner.

• **Mixture**

BILIZO® BITUPOL 100, is consist of 22 Kg A Compenant and 8 kg B Compenant. Pour 8 kg powder component into 22 kg A component and mix homogeniously with a medium speed electrical mixer. The mixture must be consumed in the mixture life. Curing time is an advantage that 2K products have over 1K products. Especially in winter time, while the curing times of 1K products take longer, the cement based powder compenants of 2K products shorten the curing time.

• **Storage**

Store the product in a cool and dry place with the original package. The storing place temperature must be over +5°C. Short-term storing; max. 3 pallets should be superpose. Long-term storing; pallets should not be superpose. Under suitable conditions, storage life is 12 months from the production date.

• **Safety Measures**

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. In case of eye or skin contact with the wet material, rinse with plenty of water. In case of swallowing by mistaken consult a doctor immediately. Keep out of children.



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# BILIZO® BITUPOL 645

Two-component, Bitumen-Rubber Based Waterproofing Material



• **Product Description**

BILIZO® BITUPOL 645 is two-component, bitumen – rubber based, anionic, polymer-modified, fiber-reinforced, high-elasticity and trowel viscous waterproof material. (Suitable for DIN 18195 – TSE EN 15814.)

• **Uses**

- Indoors and outdoors,
- Foundations and bundling the walls,
- Insulation of concrete against aggressive waters from ground and microorganismS (DIN4030),
- Bonding of thermal insulation boards,
- Foundations, underground parking structures, retaining walls, settling tanks,
- Horizontal and vertical applications where the water comes – the positive direction

• **Packaging**

BILIZO® BITUPOL 645; compounds 22 kg liquid component A, and component B is packaged in the form of powder as 8 kg polyethylene bags.

• **Consumption**

Minimum consumption is 3 kg/m² in 2-3 layer. During the application, consumption may increase according to surface roughness.

• **Advantages**

- Resistant to humic acids in the soil and salt water.
- Freeze-thaw cycle resistant.
- Suitable for use in areas that are affected by motion and vibration.
- It creates jointless, seamless, waterproof coating against permanent moisture.
- It is suitable for waterproofing with thick-layer coating against humidity penetration and water which is caused by leaking water in all type constructions in underground and aboveground.
- It does not flow on vertical surfaces.
- In capillary cracks, it makes crack bridging.



• **Technical Data**

BITUPOL 645 Component A BITUPOL 645 Component B	Polymer Modified Bitumen Emulsion Special Cement
Colour	Brown / Black
Consistency	Trowel consistency
Density	1.08 kg/lt
Solid content	~ 58%
The Temperature of The Ground	+5°C +35°C
The Temperature of The Service	-20°C +80°C
The temperature of Ambient time	+5°C +35°C
Duration of use	1 hour
Curing time	20-24 hours
Solids (A Component)	56.0 % ± 1.0 %
Solids (A+B Component)	65.0 % ± 1.0 %
The Contact Time With Water	48 hour
Mixing Ratios	Component A 22 kg Component B 8 kg

• **Application**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar,minimum radius of 4 cm. Tie-rod holes should be plugged with BILIZO MORTAR THIX or epoxy repair mortar. Ready to use material can be applied by trowel. Temperature must be within the range of +5°C and +30°C during the application. In case of rainy weather, do not apply the material on wet surface.

• **Mixture**

BILIZO® BITUPOL 645 consists of 22 Kg A component and 8 kg B component. 8 kg B comp. is poured into 22 kg A comp. and should be mixed with a electronic mixer with 400-600 rpm for 3-5 mins until being homogeneous mixture at medium speed.The mixture must be consumed in the mixture life. Curing time is an advantage that 2K products have over 1K products. Especially in winter time, while the curing times of 1K products take longer, the cement based powder compenants of 2K products shorten the curing time. Therefore BILIZO® BITUPOL 645 in the winter has to be cured quickly.

**Cleaning the tools:** with cellulosic thinner.

**Warning:** For the following use, thinner residue should not remains on the instruments.

• **Storage**

Store the product in a cool and dry place with the original package. The storing place temperature must be over +5°C. Short-term storing; max. 3 pallets should be superpose. Long-term storing; pallets should not be superpose. Under suitable conditions, storage life is 12 months from the production date.

• **Safety Measures**

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. In case of eye or skin contact with the wet material, rinse with plenty of water. In case of swallowing by mistaken consult a doctor immediately. Keep out of children. Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives.

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# BILIZO® BITUPOL 665

One-component, Bitumen – Rubber Based, Anionic, High Elasticity Waterproofing Material



• **Product Description**

BILIZO® BITUPOL 665 is single-component, bitumen – rubber based, anionic, high-elasticity and trowel viscous waterproofing material for basement, foundations and walls.  
(Suitable for DIN 18195 – TSE EN 15814.)

• **Uses**

- Bundling of foundations and walls,
- Insulation of concrete surfaces which is constantly in contact with water and soil beneath,
- Insulation of flower head,
- Foundations, underground parking structures, retaining walls,
- Horizontal and vertical applications where the water comes – the positive direction.

• **Consumption**

Minimum consumption is 3 kg/m<sup>2</sup> in 2-3 layer. During the application, consumption may increase according to surface roughness.

• **Advantages**

- It is applied with trowel, brush and spray machine.
- It is long lasting and not affected by weather conditions.
- Solvent-free, do not shine and non-flammable.
- Freeze-thaw cycle resistant.
- Maintains its elasticity even at low temperatures.
- It creates jointless, seamless, waterproof coating against permanent moisture.
- Can be applied to damp and fresh concrete surface.
- It does not flow on vertical surfaces.
- The elastic structure is capable of bridging shrinkage cracks.
- In capillary cracks, it makes crack bridging.

• **Packaging**

BILIZO® BITUPOL 665; is packaged in the form of 30 kg plastic buckets.

• **Technical Data**

BITUPOL 665	Rubber & Polymer Modified Bitumen Emulsion
Colour	Brown / Black
Consistency	Trowel consistency
Density	1.07 kg/lt
The Temperature of The Ground	+5°C +35°C
The Temperature of The Service	-20°C +80°C
The temperature of Ambient time	+5°C +35°C
Duration of use	2 hours
Curing time	20-24 hours
The Contact Time With Water	48 hour
Solids (A Component)	61.0 % ± 1.0 %
Elongation Break	%100 (+23°C, %50 r.h, 10 cm/s)

• **Application**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellent, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm. Tie-rod holes should be plugged with BILIZO® MORTAR THIX or epoxy repair mortar.  
Ready to use material can be applied by trowel. Temperature must be within the range of +5°C and +30°C during the application. In case of rainy weather, do not apply the material on wet surface.

• **Mixture**

It is packaged as 30 kg plastic bucket. It should be mixed with an electronic mixer at 400-600 rpm for 3-5 mins at medium speed until being homogeneous. The material is ready for use.

**Cleaning the tools:** with cellulosic thinner.

**Warning:** For the following use, thinner residue should not remain on the instruments.

• **Storage**

Store the product in a cool and dry place with the original package. The storing place temperature must be over +5°C. Short-term storing; max. 3 pallets should be superpose. Long-term storing; pallets should not be superpose. Under suitable conditions, storage life is 12 months from the production date.

• **Safety Measures**

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. In case of eye or skin contact with the wet material, rinse with plenty of water. In case of swallowing by mistake consult a doctor immediately. Keep out of children. Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives.



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# BILIZO® BITUPOL 694

Two-Component, Polymer Bitumen Based Waterproofing Material



• **Product Description**

BILIZO® BITUPOL 694 two-component, cement and, polymer bitumen-based crack sealer, solvent free, waterproof material. (Suitable for DIN 18195 ve TSE EN 15814.)

• **Uses**

- Foundations and walls,
- Retaining walls, settling tanks,
- Outdoors,
- Bonding of lightweight thermal insulation panels,
- Suitable for use in wet area floors, balconies and waterproofing under cement-based screeds.

• **Consumption**

Minimum consumption is 3 kg/m² in 2-3 layer. During the application, consumption may increase according to surface roughness.

• **Advantages**

- Do not sag on vertical places.
- The elastic structure is capable of bridging shrinkage cracks.
- Can be applied on dry and damp surfaces.
- The operating time is longer.
- Freeze-thaw cycle resistant.
- It is applied with trowel or brush.
- Solvent-free and environment friendly.
- It has resistant to aging, water, various salt solutions, and weak acids.

• **Packaging**

BILIZO® BITUPOL 694; compounds 22 kg liquid component A, and component B is packaged in the form of powder as 8 kg polyethylene bags.

• **Technical Data**

BITUPOL 694 Component A	Bitumen Emulsion
BITUPOL 694 Component B	Special Cements Dry Mix
Colour	Black
Consistency	Brush consistency
Density	1.03 kg/lt
Solids (A Component)	57 % ± 1.0 %
Solids (A+B Component)	66 % ± 1.0 %
The Temperature of The Ground	+5°C +35°C
The Temperature of The Service	-20°C +80°C
The temperature of Ambient time	+5°C +35°C
Duration of use	1 hour
Curing time	20-24 hours
The Contact Time With Water	48-52 hours
Mixing Ratios	Component A 22 kg Component B 8 kg

• **Application**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm. Tie-rod holes should be plugged with BILIZO® MORTAR THIX or epoxy repair mortar.

Ready to use material can be applied by trowel. Temperature must be within the range of +5°C and +30°C during the application. In case of rainy weather, do not apply the material on wet surface.

• **Mixture**

BILIZO® BITUPOL 694, consists of 22 Kg A Component and 8 kg B Component. 8 kg B comp. is poured into 22 kg A comp. and should ve mixed with a electronic mixer with 400-600 rpm for 3-5 min until being homogeneous mixture at medium speed. The mixture must be consumed in the mixture life.

Curing time is an advantage that 2K products have over 1K products. Especially in winter time, while the curing times of 1K products take longer, the cement based powder compenants of 2K products shorten the curing time. Therefore BILIZO® BITUPOL 694 in the winter has to be cured quickly.

**Cleaning the tools:** with cellulosic thinner.

**Warning:** For the following use, thinner residue should not remains on the instruments.

• **Storage**

Store the product in a cool and dry place with the original package. The storing place temperature must be over +5°C. Short-term storing; max. 3 pallets should be superpose. Long-term storing; pallets should not be superpose. Under suitable conditions, storage life is 12 months from the production date.

• **Safety Measures**

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. In case of eye or skin contact with the wet material, rinse with plenty of water. In case of swallowing by mistaken consult a doctor immediately. Keep out of children. Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives.



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# BILIZO® SEAL 606

Cement Based, Two Component,Elastic Waterproofing Material



• **Product Description**

BILIZO® SEAL 606 ; is elastic waterproofing material that is designed for all kind of cement and polymer dispersion based concrete surfaces and cement based liquids.

• **Uses**

- Waterproofing of indoor and outdoor,
- Waterproofing of water tanks (on condition that the surface of this material must be protected)
- Waterproofing of Olympic Swimming Pools and Thermal Pools.
- Waterproofing of Chill Store (on walls and on floors)
- Waterproofing of wet areas (Kitchen, bathroom etc.)
- On Terraces (on condition that the surface of this material must be coated.)
- Waterproofing of foundation and sustaining wall,
- Waterproofing of flower plantation.

• **Packaging**

30 kg set of BILIZO® SEAL 606 consist of Component A in reinforced polyethylene paper bag net 20 kg and Component B in plastic drum net 10 kg.

• **Consumption**

BILIZO® SEAL 606 must be applied 1,20 kg/m² as the first layer, 1 kg/m² as the second layer, 1 kg/m² as the third layer.

• **Advantages**

- It is elastic and watertight,
- It can be easy prepared and applied,
- It can be applied with roller or spraying machine,
- By its high adhesion performance and flexibility, it forms a waterproof layer under screed and ceramics.
- It forms jointless, permanent waterproofing coating.
- It has resistant to chemicals and salt solution in soil.
- Provides water vapor permeability.
- High durability
- It is used on the areas that affected from movement and vibration.
- Resistant to frost.



• **Technical Data**

BILIZO® SEAL 606 Komponent A:	Special Cement, Mineral Fillers, Polymer
BILIZO® SEAL 606 Komponent B:	Liquid Polymer Dispersion
Colour:	Greenish – Gray
Adhesion Strength:	1,0 N/mm²
Resistance to Water Pressure :	7 bar (positive)
Surface Temperature:	+8°C – +30°C
Ambient Temperature	+8°C – +30°C
Service Temperature:	-20°C – +80°C
Relative air Humidity:	Max %70-80
Dew Point:	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature
Pot Life of Fresh Mixture:	2 hours
Ready to use (Mechanical Strength):	2 days
Ready to use (Waterproof) :	7 days
Coating (Liquid and Ceramic):	3 days
Wait Time Between Coats	+ 10°C 12-15 hour + 20°C 6-8 hour + 30°C 3-5 hour

PS: The informations above are given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

• **Application**

**Surface Preparation**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar,minimum radius of 4 cm.  
Before application, surface should be wetted (not allowed to be pond). If the Coating Material loses its water immediantly and gets matt that shows the surface does not get wett sufficiently or dry fastly. At such as hot weathers or in case of material is exposed to wind; water added up to 10% of B Component to the mixture prepared for first layer.

**Strenght**

Product strength is 1 year from date of production at proper storage conditions. Opened packages should be tightly closed and kept under appropriate storage conditions.

**Mixing Procedure**

B component of BILIZO® SEAL 606 stills in to a clean mixing container. While A component is added slowly, mixture should be mixed with 400-600 rev/min mixing drill. Components A and B should be stirred for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 2 minutes. Then stir again for 1 min. to make the mixture ready to use.  
20 kg dust A Component mix with 10kg liquid Component B.  
Density of Mixture: 1,7 kg/lt

**Surface Application**

Apply BILIZO® SEAL 606 mixture in two or three layer with brush. Direction of brush application should be perpendicular to each other. Waiting time between coatings depends on conditions.  
WARNING: After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Store the product in a cool and dry place.  
Short-term storing ; max. 3 pallets should be superposed.  
Long-term storing ; pallets should not be superposed.

• **Safety Measures**

Application areas should be vebtilated. Hands and eyes must be protected with gloves and protective glasses. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediatly. Adequate ventilation is required during the application. Keep away from children

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# BILIZO® SEAL 607

Cement Based, Two Component, Semi-Elastic Waterproofing Material



• **Product Description**

BILIZO® SEAL 607; is semi-elastic waterproofing material that is designed for all kind of cement and polymer dispersion based concrete surfaces and cement based liquids.

• **Uses**

- ✦ Waterproofing of indoor and outdoor,
- ✦ Waterproofing of water tanks
- ✦ Waterproofing of Semi-Olympic Swimming Pools and Thermal Pools.
- ✦ Waterproofing of Chill Store (on walls and on floors)
- ✦ Waterproofing of wet areas (Kitchen, bathroom etc.)
- ✦ On Terraces (on condition that the surface of this material must be coated.)
- ✦ Waterproofing of foundation and sustaining wall,
- ✦ Waterproofing of flower plantation.

• **Packaging**

25 kg set of BILIZO® SEAL 607 consist of Component A in reinforced polyethylene paper bag net 20 kg and Component B in plastic drum net 5 kg.

• **Consumption**

BILIZO® SEAL 607 must be applied 1,40 kg/m² as the first layer, 1,20 kg/m² as the second layer, 1,00 kg/m² as the third layer.

A component: 20 kg powder and B component:5 kg liquid are mixed.

• **Advantages**

- ✦ It is semi-elastic and watertight,
- ✦ It can be easy prepared and applied,
- ✦ It can be applied with roller or spraying machine,
- ✦ By its high adhesion performance and semi – elasticity, it forms a waterproof layer under screed and ceramics.
- ✦ It forms jointless, permanent waterproofing coating.
- ✦ It has resistant to chemicals and salt solution in soil.
- ✦ Provides water vapor permeability.
- ✦ Resistant to frost.
- ✦ It can safely used in drinking water tanks(has test report)

• **Technical Data**

BILIZO® SEAL 607 Komponent A:	Special Cement, Mineral Fillers, Polymer
BILIZO® SEAL 607 Komponent B:	Liquid Polymer Dispersion
Colour:	Dark Cement Colour
Adhesion Strength:	1,05 gr/cm²
Resistance to Water Pressure :	2 bar (positive)
Surface Temperature:	+8°C – +30°C
Ambient Temperature:	+8°C – +30°C
Service Temperature:	-20°C – +80°C
Relative air Humidity:	Max %70-80
Dew Point:	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.
Pot Life of Fresh Mixture:	2 hours
Ready to Use(Mechanical Strength) :	2days
Ready to Use (Waterproof) :	7days
Coating (Liquid or ceramic):	3 days
Wait Time Between Coats	+ 10°C 12-15 hour + 20°C 6-8 hour + 30°C 3-5 hour

PS: The informations above are given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

• **Application**

**Surface Preparation**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, paint, bitumen, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm.

Before application, surface should be wetted (not allowed to be pond). If the Coating Material loses its water immediately and gets matt that shows the surface does not get wet sufficiently or dry fastly. At such as hot weathers or in case of material is exposed to wind, water added up to 10% of B Component to the mixture prepared for first layer.

**Strenght**

Product strength is 1 year from date of production at proper storage conditions. BILIZO® SEAL 607 Component B, freezes at the temperatures below 0°C. Opened packages should be tightly closed and kept under appropriate storage conditions.

**Mixing Procedure**

B component of BILIZO® SEAL 607 stills in to a clean mixing container. While A component is added slowly, mixture should be mixed with 400-600 rev/min mixing drill. Components A and B should be stirred for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 2 minutes. Then stir again for 1 min. to make the mixture ready to use.

**Surface Application**

Apply BILIZO® SEAL 607 mixture in two or three layer with brush. Direction of brush application should be perpendicular to each other. Waiting time between coatings depends on conditions.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Store the product in a cool and dry place.  
Short-term storing ; max. 3 pallets should be superposed.  
Long-term storing ; pallets should not be superposed.

• **Safety Measures**

Application areas should be vebtilated. Hands and eyes must be protected with gloves and protective glasses. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application. Keep away from children.

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# BILIZO® SEAL 608

Cement Based, Capillary Effective, Crystallized Waterproofing Material



• **Product Description**

BILIZO® SEAL 608 ; is a cement based, single component, crystallized waterproofing material that is applied on both new and old structures to negative and positive direction.

• **Uses**

- Waterproofing of interior and exterior areas,
- Waterproofing of vertical and horizontal applications.
- Waterproofing of basement floors.
- Waterproofing of foundation wall,
- Waterproofing of tunnels.
- Waterproofing of Semi-Olimpic Swimming Pools
- Waterproofing of elevator shafts.
- Waterproofing of retaining walls.

• **Packaging**

BILIZO® SEAL 608 consist of reinforced polyethylene paper bag net 20 kg.

• **Consumption**

BILIZO® SEAL 608 must be applied 1 kg/m² as the first layer, 1 kg/m² as the second layer.

• **Advantages**

- Mixed with only water.
- It can be easy prepared and applied,
- It has a long working time.
- It is effective on both negative and positive directions.
- It fills the capillary gaps with permanent crystals and make waterproofing.
- It protects the concrete and fittings from the corrosive effects of water.
- It has water vapor and air permeability.
- It can be used on drinking water tanks.
- The formed crystals do not be resolved, removed from the surface.
- The formed crystals do not get old.
- The active material of the product reacts with the water inside the concrete and crystallized in the capillary gaps. This provides waterproofing.
- This is the most economical solution on the negative dimention.



• **Technical Data**

BILIZO® SEAL 608 :	Cement, Mineral Fillers, special additions
Colour:	Grey
Pressure Strength:	15N/mm² (28 days)
Resistance to Pressure Water :	4 bar negative, 10 bar positive
Surface Temperature:	+8°C – +30°C
Ambient Temperature:	+8°C – +30°C
Relative air humidity:	Max %70-80
Dew point:	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.
Service Temperature:	+20°C – +80°C
Pot Life of Fresh Mixture:	20 min
Wait time between coats	+ 10°C 12-15 hour + 20°C 6-8 hour + 30°C 3-5 hour

PS: The informations above are given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

• **Application**

**Surface Preparation**

Surface should be dry, clean, free of any defects. Any oil, rust, paraffin, paint, bitumen remmands easily detachable and loose parts and dust should be cleaned on the surface. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm. Before application, surface should be wetted (not allowed to be pond). Before application the surface must be seen wet.

**Strenght**

Product strength is 1 year from date of production at proper storage conditions. Opened packages should be tightly closed and kept under appropriate storage conditions.

**Mixing Procedure**

Contrastly to other mixture method, first BILIZO® SEAL 608 is put in a case. While mixture water is added, begin to stir at the same time. Product should be mixed with 400-600 rev/min mixing drill for 3-5 min until the mixture become homogeneous and should be allowed to rest for 2 minutes. Then stir again for 1 min. to make the mixture ready to use.

For 1 kg BILIZO® SEAL 608, 0,3 lt water is used. According to full package of BILIZO® SEAL 608, 6 lt water is enough. The density of the mixture is 2 kg/lt.

**Surface Application**

Apply BILIZO® SEAL 608 mixture on water saturated and moist appearance surface by blush. This material should be applied in two layer. Waiting time between coatings must be 3-5 hours. The second layer must be applied when the first layer achieve the surficient hardness.

**Note:** do not apply cure material after the application and keep the surface wet for 5-7 days. This application will provide crystallized happened. Water tanks should be filled after 24 hours later, crystallized and penetration depth should also be increased. Product will achieve the final waterproofing conditions after 7 days. Product should be keep away from direct sunlight and wind.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Store the product in a cool, dry place. Material also must be protected from frost. Short-term storing; max. 3 pallets should be superposed. Long-term storing; pallets should not be superposed.

• **Safety Measures**

Application areas should be vebtilated. During the application the clothes, gloves, masks, glasses must be wore according to OCCUPATIONAL HEALTH RULES. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Avoid entering the application area with any food or drink. Keep away from children.

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# BILIZO® SEAL 609

**Cement and Polymer Dispersion Based, Two Component, Applied to Both Negative and Positive Direction Waterproofing Material**



## Product Description

- ✦ BILIZO® SEAL 609; is a cement and polymer dispersion based waterproofing material that can apply on both negative and positive directions.
- ✦ The coating cures to form a water impermeable membrane with excellent adhesion to the substrate.
- ✦ BILIZO® SEAL 609; blocks the surface moisture, leaks and surface water perfectly.

## Uses

- ✦ Waterproofing of interior and exterior areas, from the vertical and horizontal direction of water.
- ✦ Waterproofing of wet areas (Kitchen, bathroom etc.)
- ✦ Waterproofing of foundation and sustaining wall,
- ✦ Waterproofing of water tanks and tunnels.
- ✦ Waterproofing of Semi-Olympic Swimming Pools
- ✦ Waterproofing of elevator pits.
- ✦ Waterproofing of flower plantation.
- ✦ Waterproofing of nutrient storage
- ✦ Waterproofing of reinforced concrete pipes.
- ✦ Waterproofing of fish growth ponds.
- ✦ Waterproofing of hydroelectric power plants.

## Packaging

BILIZO® SEAL 609 consist of Component A in reinforced polyethylene paper bag net 25 kg and Component B in plastic drum net 2 kg.

## Consumption

BILIZO® SEAL 609 must be applied 1,50 kg/m<sup>2</sup> as the first layer, 1,20 kg/m<sup>2</sup> as the second layer, 1,20 kg/m<sup>2</sup> as the third layer.

## Advantages

- ✦ It can be easy prepared and applied,
- ✦ It has a long working time.
- ✦ It can be applied with roller or spraying machine,
- ✦ It is effective on both negative and positive directions. (4 bar negative – 10 bar positive)
- ✦ It has a high durability
- ✦ It has high adhesion resistance. It works with the surface it adhered
- ✦ It has capillary effect
- ✦ It is watervapor and air permeable.
- ✦ It has resistant to frost.
- ✦ It has shrink and crack resistance.
- ✦ It is semi-elastic and watertight,

## Technical Data

BILIZO® SEAL 609 Komponent A:	Special Cement, Mineral Fillers, Polymer
BILIZO® SEAL 609 Komponent B:	Liquid Polymer Dispersion
Colour:	Grey
Adhesion Strength:	1,50 N/mm <sup>2</sup> (28 days)
Resistance to Pressure Water :	4 bar negative, 10 bar positive
Water Vapor Permeability	86-120
Surface Temperature:	+8°C – +30°C
Ambient Temperature:	+8°C – +30°C
Relative air humidity:	Max %70-80
Dew point:	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.
Service Temperature:	+20°C – +80°C
Pot Life of Fresh Mixture:	45 min
Ready to Use(impermeable to water)	7 days
Coating (Liquid or ceramic):	3 days
Wait Time Between Coats	+ 10°C 12-15 hour + 20°C 6-8 hour + 30°C 3-5 hour

PS: The informations above are given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

## Application

### Surface Preparation

Surface should be dry, clean, free of any defects. Any oil, rust, paraffin, paint, bitumen remmands easily detachable and loose parts and dust should be cleaned on the surface. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm. Before application, surface should be wetted (not allowed to be pond). If the Coating Material loses its water immediantly and gets matt that shows the surface does not get wett sufficiently or dry fastly. At such as hot weathers or in case of material is exposed to wind; water added up to 10% of B Component to the mixture prepared for first layer.

### Strength

Product strength is 1 year from date of production at proper storage conditions. BILIZO® SEAL 609 Component B, freezes at the temperatures below 0°C. Opened packages should be tightly closed and kept under appropriate storage conditions.

### Mixing Procedure

B component of BILIZO® SEAL 609 stills in to a clean mixing container. While A component is added slowly, mixture should be mixed with 400-600 rev/min mixing drill. Components A and B should be stirred for minimum 3-5 minutes until you have a homogenous mixture and should be allowed to rest for 2 minutes. Then stir again for 1 min. to make the mixture ready to use. A component of BILIZO® SEAL 609 (25 kg), B component of BILIZO® SEAL 609 (2 kg) and 5-5,5 kg water still and the density of this mixture is 1,98 kg/lt

### Surface Application

Apply BILIZO® SEAL 609 mixture on water saturated and moist appearance surface by blush. This material should be applied in two or three layer. Direction of brush application should be perpendicular to each other. Waiting time between coatings must be 3-5 hours. The second layer must be applied when the first layer achieve the surficient hardness.

**Note:** BILIZO® SEAL 609 becomes impermeable to water after 7 days. This material should be avoided from sunlight, rain, frost and wind. Surface temperature should be between +5°C – +30°C

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

## Storage

Store the product in a cool, dry place. Material also must be protected from frost.  
Short-term storing ; max. 3 pallets should be superposed.  
Long-term storing ; pallets should not be superposed.

## Safety Measures

Application areas should be vebtilated. During the application the clothes, gloves, masks, glasses must be wore according to OCCUPATIONAL HEALTH RULES. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Avoid entering the application area with any food or drink. Keep away from children.

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# BILIZO<sup>®</sup> SEAL 625

Cement and Polymer Dispersive Based, UV Resistant Two Component White Color Flexible Waterproofing Material



• **Product Description**

BILIZO<sup>®</sup> SEAL 625 is a flexible waterproofing material that can be applied in a positive direction to prevent moisture, leaking and surface water in concrete surfaces with two components based on cement polymer dispersion.

• **Uses**

- Inside - outdoor, from direction that water comes in vertical and horizontal
- ✦ In terraces, it can be left open under light load
- ✦ In foundation isolations, in the direction of the water comes from
- ✦ On retaining walls,
- ✦ Wet areas such as WC, bathroom, kitchen and balcony,
- ✦ In swimming pools,
- ✦ In drinking and storage water tanks,
- ✦ Where waterproofing and protection against salty water is required,
- ✦ Protect concrete surfaces against carbonation and chlorine attacks,

• **Consumption**

First coat consumption: 1,5 kg / m<sup>2</sup> mixture  
Second coat consumption: 1,5 kg / m<sup>2</sup> mixture  
Third layer consumption: 1,0 kg / m<sup>2</sup> mixture.

• **Advantages**

- ✦ BILIZO<sup>®</sup> SEAL 625 at a dry thickness of 1 mm provides protection against carbonation equal to a concrete thickness of 80 mm.
- ✦ Waterproof, 7 bar pressure water resistant.
- ✦ Reduced alkali-silica interaction in concrete top applications.
- ✦ It is white in color and resistant to UV rays.
- ✦ Resistant to light pedestrian traffic.
- ✦ High durability.
- ✦ It is resistant to freeze-thaw cycle.
- ✦ It is resistant to atmospheric carbon dioxide and chlorine.
- ✦ It can be used in drinking water storages.

• **Packaging**

Component A 25 kg polyethylene reinforced kraft bag,  
Component B in plastic drum net 10 kg.



**Teknik Veriler**

Component A	Mineral fillers, special cement, polymer
Component B	Copolymer acrylic dispersion
Colour	White
Adhesion Strength:	≥ 1,5 N/mm <sup>2</sup>
Resistance to Water Pressure	7 bar (positive) as 2 mm dry film thickness
Capillary Water Absorption	Max. 0,1kg/m <sup>2</sup> h0,5
Surface Temperature	+5°C +25°C
Service Temperature	-20°C +80°C
Pot Life of Fresh Mixture	2 hours
Ready to use (Mechanical Strength):	2 days
Water Vapor Permeability	Class I
Ready to Use (Waterproof)	7 days
Coating	3 days (Liquid or ceramic)

• **Application**

**Surface Preparation:**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, paint, bitumen, water repellent, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Iron and wooden wedges must be removed from the surface. Any water leakages, non-uniform surface and corner edges must be repaired with suitable prepare mortar, minimum radius of 4 cm.  
Before application, surface should be wetted (not allowed to be pond ). If the Coating Material loses its water immediately and gets matt that shows the surface does not get wet sufficiently or dry fastly. At such as hot weathers or in case of material is exposed to wind, water added up to 10% of B Component to the mixture prepared for first layer.

**Mixing Procedure:**

B component of BILIZO<sup>®</sup> SEAL 625 stills in to a clean mixing container. While A component is added slowly, mixture should be mixed with 400-600 rev/min mixing drill. Components A and B should be stirred for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 2 minutes. Then stir again for 1 min. to make the mixture ready to use.

**Usage:**

BILIZO<sup>®</sup> SEAL 625 Comp. A (powder) 25 kg  
BILIZO<sup>®</sup> SEAL 625 Comp. B (liquid) 8 kg  
Mixture density: 1,8 kg / lt

**Consumption:**

First coat: 1,5 kg/m<sup>2</sup>  
Second coat: 1,5 kg/m<sup>2</sup>  
Third coat: 1,0 kg/m<sup>2</sup>

**Surface Application:**

Apply BILIZO<sup>®</sup> SEAL 607 mixture in two or three layer with brush. Direction of brush application should be perpendicular to each other. Waiting time between coatings depends on conditions. Soak concrete surfaces with clean water. Moisture must be soaked visibly, but no accumulation of water. Apply with a short bristle brush or roller. If necessary, it can be plastered with trowel. For 6-10 mm trench, pore, etc. using less mixing liquid for the desired consistency is obtained. Where multiple coatings are required, apply the second coat after drying the previous coating to achieve the desired thickness. Generally, to re-coat, at least 1 mm thickness of each layer is recommended. Spray application method is recommended for large areas.

**The Impact of Water Pressure:**

BILIZO<sup>®</sup> SEAL 625 provides a protective, water-impermeable coating. BILIZO<sup>®</sup> SEAL 625 has a strength of up to 7 bars (70 meters water pressure). The grade of water resistance under pressure of BILIZO<sup>®</sup> SEAL 625 depends on the thickness of the coating. These application rates are subject to constant water pressure conditions. The pressure application rate is 3 Bar, 4 kg / m<sup>2</sup>, 7 Bar 6 kg / m<sup>2</sup>. To obtain 1 mm. dry thickness, 1.8 kg/m<sup>2</sup> consumption is required.

• **Storage**

Under proper storage conditions, 1 year from date of production.BILIZO<sup>®</sup> SEAL 625 Component B freezes at temperatures below 0°C. Opened packages should be stored tightly closed in appropriate storage conditions. It should be stored in original unopened package, in cool and dry environment, protected from freezing. In short-term storage, a maximum of 3 pallets must be placed on top of each other and shipped with the first-in first-out system. When storing for long periods, pallets should not be placed on top of each other.

• **Safety Measures**

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application. Keep away from children. Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® EUROBENT 5000

Bentonite Based Geosynthetic Clay Cover



Product Description

BILIZO® EUROBENT 5000 is an ‘geosynthetic clay liner’ which made of two or more geotextile and bentonite layer, also clay minerals which has excellent swelling properties. Bentonite absorbs water from the surrounding soil, but expansion is prevented by pressure layer.As a result, it causes the formation of a fairly tight sealing layer to the structural member. BILIZO® EUROBENT 5000 replaces all conventional mineral filler. Better sealing performance, cost efficiency and environmental friendliness are the most important reasons for choosing EUROBENT.

Mass Per Unit Area(Average)

Carrier Layer	PP Woven	100-200 g/m²
Inlay	NA Bentonite	1000-6000 g/m²
Cover Layer	PP Nonwoven PE Membrane 0,2-0,5	100-200 g/m² 180-2500 g/m²
Total Product Weight	-	1200-6300 g/m²

Bentonite Properties

Montmorillonite Content	—	%75
Swelling Capacity	ASTM D 5890	24 ml/ 2 g
Water Absorption Capacity	DIN 18132	Min. 450 %
Moisture Content	—	Max. 12 %



Physical Properties of the Composite

Thickness (Dry)	EN ISO 9863-1/9863-2	Min. 3,0-8,5 mm
Permeability	ASTM D 5887-99	Max. 0 – 5x10-11 m/s
Tensile Strength MD Tensile Strength CD	EN ISO 10319	Max. 8,5 – 40,0 kn/m Max. 8,5 – 40,0 kn/m
CBR Puncture Strength	EN ISO 12236	Max. 1,8 – 5,0 kn

Standard Roll Dimensions	Length/Width	(.40. x 2,5.) m
These data are average values derived from standard tests and are subject to usual product variation. The right is reserved to make changes without notice at any time.		

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# BILIZO® POLYBAR WATERSTOP PLUS

Cold Joint Tape Which Expands with Water



### Product Description

Hydrophilic water stop based on synthetic rubber that acts as watertight seal for construction joints with excellent swelling capabilities. Polybar+ superswell is developed for fast and efficient sealing in contact with extremely high concentrates of salt (up to 10w% salt water). Retains its own form in multiple dry-wet cycles. Can be mechanically fixed with nails or adhered with adhesive.

### Uses

- Construction joints,
- Around the passage of all kinds of concrete,
- In the pools,
- Water tanks,
- All kind of structures exposed to sea water
- Wastewater treatment plants,
- Tunnel segments,
- As a waterstop in cold joints where foundations and walls combined
- As a waterstop flange during entry and exit of PVC pipe,
- It is used in areas where steel, profile are in contact with concrete.

### Advantages

- Easy to use.
- It seals against non-pressing and pressing ground water up to 6 bar.
- It can be used in repeated wet and dry cycles.
- It is developed for fast sealing in contact with extremely high concentrates of salt (up to 10w%).
- Adaptable to many different details.
- It can be applied both vertically and horizontally.
- It has resistance to water and various Chemicals.
- It can be expanded in cracks and spaces.
- Molecular structure is unaffected by the volume expansion due to freezing of water it contains.

### Packaging

- 20x5 mm 10 m roll and 5x10 m boxes
- 20x10 mm 10 m roll and 9x10m boxes



### Technical Data

Volume expansion in 10w% salt water	300%
Volume expansion in 3w% salt water (sea water)	400%
Volume expansion in concrete water	900%
Volume expansion in rain water	350%
Colour	Orange
Hardness	25° Shore A
Tensile strenght	> 1 MP a
Elongation	< 500%
Density	1,23 +/- 0,03
Water pressure resistance	60 m (6 bar)
Temperature range	-20 + 75° C
Weather resistance	Excellent
Chemical Resistance	Good overall chemical resistance, but we advise to be careful with aromatic oils and fuels, with vegetal oils and strong aromatic solvents. Contact our sales department for detailed specific information.

### Application

#### Preparation of The Surface

The surface should be clean, dry,not has much moisture and should be cleaned from any contamination. All loose particles, mold oil, weak cement grout, paint, rust and other poorly adhering materials should be removed by hand or mechanical methods. The surface which impermeability profile will be placed, should be arranged with a piece of wood before the concrete hardens.

#### Applying to the Surface:

BILIZO® POLYBAR WATERSTOP PLUS should be fixed with it's adhesive to the central exis of applied section. Joints should be side by side minium 10 cm. Before pouring concrete, product should be controlled if it is damaged. It is important to obtain proper adhesion n surface. BILIZO® POLYBAR WATERSTOP PLUS profile should be protected from water (rain etc.) until concrete placement is made.

#### Application Notes:

- Can be mechanically fixed with nails at approx 300mm centres or adhered with adhesive.
- The product can be adhered to concrete, steel and PVC pipe penetrations with the adhesive.
- The adhesive will also ensure a good bond is achieved on slightly uneven surfaces.
- The use of a tying wire around BILIZO® POLYBAR WATERSTOP PLUS in the case of securing it to PVC pipes is also recommended in conjunction with the adhesive.

#### Storage

When it is stored in the original, unopened and undamaged packaging and protected from direct sunlight, suitable for 12 months from date of manufacture.

#### Safety Measures

Avoid contact directly with eyes and mouth, if swallowed, a doctor should be consulted immediately. Application areas are prohibited in food and drink. For detailed information refer to Material Safety Data Sheet (Material Safety Data Sheet).

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# BILIZO® EPOXY DWT

## Hygienic Solvent-Free Lining



### Product Description

It is an epoxy resin-based, two-component, solvent-free and resilient one-coat lining resistant to fresh water and sea water and cured with polyamine hardener. It can be cured at low temperatures. It is not affected by quick change of weather conditions; does not crack and wrinkle. It does not contain benzyl alcohol, nonyl phenol

### Uses

- It is used as protective lining on the inner surfaces of the service water storage tanks at the industrial plants, ships and houses,
- Piping lines for transmission of potable water and salt water,
- On the steel and concrete surfaces.

### Packaging and Colors

A 20kg set of BILIZO® EPOXY DWT consists of Component A in one pail of net 16 kg and Component B in one gallon of net 4 kg.

A 5-kg set of BILIZO® EPOXY DWT consists of Component A in one pail of net 4 kg and Component B in a can of net 1 kg.

### Advantages

- Solvent-free with content of solids by 100%
- Forms a hygienic surface and suitable for use in the potable water tanks,
- It can be used on the steel and concrete surfaces.

### Consumption

#### DRYING SCHEDULE:

(in dry film thickness of 300 microns)	Touch-dry	Hard Dry
5°C	36 hours	96 hours
15°C	16 hours	72 hours
25°C	10 hours	36 hours
35°C	7 hours	24 hours

It reaches to a full mechanical and chemical resistance in about 7 days.

#### APPLICATION INFORMATION:

Application Equipment:	Airless Spray	Roller/Brush
Application Viscosity:	Mixture viscosity	Mixture viscosity
Thinning Ration (by weight) :	-	-
Pressure (bar) :	250 - 300	-
Nozzle (inch)/ (mm) :	0,021 - 0,027 inch	-

### Technical Data

Finish:	Gloss
Color:	Light Green
Density:	1,35 ± 0,05 kg/l (A+B)
Mixing Ratio:	4:1 (A:B – by weight)
Solids by Volume:	100% (A+B)
Pot Life (+10°C):	80 minutes
(+30°C):	45 minutes
Recoating Interval:	24 hours / at 20°C
Theoretical Spread:	2,56 m <sup>2</sup> / kg (at 300 micron dft*)
Fully Cured:	7 days / 20°C de
Flash Point:	>100°C
VOC(Volatile Organic Compound):	0 g/l
Application Systems:	Airless spray, roller/brush

NOT: Yukarıdaki değerler +23°C'de ve %50 bağıl nem ortamı için verilmiştir. Yüksek sıcaklıklar süreyi kısaltır, düşük sıcaklıklar süreyi uzatır.

### Application

**Surface Preparation:** All surfaces to be painted should be clean, dry and free of any dirty.

**New metal surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After the cleaning operation, scraping should be performed at level of Sa 2½ as a minimum. It is recommended that surface roughness profile should be 75-100 microns during scraping. For the steel pipes, small tanks and depots which allow start of paint application on the day when the surface cleaning is completed, it may be directly applied to the surfaces without any need of primer. However, for applications where surface cleaning lasts for one or two days and more, one-coat scraping primer is applied on the cleaned and roughened surfaces so as to give 40-60 dft.

**Concrete surfaces:** If the surface is hard and rough, it should be prepared with abrasive scraper to have an even surface or, if it is not possible, other mechanical systems or etching should be used and then cleaned with pressure fresh water. For big tanks, it is recommended to apply first a proper sealer to the surface (BILIZO® MACRO PRIMER). Care should be given that the application surface should be clean and dry.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

#### Application Conditions

- Maximum relative humidity of the air should be 90%, and application (ambient and surface) temperature should be between +5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- For applications to be performed under direct sunlight, the surface temperature should not exceed 50°C.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

#### Mixing Procedure

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure the prepared mixture is consumed during the pot life of the mixture.

#### Surface Application

After made ready to apply, the mixture is preferably applied by airless spray in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. Please not that there will be a difference of 5-10% in thickness between wet film and dry film.

For avoidance of any curtaining during application, wet film should be applied maximum in 600 microns in one coat. Roller/brush should be used only for lining for cut-off and small areas. No thinner should be used during application.

**Clean Up:** Cellulosic or Epoxy thinner.

#### Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

#### Safety Measures

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# MARISEAL® 710

Polyurethane Primer, Absorbent Surfaces



### Product Description

MARISEAL® 710 is a transparent, semi-rigid, deep penetrating, one component polyurethane primer. Solvent based. Cures by reaction with ground and air moisture.

### Uses

MARISEAL® 710 is mainly used as a primer for polyurethane waterproofing coatings and polyurethane joint-sealants on absorbent surfaces like:

- Concrete.
- Lightweight concrete.
- Cement screeds.
- Wood, etc.

It can also be used as a surface stabilizer of old and brittle concrete surfaces.

### Consumption

0,15 – 0,20 kg/m² in one layer. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

### Advantages

- Simple application (roller or airless spray).
- Excellent anchoring to the surface of absorbing surfaces.
- Quick curing.
- Provides enough elasticity to follow surface movements.
- Stagnating water and frost resistant.
- Chemical resistant against oils, grease, moisture, chemicals and other liquid dirt staining.

### Packaging

MARISEAL® 710 is supplied in 17 kg and 5 kg pails.



### Technical Data

PROPERTIES	RESULTS	TEST METHOD
Composition	Polyurethane Pre-polymer, solvent based	
Resistance to water pressure	No Leak (1m water column, 24h)	DIN 1928, Test A
Adhesion to concrete	2,2 + 0,2 N/mm² (concrete failure)	ASTM D 903
Hardness (Shore A Scale)	>95	ASTM D 2240
Application temperature	5°C to 35°C	Conditions: 20°C, 50% RH
Tack free time	2-3 hours	
Light pedestrian traffic time	12 hours	
Final curing time	4 days	
Density	1.00 gr/cm³	
Solid Content	65.3 %	

### Chemical Properties

Potassium Hydroxide 20%	+	Sodium hydroxide 20%	+
Ammonia 10%	+	Sulfuric acid 10%	+
Hydr°Chloric acid 10%	+	Sea water	+
Benzene	+	Toluene	+
Domestic detergents	+	Dichloromethane	-
Diesel oil	+	N-methyl pyrrolidon (brake fluid)	-
(+ Stable, – Not stable, ± Stable for a short period)			

### Application

#### Surface Preparation

The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the primer. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash the surface with water.

#### Priming

For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish. Apply the MARISEAL® 710 by roller or brush, until the surface to be primed, is covered. For larger surfaces, airless spray application is possible. After 2–3 hours (not later than 4 hours) and while the primer is still a bit tacky, apply the polyurethane waterproofing coating or the polyurethane joint-sealant.

**RECOMMENDATION:** If the surface is very brittle, like lightweight concrete or perlite screed, apply two layers of the MARISEAL® 710.

### Storage

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

### Safety Measures

MARISEAL® 710 contains isocyanates. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application.

**NOTE:** Keep out of reach of children. Please study the Safety Data sheet.

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# MARITRANS® TILE-PRIMER

Adhesion Promoter for Glass and Glazed Surfaces



## Product Description

MARITRANS® TILE-PRIMER is a transparent, one-component adhesion promoter that chemically activates ceramic and glass surfaces providing excellent adhesion to the coating that follows. Solvent based. Cures by reaction with ground and air moisture.

## Uses

- ✦ MARITRANS® TILE-PRIMER is mainly used as an adhesion promoter (primer) for pigmented or transparent polyurethane coatings on non-absorbent glazed surfaces like:
- ✦ Glazed ceramic tiles.
- ✦ Glass.
- ✦ Internal movement joints.
- ✦ Glass bricks, etc.
- ✦ Pipe outlets and around chimneys on roofs.
- ✦ Waterspouts (siphon) etc.

## Consumption

0,05-0,06 kg/m<sup>2</sup> in one or two layers. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

## Advantages

- ✦ Simple application.
- ✦ Excellent anchoring to “difficult” glass and glazed surfaces.
- ✦ UV-stable.

## Packaging

MARITRANS® TILE-PRIMER is supplied as transparent in 4 kg and 1 kg pails.

## Application

### Surface Preparation

The surface needs to be clean and sound, free of any contamination, which may harmfully affect the adhesion of the primer. Old coatings, dirt, fats, oils, organic substances and dust need to be removed. Any loose surface pieces and grinding dust need to be thoroughly removed.

### Priming

For best results, the temperature during application should be between 5°C and 35°C, and relative humidity should be between 50% and 70%. Low temperatures and low humidity retard cure. High humidity may affect the final finish. Apply the MARITRANS® TILE-PRIMER by soaking a clean and dry cloth, and wipe the entire surface off. Change cloths often. By this application Procedure, you ensure that besides the chemical surface activation, the surface is getting also very effectively degreased. Make sure that enough quantity of MARITRANS® TILE-PRIMER is applied on the entire surface without leaving any untreated spots. After approx. 1–2 hours, apply the following polyurethane coating.

## Storage

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

## Safety Measures

MARITRANS® TILE-PRIMER contains Isopropyl alcohol. It is flammable. Keep away from ignition sources. Keep away from smoke. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application.



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# BILIZO® PUR PRIMER

Moisture Curing Polyurethane 1K Impregnation Primer



• **Product Description**

It is an one compenant, solvent base, moisture curing, low viscosity, flexible polyurethane resin-based impregnation primer. It gives protective effect at the end of the reacted with floor and air moisture, as penetrating the applied surface.

• **Uses**

- ⌘ As a impregnation primer before application of epoxy or polyurethane top-coats on the concrete, cement or epoxy mortars for floors subject to medium to heavy load,
- ⌘ As a impregnation primer before application of parquet adhesive,
- ⌘ As a concrete impregnation primer for consolidation of concrete before top-coats of polyurethane mortar, epoxy or polyurethane top-coats application,
- ⌘ As a water insulation primer for tile, ceramic etc. coatings' joint,
- ⌘ As a reinforce and water insulation increase primer for clay or brick floor coatings.

• **Consumption**

In a single layer 0,15 – 0,25 kg/m² should be applied. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Pores on the surface, temperature, humidity, application method and finish required varies depending on the amount of consumption.

• **Advantages**

- ⌘ Easy application (with roller or airless spray),
- ⌘ High impregnation ability to better penetrate the surface absorbed,
- ⌘ Reinforce to applied surfaces,
- ⌘ Resistance to the puddle and freeze,
- ⌘ Chemical resistance to the chemical, moisture, oil, gress and other stain releasers.

• **Packaging**

BILIZO® PUR PRIMER is presented in 17 kg metal pails.



• **Technical Data**

Appearance	Transparent
Color	Yellowish
Density (20°C)	0,97 ± 0,05 kg/l
Solids by volume	%50
Shore A hardness	>95
Concerete adhesion	2,5 N /mm
Resistance to water pressure	No leakage (1m water column – 24 hours)
Application method	Roller, brush, airless spre
Wait Time Between Coats (20°C)	2-3 hours (at 20°C and 60% relative humidity
Light Traffic (20°C)	12 hours (at 20°C and 60% relative humidity)
Fully Cured (20°C)	4 days (at 20°C and 60% relative humidity)

• **Application**

**Surface Preparation:** Application surface should be free of any damages. It should be free of any loose and friable particles, oil and paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Surface should be clean, rough and dust free. Any cement shell and bright screed on the concrete surface should be cleaned up by equipment such as sandblasting machine, hacking machine, wiping machine with diamond drum and impact grinding machine and it should then be roughened and wiped. Remove all dust from the surface by using industrial type vacuum cleaner. Age of new concrete should be minimum 28 days depending on the season and the concrete surfaces should have a maximum moisture content of 5-6%.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +60°C at humid temperature (also without any chemical and mechanical effect) and up to +80°C at dry temperature.

**Application Conditions:**

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In low temperatures drying time will be increase, in high temperatures drying times will be decrease.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.

**Surface Application:** It is ready to use, not to dilution. The product is applied by roller, brush or airless spray until the surface is saturated well and pores are closed. Recomend consumption is 150-200 gr/m² (one coat.) The consumption can be change according to the surface pore structure, absorbing surface and special projects. Applying two coats on very absorbent surfaces, airless spray is recommended for the wide areas of applications. 2-3 hours (not 4 hours) slightly adhering primer, polyurethane waterproof coating, adhesive or polyurethane sealant is applied.

**Clean Up:** Cellulosic or Polyurethane thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 6 mounths when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® MACRO PRIMER

Multi-Functional Epoxy Primer For Wet And Humid Surfaces



• **Product Description**

It is an epoxy resin-based, two-component, solvent-free, transparent sealer of low viscosity.

• **Uses**

- As primer layer for polyurethane materials in wet weather conditions;
- As primer layer before polyurea application;
- As primer layer before application of epoxy or polyurethane top-coats on the concrete, cement or epoxy mortars for floors subject to medium to heavy load;
- As concrete primer to wet the concrete surface and provide a good adhesion bridge before top-coats of epoxy mortar, epoxy self-leveling screed, epoxy laminate or epoxy/polyurethane;
- As binder for preparation of level stabilization, repair and improvement mortar;
- As binder for preparation of epoxy mortar to obtain a thickness of 5 – 8 mm;
- For repair of big cracks and form of chamfering by mixing with silica sand or different fills;
- As primer layer before polyurethane foam application.

• **Consumption**

As impregnation primer: 0,2 – 0,4 kg/m²  
(Depending on the concrete surface, it is recommended to thin it with cellulosic thinner by 5-10 % for better impregnation).

**Level stabilization mortar:**

- BILIZO® MACRO PRIMER: ..... 500 g/m²
- 0,1 – 0,3 mm quartz..... 500 g/m²

**6-7 mm epoxy mortar :**

- BILIZO® MACRO PRIMER: ..... 1,5 kg/m²
- 0,1 – 0,6 mm quartz..... 4,8 kg/m²
- 0,6 – 2,0 mm quartz..... 7,2 kg/m²

**Clean Up:** Cellulosic thinner.

• **Advantages**

- Low viscosity and resilient structure.
- High wetting capability.
- Applicable on damp concrete (wet concrete), cured even in contact with water after application

• **Packaging**

BILIZO® MACRO PRIMER A+B is supplied in 10+4 kg and 3+1,2 kg pails.



• **Technical Data**

PROPERTY	RESULTS
Finish	Transparent
Color	Colorless
Density	1,1 ± 0,05 kg/ltr (A+B)
Mix Ratio	2,5:1 (A:B – by weight)
Solids by volume	100% (A+B)
Pot Life (+10°C)	80 minutes
(+30°C)	25 minutes
Wait Time Between Coats	12 hours /at 20°C
Ready for Light Traffic	24 hours / at 20°C
Full Cure	7 days / at 20°C

• **Application**

**Surface Preparation**

Application surface should be free of any damages. Surface should have compression strength of minimum 25 N/mm² and pull-off test result of minimum 1,5 N/mm². It should be free of any loose and friable particles, oil and paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Any cement shell and bright screed on the concrete surface should be cleaned up by equipment such as sandblasting machine, hacking machine, and wiping machine with diamond drum and impact grinding machine and it should then be roughened and wiped. Remove all dust from the surface by using industrial type vacuum cleaner.

Concrete surfaces in contact with the soil to be coated should be previously treated with water and water vapor sealants.

**Application Conditions**

- Relative humidity of the air should be 90% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the ambient temperature-ambient moisture-dew point table.)

**Mixing Procedure**

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred for minimum 3 minutes until you have a homogenous mixture.

**Surface Application**

When ready for application, the product is applied by roller or airless spray until the surface is saturated well and pores are closed. Time for over coating is minimum 12 hours (20°C) and maximum 10 days. It is very important that the second coat should be applied within the time for over coating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet prepared as per the related EU directives before use. Adequate ventilation is required. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately.

**NOTE:** Keep out of reach of children.

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# MARISEAL® AQUA PRIMER

Water-Based Epoxy Primer,Non-Absorbent Surfaces



• **Product Description**

MARISEAL® AQUA-PRIMER is a transparent, rigid, deep penetrating, two-component epoxy primer. Water based. Cures by reaction (cross linking) of the two components.

• **Uses**

MARISEAL® AQUA-PRIMER is mainly used as a primer for polyurethane coatings and polyurethane joint-sealants on non-absorbent surfaces like:

- Aluminum.
- Steel.
- Asphalt.
- Bitumen-felts.
- Glass.
- Ceramic tiles.
- Old acryl-based coatings, etc.

It can also be used as a primer on moist concrete surfaces.

• **Consumption**

0,15–0,20 kg/m² in one or two layers.

This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like temperature, humidity, application method and finish required can alter consumption.

• **Advantages**

- Simple application (roller or brush).
- Excellent anchoring to non-absorbent surfaces.
- Can be applied on moist surfaces, without loss of adhesion.
- Stagnating water resistant.
- Can be diluted with water.

• **Packaging**

MARISEAL® AQUA-PRIMER A+B is supplied in 15+5 kg and 3+1 kg pails.

• **Technical Data**

PROPERTY	RESULTS	TEST METHOD
Composition	Epoxy resin + Hardener, Water-Based	
Mixing Ratio	A : B = 3 : 1 by weight	
Adhesion to aluminum	>2,0 N/mm²	ASTM D 903
Adhesion to moist concrete	>1,5 N/mm²	ASTM D 903
Hardness (Shore A Scale)	>95	ASTM D 2240
Application Temperature	5°C to 35°C	Conditions: 20°C,%50 RH
Pot-Life	60 min.	
Tack Free Time	12-16 hours	
Final Curing time	7 days	
Density	1.02 gr/cm³	

• **Application**

**Surface Preparation**

The surface needs to be clean and sound, free of any contamination, which may harmfully affect the adhesion of the primer. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed. MARISEAL® AQUA-PRIMER Component A and Component B should be mixed by low speed mechanical stirrer, according to the stipulated mixing ratio, for about 3-5 min.

**ATTENTION:** The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous. Dilute mixture with 10–20% of clean water, to regulate viscosity.

**Priming**

For best results, the temperature during application and cure should be between 5°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish. Apply the MARISEAL® AQUA-PRIMER (diluted) by roller or brush, until the surface is covered. After approx. 8-12 hours (not later than 24 hours) and while the primer is still a bit tacky, apply the polyurethane coating or the polyurethane joint-sealant.

**RECOMMENDATION:** If the surface is very brittle, like lightweight concrete or cement screed, apply two layers of the MARISEAL® AQUA-PRIMER.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL® AQUA-PRIMER contains amines. Adequate ventilation is required during the application. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Before polymerization tools and hands should be cleaned with plenty of water.



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# MARISEAL® 750

Solvent Free, Epoxy Primer



• **Product Description**

MARISEAL® 750 is a transparent, rigid, two component epoxy solvent-free primer.

• **Uses**

MARISEAL® 750 is mainly used as a primer for polyurethane coatings. It can be used on surfaces like:

- Concrete.
- Metal (various).
- Wood.
- Asphalt.

• **Packaging**

MARISEAL® 750 A+B, is supplied as transparent in 8+4 kg pails.

• **Consumption**

0,25-0,30 kg/m² in one layer.  
These consumptions are based on practical application by roller and trowel onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

• **Advantages**

- Simple application.
- Excellent anchoring to the surface.
- Solvent-free.
- Water resistant.
- Provides high tensile and impact strength.
- Provides strong vapor barrier properties.
- High compressive strength (isolation of dams and similar areas).

• **Technical Data**

PROPERTY	RESULTS	TEST METHOD
Composition	Epoxy resin + Hardener	
Mixing Ratio	A : B = 100 : 60 by weight	
Solids Content	100 %	CALCULATED
Resistance to water pressure	No Leak (1m water column, 24h)	DIN 1928, Test A
Adhesion to concrete	>2,2 N/mm² (Concrete failure)	ASTM D 903
Hardness (Shore A Scale)	>95	ASTM D 2240
Application Temperature	12°C to 35°C	Conditions: 20°C, 50% RH
Pot-Life	40 min.	
Tack Free Time	6 hours	
Light Trafficking	12 hours	
Final Curing time	7 days	
Solid Content	100%	

• **Application**

**Surface Preparation**

Careful surface preparation is essential for optimum finish and durability.  
The surface needs to be grinded with a stone – or a diamond-grinding machine. The surface needs to be clean, dry and sound, free of any contamination, which may harmfully affect the adhesion of the coating. Maximum moisture content should not exceed 5%. New concrete structures need to dry for at least 28 days. Old coatings, dirt, fats, oils, organic substances and dust need to be removed by a grinding machine. Possible surface irregularities need to be smoothened. Any loose surface pieces and grinding dust need to be thoroughly removed.

**WARNING:** Do not wash surface with water.

**Repair of Cracks**

Clean cracks and hairline cracks, of dust, residue or other contamination. Fill all cracks or holes with suitable putty. The next day smoothen the putty surface with sandpaper or a mechanical grinder.

**Mixing:** MARISEAL® 750 Component A and Component B should be mixed by low speed mechanical stirrer, according to the stipulated mixing ratio, for about 3–5 min.

**ATTENTION:** The mixing of the components has to be effected very thoroughly, especially on the walls and bottom of the pail until the mixture becomes fully homogeneous.

**Priming:** Apply the MARISEAL® 750 A+B mixture by roller or brush, until the surface to be primed, is covered. After 12 hours (not later than 18 hours) and while the primer is still a bit soft, apply the polyurethane coating.

**ATTENTION:** Please ensure consumption within the Pot Life.  
**WARNING:** Do not apply the MARISEAL® 750, at ambient and ground temperatures under 10°C.  
For best results, the temperature during application and cure should be between 12°C and 35°C. Low temperatures retard cure while high temperature speed up curing. High humidity may affect the final finish.

• **Storage**

Pails should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

MARISEAL® 750 A contains epoxy resins. MARISEAL® 750 B contains amines. Adequate ventilation is required during the application. Hands and eyes must be protected with gloves and protective glasses. Case of eye contact, rinse eyes with plenty of water for the material and consult a doctor immediately. Before polymerization tools and hands should be cleaned with plenty of water.

**NOTE:** Keep away from children. Please study the Safety Data sheet.

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# BILIZO® EPOXY COAT

Multi-Purpose Epoxy Coating Compound



### Product Description

It is an epoxy resin-based, two-component, solvent-free, low viscosity primer – undercoat – leveling and epoxy mortar floor coating material.

### Uses

- Waterproofing of interior and exterior areas,
- Waterproofing of vertical and horizontal applications.
- Waterproofing of basement floors.
- Waterproofing of foundation wall,
- Waterproofing of tunnels.
- Waterproofing of Semi-Olympic Swimming Pools
- Waterproofing of elevator shafts.
- Waterproofing of retaining walls.

### Packaging

16 kg set of BILIZO® EPOXY COAT consists of Component A in one pail of net 12 kg and Component B in one gallon of net 4 kg.

### Advantages

- Multi-purpose
- Low viscosity
- Perfect bonding
- High concrete wetting capacity
- Applicable on damp concrete
- Enduring against heavy loads

### Consumption

- As impregnation primer:** 350-600 gr/m<sup>2</sup>  
(Depending on the concrete surface, it is recommended to thin it with Epoxy Thinner by 5-10 % for better impregnation)
- As bonding bridge:** 250-500 gr/m<sup>2</sup>
- Level Stabilization Mortar:** 1,7 / 1,9 kg/m<sup>2</sup>/mm  
(Applied by mixing 1 unit of BILIZO® EPOXY COAT (0,5 mm) and 1 unit of quartz sand (0,1 to 0,3 mm))
- As undercoat:** 1,9 kg/m<sup>2</sup>/mm  
(Applied by mixing 1 unit of BILIZO® EPOXY COAT (0,5 mm) and 1 unit of quartz sand (0,1 to 0,3 mm, Optionally, the surface, while it is still wet, is broadcast with 0,4 to 0,7 mm of quartz sand by a consumption rate of 4 kg/m<sup>2</sup> approximately)
- Epoxy Mortar:** 2,2 kg/m<sup>2</sup>/mm  
1 unit of BILIZO® EPOXY COAT is mixed with 8 units of quartz sand which is mixed as mentioned below:  
0.1 to 0.6 mm quartz sand 25 units  
0.6 to 2.0 mm quartz sand 50 units  
2.0 to 4.0 mm quartz sand 25 units



### Technical Data

Finish	Brownish transparent liquid
Colour	Colourless
Density	1,40 ± 0,05 kg/ltr (A+B/20°C)
Mix ratio	4:1 (A:B – by weight)
Solids by volume	100% (A+B)
Pot Life (+10°C)	80 minutes
Pot Life (+30°C)	20 minutes
Wait-Time Between Coats	Minimum 12 hours and maximum 3 days for solvent-free products; Minimum 24 hours and maximum 5 days for solvent products
Ready for Light Traffic at (20°C)	48 hours
Full Cure (20°C)	7 days

NOTE: The above values are given for 23°C temperature and 50% relative humidity. Higher temperatures will shorten the time while lower temperatures will extend it.

### Application

#### Surface Preparation

Application surface should be free of any damages. Age of the new concrete should be minimum 28 days depending on the season; and concrete surfaces should have a moisture content of maximum 5-6%. Surface should have compression strength of minimum 25 N/mm<sup>2</sup> and pull-off test result of minimum 1.5 N/mm<sup>2</sup>. It should be free of any loose and friable particles, oil and paint leftovers and cement laitance. Wide cracks and defects should be repaired beforehand. Any cement shell and bright screed on the concrete surface should be cleaned up by equipment such as sandblasting machine, hacking machine, wiping machine with diamond drum and impact grinding machine and it should then be roughened and wiped. Remove all dust from the surface by using industrial type vacuum cleaner.

Concrete surfaces in contact with the soil to be coated should be insulated against water and water vapor.

#### Ambient Conditions

- Application temperature (ambient and surface) should be between +5°C and +35°C and the relative humidity should be 90% maximally.
- In case it is applied outdoors, it should not be rainy 24 hours before and 24 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Thermal Resistance:** Short-term moist/wet heat up to +80°C where exposure is only occasional (steam cleaning etc.). Continuous resistance against dry heat up to 60°C and shortly up to 60°C (in 3 to 4 mm thickness)

#### Mixture Preparation

It should be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature is not less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

#### Surface Application

**As Primer and Bonding Bridge:** Apply it by brush, roller or squeegee. Make sure that a continuous, pore free coat covers the substrate. If necessary, apply two priming coats.

**As Leveling Mortar:** Apply it by trowel or squeegee to the required thickness.

**As undercoat:** The material is poured over the surface and spread by help of a toothed trowel and rolled immediately in two directions with spiked roller. If necessary, the surface is broadcast several times with quartz sand about 15 to 20 minutes later until no wetness is seen on the surface.

**As Epoxy Mortar:** Apply the mortar screed evenly on the still tacky bonding bridge, using leveling battens and screed rails as necessary. After a short waiting time compact and smoothen the mortar with a trowel or Teflon coated power float. Wait-time between coats should be observed.

**Tool Cleaning:** Cellulosic or epoxy thinner.

### Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

### Safety Measures

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® EPOXY M-PRIMER

Multi-Purpose Transparent Epoxy Primer



• **Product Definition**

It is an epoxy resin-based, two-component, solvent-free, low viscosity, transparent primer.

• **Application Areas**

- As primer layer before application of epoxy or polyurethane top-coats on the concrete, cement or epoxy mortars for floors subject to medium to heavy load,
- As concrete primer to wet the concrete surface and provide a good adhesion bridge before top-coats of epoxy mortar, epoxy self-leveling screed, epoxy laminate or epoxy/polyurethane,
- As binder for preparation of level stabilization, repair and improvement mortar,
- As binder for preparation of epoxy mortar to obtain a thickness of 5 to 8 mm,
- For repair of big cracks and form of chamfering by mixing with silica sand or different fills.

• **Usage and Consumption**

**As an impregnation primer:** 150 to 200 gr/m<sup>2</sup> (Depending on the concrete surface, it is recommended to thin it with Epoxy Thinner by 5-10 % for better impregnation)

**Level stabilization mortar:**

- BILIZO® EPOXY M-PRIMER: ..... 500 gr/m<sup>2</sup>
- 6.0 to 7.0 mm Epoxy Mortar:**
- BILIZO® EPOXY M-PRIMER: ..... 1,5 kg/m<sup>2</sup>
- 0,1 – 0,6 mm quartz sand ..... 4,8 kg/m<sup>2</sup>
- 0,6 – 2,0 mm quartz sand ..... 7,2 kg/m<sup>2</sup>

**Benefits**

- Low-viscosity,
- High wetting capability,
- Quickly cured.

• **Packaging**

A 13.5-kg set of BILIZO® EPOXY M-PRIMER consists of Component A in one pail of net 10 kg and Component B in one galloon of net 3.5 kg.

• **Technical Data**

Finish:	Transparent
Color:	Colorless
Density:	1.10 ± 0,05 kg/lit (A+B)
Mix Ratio:	10:3.5 (A:B – by weight)
Solids by volume:	100% (A+B)
Pot Life (+10°C) :	60 minutes
Pot Life (+30°C):	20 minutes
Wait-Time Between Coats:	12 hours at 20°C
Ready for Light Traffic:	24 hours at 20°C
Full Cure:	7 days at 20°C

• **Application**

Application surface should be free of any damages. Age of the new concrete should be minimum 28 days depending on the season; and concrete surfaces should have a moisture content of maximum 5 to 6%. It should be free of any loose and friable particles, oil and paint leftovers and cement laitance. Wide cracks and defects should be repaired beforehand. Any cement shell and bright screed on the concrete surface should be cleaned up by equipment such as sandblasting machine, hacking machine, wiping machine with diamond drum and impact grinding machine and it should then be roughened and wiped. Remove all dust from the surface by using industrial type vacuum cleaner. Concrete surfaces in contact with the soil to be coated should be insulated against water and water vapor.

**Ambient Conditions**

- Application temperature (ambient and surface) should be between +5°C and +35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and during and 24 hours after the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature – Ambient Moisture – Dew Point table.)

**Preparation of Mixture**

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature is not less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

**Surface Application**

After made ready to apply, the mixture is applied with roller or airless spray so as to saturate the surface and close the pores. Wait-time between the coats is minimum 12 hours (20°C) and maximum 5 days. It is very important that the second coat is applied within the time for over-coating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**Tool Cleaning:** Cellulosic or epoxy thinner

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.



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# BILIZO® EPOXY STEEL SC

Epoxy Zinc Phosphate Primer



• **Product Definition**

It is a quickly curing priming paint which is epoxy-resin based, two-component, solvent and which contains zinc phosphate pigments.

• **Benefits**

- Good adhesion, flexibility, resistance against corrosion and water
- Quick reaction drying.

• **Application Areas**

- A priming protective paint used on outer surfaces of aboveground storage tanks,
- Structural steel industry,
- On-vehicle equipment industry,
- Protection against corrosion in steel and concrete structures and equipment in industrial and port facilities.

• **Packaging**

A 27 kg set of BILIZO® EPOXY STEEL SC consists of a 24 kg pail of A component and a 3 kg in a gallon of B component.

• **Consumption**

Recommended consumption is 50-100 dry film thickness.

• **Drying Information**

(50 micron dry film thickness)	Ready to Touch	Hard drying
5°C	4 hours	10 hours
15°C	2 hours	5 hours
25°C	1 hour	3 hours
35°C	0,5 hour	2 hours

Full mechanical and chemical resistance is obtained in 7 days.

• **Application Info**

Application Equipment	Airless spray	Roll
Thinning rate (by weight)	6-8%	8-10%
Pressure (bar)	180-240	-
Nozzle (inch)	0,017-0,021 inch	-

• **Technical Data**

Finish:	Matt
Color:	Gray, Beige, Rubigo
Density:	1,55 ± 0,05 kg/lt (A+B / 20°C)
Mixture rate:	8:1 (A:B – by weight)
Volume of Solids:	64 ± 1 % (A+B)
Mixture Life:	6 hours (+20°C)
Wait time for the next coating layer:	Min. 3 hours / Max. 15 days (20°C)
Theoretical Diffusion:	8,26m2/kg (50 micron dft*)
Flash Point:	>21°C
VOC:	309 gr/lt
Application Methods:	Airless Spray, Roll
Thinner:	Polyurethane Thinner
Suggested Application Thickness:	50 – 100 micron dft*

\*dft: dry film thickness

• **Application**

**Surface Information:** The surface to be painted should be clean, dry and free of all impurities.

**New metal surfaces:** Any oil or grease on the metal surface should be cleaned with solvent, detergent or vapor, and salts and other impurities should be eliminated with high pressure fresh water. After the cleaning, scraping is recommended in accordance with the standard ISO 8501 and in a level of Sa 2½ minimally. Depending on the application conditions and ambient conditions, mechanical cleaning in the level St2 to St3 may be carried out in accordance with the standard ISO 8501. Scraped surfaces should be primed within 5 hours maximally depending on the ambient conditions.

**Retouch:** The surface to be retouched should be clean, dry and free of all dirt and the retouch should be performed immediately following a cleaning in the level of St 2 in accordance with the standard ISO 8501.

**Resistance:** Thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

• **Ambient Conditions:**

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 0 and 35°C.
- In case it is applied outdoors, it should not be rainy for 12 hours after and during the application.
- Surface temperature should not exceed 50°C in applications under direct sun light.
- No application should be performed outdoors in strong winds as this would increase consumption.
- Surface temperature should be 3°C above the then dew point.

• **Preparation of Mixture:**

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature is not less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. The mixture which is brought to the application viscosity by a suitable thinner should be left to rest for 10 to 15 minutes and make sure that you apply the mixture within its pot life.

**Surface Application:** Lining application should be carried out in welding seams and sharp corners and edges before the main application is started with the mixture prepared. The mixture is preferably applied by airless spray or roller with short hair in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb.

• **WARNINGS:**

- Hardener exudation might occur resulting in whitening and spotty formations as could be expected from all epoxy systems in the case BILIZO® EPOXY STEEL SC is applied in low temperatures and without waiting for the necessary initial reaction time or in the case the applied paint is subjected to rain or dew during the drying phase. Besides, they are prone to chalking and color change when subjected to continuous UV rays.
- In the case the maximum duration is exceeded in inter-layer paint application, the surface should be roughened, and in the case the surface has been subjected to a impure space, then it should be cleaned by high pressure fresh water and you should wait for it to be dried.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Component A and Component B when stored properly in the original container unopened.

• **Safety Measures**

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® PROTECT

Polyurethane Transparent Protective Lacquer



### Product Definition

It is a transparent floor coating material which is aliphatic, acrylic, polyurethane resin based, two-component, low-viscosity and high UV-resistant.

### Uses

- Epoxy or polyurethane floor coatings
- PVC floor coatings
- Exterior decorative paving and similar coatings
- Floor and vertical coatings of hygienic environments such as hospitals, laboratories and food facilities
- Used as a final coat lacquer which is easily cleaned and resistant against chemicals and abrasion

### Packaging

A 11.5-kg set of BILIZO® PROTECT consists of one pail of net 10 kg and one galloon of net 1.5 kg.

### Consumption

100 to 150 gr/m<sup>2</sup> consumption is recommended in to or three coats.

### Advantages

- Low viscosity and flexible
- High adhesion capacity
- High UV resistance
- Good chemical resistance
- High abrasion resistance



### Technical Data

Finish	Transparent
Color	Colorless
Density	1,00 ± 0,05 kg/lit (A+B / 20°C)
Mix Ratio	10:1.5 (A:B – by weight)
Solids by volume	35% (A+B)
Pot Life (+10°C)	120 minutes
Pot Life (+30°C)	90 minutes
Wait-Time Between Coats	4 hours at 20°C
Ready for Light Traffic	24 hours at 20°C
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.
Full Cure	7 days at 20°C

NOTE: The above values are given for 23°C temperature and 50% relative humidity. Higher temperatures will shorten the time while lower temperatures will extend it.

### Application

Application surface should be clean and free of damages. Wait-time for the previous primer or the undercoat should be observed.

#### Ambient Conditions:

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and 24 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Preparation of Mixture:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller to saturate the surface. Recommended consumption is 100-150 g/m<sup>2</sup> in for 2-3 coats. Wait-time between the coats is minimum 4 hours (20°C) and there is no limit for the maximum. It is very important that the second coat should be applied within the time for over-coating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Tool Cleaning:** Cellulosic or Polyurethane thinner

### Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Component A and 6 months for Component B when stored properly in the original container unopened. Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

### Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® TOPCOAT 320

Aliphatic Acrylic Polyurethane Paint



• **Product Description**

Acrylic-polyester polyurethane resin based, two component, cured with aliphatic isocyanate, semi-gloss top coating polyurethane paint.

• **Advantages**

- Excellent mechanical resistance and yellowing.
- Very good chemical resistance.
- It does not make carry over and it gives a smooth surface.
- It has appropriate elasticity to use as a topcoat of concrete protection systems.

• **Technical Data**

Finish:	Semi-matt
Colour:	All colours
Density:	1,30 ± 0,05 kg/ltr (A+B/ 20°C)
Mixing Ratio:	10:1 (A:B – by weight)
Solids by Volume:	%58 ± 1 (A+B)
Pot Life (+10°C):	6 hours (+20°C)
Wait time between coats (+20°C)	Min. 4-6 hours / Max. 7 days (20°C)
Theoretical Spreading	8,92 m2/kg (50 micron at dry film thickness)
Flash Point:	> 21°C
VOC (volatile organic compound)	370 gr/ltr
Application Methods:	Air – airless spray, Roller
Thinner	Polyurethane Thinner
Recommended Application Thickness	40 – 80 micron at dry film thickness
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Consumption**

200-250 gr/m² for two layer is recommended.

• **Packaging**

A 22 kg set of BILIZO® TOPCOAT 320 consists of Component A in one pail of net 20 kg and Component B in one gallon of net 2 kg.

• **Uses**

It is used as a top coat of protective polyurethane paint in all concrete and steel structures which is desired high colour and brightness, remaining under the open air and sunshine.

**Drying Informations**

(At 50 Micron Dry Film Thickness)	Touch Dry	Hard Dry
5°C	5 hour	11 hour
15°C	3 hour	7 hour
25°C	2 hour	5 hour
35°C	1 hour	3 hour

• **Application**

**Surface Preparation:** The surface should be primed with an appropriate primer. Surfaces to be painted must be clean, dry and free from all contamination.

**Primed/ Undercoat Applied Surface:** It is followed times which given for topcoat about undercoat or primer. If it is not followed, surface must be roughened before top-coating. Before application, the surface must be very clean. Before topcoat will be applied, contamination from storage and manufacturing should be thoroughly cleaned on surface of the primer. For this reason, oil, dirt and grease must be cleaned with a detergent, salt and other contaminants should be washed with high pressure water. Topcoat should be apply in order to dry surfaces.

**Resistance:** Thermally, the humid temperature should be based + 80°C (without simultaneous chemical and mechanical effects), dry temperature should be based + 120°C.

**Application Conditions:**

- Maximum relative humidity of the air should be 80%, and application (ambient and surface) temperature should be between +5 and 35°C.
- In case it is applied outdoors, it should not be rainy 12 hours before and after and during the application.
- In the applications to be done under direct sunlight, the surface temperature must not exceed 50°C.
- In very windy weather, in the outdoor area, because consumption will increase, should not be applied.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Mixture which is brought to application viscosity with polyurethane thinner should be rest 10-15 minutes and make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** With the mixture which is ready for implementation, before starting the application, shortcut should be made in weld seams, sharp corners and edges. An actual application should be applied by controlling with wet film comb at consumption of paint system and to obtain desired dry film thickness. In practice, it should be avoided from the excessive film thickness and spray dust.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic or Polyurethane thinner.

• **Application Values**

Application equipment	Airless Spray	Air Spray	Roller
Thinning Rate	% 5 – 8	% 10 – 15	% 5 – 10
Pressure	100 – 150	3 – 4	-
Nozzle (inch) / meme(mm)	0,013 – 0,017 inch	1,4 – 1,6 mm	-

• **Warnings**

- If maximum time is passed between coats of paint application, the surface should be roughened, if the surface is left in a dirty environment for a long time, is should be washed with high pressure water and freshwater.
- Both cool and airless spray applications, for best results, first thin layer of smoke is applied and 10-15 minutes later full coat should be applied.
- Out of spec, the overly thick application should be avoided. Otherwise, the trapped solvent (solvent popping) mayoccur.
- Component B is sensitive to moisture. In a dry place, it should keep it closed.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for component A and 6 months for component B when stored properly in the original container unopened.

• **Safety Measures**

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# BILIZO® TC 358

One-Component Polyurethane Coating



### Product Description

It is polyurethane resin-based, one component, with solvent and UV-resistant, curing with moisture in the air, flexible, protective coating material.

### Uses

- As top coat with UV-resistant in traffic-parking coatings, IZODECK 2000,
- As top coating on polyurethane or epoxy coatings in load-bearing surfaces, on cement mortars, concrete and lightweight concretes,
- It is used as slip-resistant top coat in polyurethane roof/terrace insulation.

### Packaging

BILIZO® TC 358 is prepared as net 20 kg pails.

### Consumption

It varies according to the used system solutions.

### Advantages

- One-component, low viscosity, and easy-to-apply, (trowel, roller or airless spray)
- Elastic texture and gives non-slip surface,
- Resistant to UV and weather conditions,
- The surface adhesion is very strong, it can be used in surface coating with many minerals and in non-absorbent surface (vitrified or glazed surfaces should be tested in advance, or transition primer should be tested)
- It has fire-retardant property,
- It has chemical resistant to chemical, moisture, oil, grease and other stains.



### Technical Data

Appearance	Semi – Matt
Colour	All colour
Density	1.35 ± 0.05 kg/lit (20°C)
Volume of solid	%75 ± 1
Viscosity	650 cps
Tensile Strenght (DIN 53504)	4,5 N/mm²±0,2
Elongation at break (DIN 53504)	%200±%20
Fire class (DIN 4102 Part 1)	Class B
Duration of use	At least 5 hours, maximum 2 days / at 20°C and % 60 relative humidity
Applicaition equipment	Roller, trowel, airless spray
Light traffic	12 hours / 20°C – % 60 relative humidity
Full curing	5 days / 20°C – % 60 relative humidity
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

### Application

#### Surface Preparation

Application surface should be prepared as a solid. The surface should be removed from dirt, oil and other dirtiness which prevents adhesion. Applications should be made in the layer upon layer application system implementation time. Technical service should be consulted for technical advice for applications to be made on old coatings.

#### Strength

Mechanically, it is based on the mechanical effects of middle and high weight. Thermally, it is based in a wet temperature + 60°C, in a dry temperature + 80°C (without chemical and mechanical effects at the same time).

#### Environmental Conditions

- Relative humidity of the air should be 80% maximum and at least %40, the application (ambient and surface) temperature should be between 5 and 35°C.
- When drying time is extended at low temperatures, is accelerated at high temperatures. High humidity may affect the final finish.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- In extremely cold weather environment and ground temperature should be increased with the help of heaters, packaging should be maintained and heated to +20-25° C.

#### Surface Application

The material is ready for use, are not thinned. One component BILIZO® TC 358 should be mixed with mechanical mixer on low speed for 3-4 minutes in itself. It should be applied into prepared surface with roller, trowel or low pressure airless spray. Consumption depending on the projected application system and the desired thickness, 400 to 600 gr/m²-single layer.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Cleaning of tools:** with cellulosic thinner or polyurethane thinner.

#### Storage

The material should be stored in a cool and dry place. When stored correctly unopened in its original packaging, the life of the material is 6 years.

#### Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® TOPCOAT 370

Aliphatic Polyurethane Topcoat Coating



• **Product Description**

It is an aliphatic polyester polyurethane resin-based, two-component, colored flooring with a high content of solids and low viscosity, which is used as topcoat with a plain and bright appearance of the paint systems designed as multilayer or thin coating. It provides high UV resistance.

• **Uses**

- On the concrete, cement or epoxy mortars for all industrial floors;
- For the units of warehouses, hangars and repair-maintenance and assembly with forklift, loader and heavy vehicle traffic;
- For multilayer systems applicable on outdoor at the factories, workshops
- On outdoor insulation products
- As a topcoat paint which has decorative, corrosion and UV-resistant for floors subject to medium to heavy load.

• **Consumption**

0,25 kg/m<sup>2</sup> in one or two layers. This coverage is based on practical application by roller onto a smooth surface in optimum conditions. Factors like surface porosity, temperature, humidity, application method and finish required can alter consumption.

• **Advantages**

- Applicable with airless spray paint application equipment;
- Resistant to diesel, petrol and many chemicals;
- High corrosion resistance;
- Hard – flexible structure,
- High UV resistance.

• **Packaging**

BILIZO®TOP COAT 370 A+B is supplied in 16+4 kg pails.



• **Technical Data**

Finish	Gloss
Colors	All colors
Density	1,30 ± 0,05 kg/l (A+B)
Mixing ratio	4:1 (A:B – by weight)
Solids by volume	75% (A+B)
Pot life (+10°C)	120 minutes
(+30°C)	50 minutes
Wait time between coats	24 hours / at 20°C
Ready for light traffic	1 days / at 20°C
Full cured	7 days / at 20°C
Taber abrasion resistance	50 mg (in full cure)
Surface temperature	+80°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation:** Floor surface should be clean and steady. Care should be given to the wait time of over coating for the previous primer or mid coat.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C on humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

**Application Conditions:**

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 3 and 35°C.
- In case it is applied outdoors, it should not be rainy 48 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please contact our company for the Ambient temperature-Ambient Moisture-Dew Point table.

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller with short hair in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb.

Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for over coating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**Clean Up:** Cellulosic or Polyurethane thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Component A and 6 months for Component B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet prepared as per the related EU directives.

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# BILIZO® TOP COAT 450

Aliphatic and Transparent, Polyurethane Based Liquid Membrane



• **Product Description**

One component, polyurethane based liquid material. Seamless and fully adheres to all surfaces creates a transparent film layer. Consists of pure elastomeric hydrophobic polyurethane resin that excellent resistance to UV radiation, chemical, mechanical, thermal and natural effects. Non-yellowing when exposed directly to sunlight due to the nature of aliphatic. By reaction with moisture in the air to demonstrate a protective effect.

• **Uses**

- Stone, marble, brick and wood building materials
- Industrial floors
- Wood floors
- Metals such as iron, steel and aluminum
- Door and window components
- Furniture

• **Packaging**

BILIZO® TOP COAT 450 are presented in 15+3 lt and 5+0,5 lt metal pails.

• **Consumption**

200 g/m² applied in one or two layers.

• **Advantages**

- In a short time curing
- adheres to the surface
- Heat and UV resistant. Do not no discoloration, peels and soften until 80°C.
- Outstanding resistance to chemicals and mechanical stress level (high tensile strength and abrasion resistance).



• **Technical Data**

PROPERTIES	RESULTS
Appearance	Liquid
Density	0,95 ± 0,05 gr/cm³ 20°C
The solid volume	%50 (A+B)
Curing Time (+25°C)	4-6 hour
Waiting between layers :	6-24 hour
Service Temperature	-40 to 80 °C
Shore D Hardness	>60
Tensile Strength at Break	550 kg/cm² (55 N/mm²)
Elongation	>60 %
Water vapor permeability	0,8 gr/ m²
Water Absorption	< %1
QUV (accelerated corrosion test in the air factor) at 60°C for 4 h UV (UVB lamps) and 50°C for 4 hours COND application	2000 hours passed
Hydrolysis (8% Potassium Hydroxide, 60°C for 10 days)	There was no significant change in the elastomeric property
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Application:** Surfaces should be cleaned using pressurized water if possible; oil, grease, fuel and paraffin waste should be removed, and also mold release agents, cement residues, sawdust, loose particles and curing membranes must be removed. Glassy, glazed substrates should gradation or should be primed with BILIZO® TRANS PRIMER. For more detailed information for the primer, please contact our technical department.

**WARNING:** Application surface must be dry.

**Environmental Conditions :**

- A relative humidity of air should be maximum of 80%, application temperature (ambient and substrate) between + 3°C and + 35°C should be.
- At open areas for 24 hours before starting the application, during the application and 24 hours after application should not be rainy.
- Surface temperature must be 3°C above of the current dew drop temperature. (Want Ambient Temperature Ambient Humidity – Dew Drop Temperature table from your company).

**Mixing:**

When mixing material or while pigmentation, taking care not to formation of air bubbles, otherwise bubbles may remain on the cured membrane. Mixed with a mixer or by hand at low speed (300 rpm / min).

**Application:**

Apply one or two coats with brush, roller or airless sprayer. Time should not exceed 48 hours between layers. At nonpigmented application, whether substrate or surface are resistant to UV radiation should be considered and in this direction necessity should be made.

To be used as a top coat to protect the bottom color of the paint should be colored a maximum rate of 10% pigment pastes. The floor coating material, to be used as a topcoat on epoxy / polyurethane paint or self-leveling system if desired, sagain a maximum of 10% as colored pigment pastes,after the application of main floor, should be applied within 24 hours.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**WARNING:** Not recommended for unsound substrates. Does not apply in thick coats.

• **Storage**

Store in the original unopened pails, in a dry place at the temperature between 5°C and 25°C for at least 12 months. Opened, material should be used as soon as possible.

• **Safety Measures**

Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives. Although not contain volatile substances, creation of conditions for proper ventilation in indoor environments is strongly recommended. In addition, methane gas leaked from soil can be accumulated in stores. This possibility should be taking always into consideration. Want from your seller material safety data sheet (MSDS).

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# BILIZO® FLOOR EPOXY-C

Epoxy Based Topcoat Paint



• Product Description

Epoxy resin based, two component, high volume solids, low viscosity, colorful floor coating material designed as smooth shiny top coat of the multilayer or one layer paint coating systems.

• Uses

- On concrete, cement or epoxy mortars for all kinds of industrial floors,
- Forklift, loader and heavy traffic depots, hangars and repairing support montage unites,
- Multilayer floor coating systems at factories, ateliers, production and packaging areas,
- To increase the mechanical and chemical strength and as wall paint for hygienic areas,
- To get mechanical strength and abrasion resistance for medium and heavy load bearing floors.

• Advantages

- Suitable for application with airless painting machines,
- Resistant to diesel, fuel and many other kinds of chemicals,
- Highly resistant to abrasion,
- Rigid flexible,
- Helps to create a hygienic area with its easy cleanable smooth surface.

• Packaging

A set of 22 kg BILIZO® FLOOR-C; consists of a 20 kg pail of A component and a 2 kg gallon of B component.

• Consumption

1,8 – 2,0 mm floor coating for Medium traffic garages, depots and food companies;

• Impregnation primer:

BILIZO® MACRO PRIMER ..150-200 gr/m² (Depending on the concrete surface, it should be thinned by 10-20%)

1st Middle Layer:

BILIZO® FLOOR 350 SC500gr/m²

0,3 – 0,6 mm quartz .....2000 gr/m²

• After picking up the sand and wiping the floor:

2nd Middle Layer:

BILIZO® FLOOR 350 SC .....500gr/m²

0,3 – 0,6 mm quartz .....2000 gr/m²

•After picking up the sand and wiping the floor as topcoat:

BILIZO® FLOOR EPOXY-C

1st Coat ..... 200-300 gr/m²

2nd Coat ..... 200-300gr/m²

As wall paint for hygienic areas in industrial kitchens and food companies

•Impregnation primer:

BILIZO® MACRO PRIMER ..... 100-150 gr/m² (Depending on the concrete surface, it should be thinned by 10-20%)

•Smooth Topcoat:

BILIZO® FLOOR EPOXY-C

1st Coat ..... 100-200 gr/ m²

2nd Coat ..... 100-200 gr/ m²



• Technical Data

Finish	Bright
Color	All colors
Density	1,65 ± 0,05 kg/lt (A+B)
Mix Ratio	10:1 (A:B – by weight)
Solids by volume	85% (A+B)
Pot Life (+10°C)	120 minutes
(+30°C)	50 minutes
Wait Time Between Coats	24 hours / 20°C
Ready for Light Traffic	2 days / 20°C
Full Cure	7 days / 20°C
Taber Abrasion Resistance	30 mg (full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• Application

**Preparation of Surface:** Application surface should be clean and free of damages. Wait time for the previous primer or the undercoat should be observed.

**Ambient Conditions:**

- Relative humidity of the air should be 75% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 48 hours before and 48 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Preparation of Mixture:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure that you apply the mixture within its pot life.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller with short hair in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. If it is desired that the fresh flooring spread over the surface completely should give a thicker orange peel appearance, the paint film is combed by using coral roller 30-40 minutes after the application. Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for over-coating specified above. It reaches to a full mechanical and chemical strength in about 7 days. Tool Cleaning: With cellulosic or epoxy thinner.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened. Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

• Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® EPOXY GUARD

Phenolic Epoxy Heavy-Duty Paint



• **Product Description**

Phenolic epoxy resin based, two component, solvent borne paint cured with aliphatic polyamine hardener.

• **Uses**

- On interior surfaces of steel and concrete storage tanks where high chemical resistance is desired.
- On production and storage facility floorings where corrosive chemicals are used.
- Interior lining of crude oil (upto 90°C), fuel oil and solvent storage tanks.
- Interior lining of process water (upto 95°C) storage tanks.

• **Packaging**

A 24 kg set of BILIZO® FLOOR EPOXY GUARD consist of Component A in one pail as net 21 kg and Component B in one gallon as net 3 kg.

• **Consumption**

Prior to the application with ready-to-apply mix all weld seams and sharp angles shall be striped. The prepared mix of paint shall be applied at recommended dry film thickness and consumption rate indicated in paint system controlling with wet film thickness gauge. During the applications pray dust and excessive film thickness shall be avoided.

• **Advantages**

- Excellent adhesion and mechanical resistant, superior resistance to water, chemicals and solvents.
- Applicable on both steel and concrete surfaces.

(in dry film thickness of 100 microns)	Touch-dry	Hard Dry
5°C	8 hours	18 hours
15°C	5 hours	13 hours
25°C	3 hours	8 hours
35°C	2 hours	5 hours

It reaches to a full mechanical and chemical resistance in about 7 days.

Application Equipment:	Airless Spray	Roller
Thinning Ratio (by weight) :	% 4 – 5	% 8 – 10
Pressure (bar) :	140 – 240	-
Nozzle (inch) :	0,019 – 0,023 inch	-



• **Technical Data**

Appearance	Semi gloss
Color	All colors
Density:	1,45 ± 0,05 kg/lit (A+B / 20°C)
Mixing Ratio	7:1 (A:B – byweight)
Solids by Volume	%77 ± 1 (A+B)
Pot Life	3 hours (+20°C)
Recoating Interval	Min. 6 hours/ Max. 4 days (20°C)
Theoretical Spread	5,00 m2/kg (at 100 microns)
Flash Point	> 21°C
VOC (Volatile Organic Compound)	210 gr/lit
Application Systems	Airless spray, roller/brush
Recommended Application Thickness	100 – 300 microns
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation:** All surfaces to be painted should be clean, dry and free of any dirt.

**New metal surfaces:** Oil and grease on the metal surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. After the cleaning operation, scraping should be performed at level of Sa 2½ as a minimum according to the ISO 8501. Clean the surface to St 2 – St 3 level mechanically according to ISO 8501 depending on application and ambient conditions. Scraped surfaces must be painted within 5 hours. **Old painted surfaces:** Oil and grease on the surface should be cleaned off by help of detergent or steam; salt and other impurities should be removed off by high pressure fresh water. Clean the casted and old surfaces, steady painted surfaces the surface to St 2 – St 3 level mechanically according to ISO 8501. Scraping should be performed at level of Sa 2½, preferably level of Sa 2½.

To obtain a better adhesion, water –jet may be preferred as an alternative to scraping. After water – jet the paint with the roughened surface must be stiff.

**Concrete:** Surface should be prepared to obtain a solid, rough and uniform surface by scraping, if not possible by other mechanical methods or by acid treatment (etching) and should be cleaned by pressurized fresh water. A proper sealer should be applied. Prior to the application surface must be clean and dry.

**Retouching:** Prior to retouch, the surface should be clean, dry and free of any dirt. After the cleaning according to ISO 8501 standard at St 2 level the retouch should be executed as soon as possible.

**Strength:** Thermally, it resists up to +120°C at damp temperature (without simultaneous chemical and mechanical impact) and +170°C at dry temperature.

Application Conditions:

- Maximum relative humidity of the air should be 80%, and application (ambient and surface) temperature should be between +5 and 35°C.
- In outdoor applications, there should be no rainfall during and within 12 hours after the application.
- Out door applications at windy weather, shall not be preferred due to increasing consumption rates.
- Surface temperatures shall be 3°C above dew point. (please ask for the ambient temperature – ambient humidity – dew point temperature chart.)

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared according to the intended consumption with consideration of the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred in itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added considering the mixing ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. After viscosity adjustment by using Thinner mix should be rest of for 10-15 min. And must be used within the pot-life.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. If it is desired that the fresh flooring spread over the surface completely should give a thicker orange peel appearance, the paint film is combed by using coral roller 30 – 40 minutes after the application.

Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic thinner.

• **Storage**

Shall be kept in cool and dry places. Shelf life is 12 months for Component A and B if stored in unopened original container.

• **Safety Measures**

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# BILIZO® EPOXY PROTECT

Epoxy Transparent Protective Lacquer



• **Product Description**

It is a transparent floor coating material which is epoxy resin based, two-component, low-viscosity and high abrasion resistant.

• **Uses**

- It is used as protective topcoat on epoxy floorings,
- PVC floorings,
- Decorative paving and similar coatings,
- Floor and vertical coatings of hygienic environments such as hospitals, laboratories and food facilities
- Wooden floor coatings
- Easily cleaned and resistant against chemicals and abrasion

• **Packaging**

A 14 kg set of BILIZO® EPOXY PROTECT consists of Component A in one pail of net 10 kg and Component B in one gallon of net 4 kg.

• **Consumption**

As protective lacquer on epoxy coatings; 100 to 200 gr/m² (should be applied as a saturated single layer)

• **On decorative paving;**

100 to 300 gr/m² (should be applied in 2 layers by observing the wait-time between layers)

• **On wooden floor coatings;**

200 to 400 gr/m² (should be applied in 2 to 3 layers by observing the wait-time between layers)

**WARNING:** Never use a diluter in applications.

• **Advantages**

- Low-viscosity
- High bonding capability
- Good chemical resistance
- High abrasion resistance
- Applicable by roll, brush, aired/airless spray machine

• **Technical Data**

Finish	Transparent
Color	Colorless
Density	1,05 ± 0,05 kg/lt (A+B / 20°C)
Mix Ratio	10:4 (A:B – by weight)
Solids by volume	77% (A+B)
Pot Life (+10°C)	120 minutes
Pot Life (+30°C)	90 minutes
Wait-Time Between Coats	6 hours at 20°C
Ready for Light Traffic	24 hours at 20°C
Full Cure	7 days at 20°C

• **Application**

**Preparation of Surface:** Application surface should be clean and free of damages. Wait-time for the previous primer or the undercoat should be observed.

**Ambient Conditions:**

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and 24 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Preparation of Mixture:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller to saturate the surface. Recommended consumption is 100-150 g/m² in for 2-3 coats. Wait-time between the coats is minimum 4 hours (20°C) and there is no limit for the maximum. It is very important that the second coat should be applied within the time for over-coating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**Tool Cleaning:** Cellulosic or polyurethane thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Component A and 6 months for Component B when stored properly in the original container unopened. Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

• **Safety Measures**

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# BILIZO® PROTECT EPOXY WB

Water-Based Epoxy Transparent Protective Lacquer



• **Product Description**

It is a water-based, transparent, protective floor coating material which is epoxy resin based, two-component, low-viscosity and highly resistant against abrasion and chemicals.

• **Uses**

- It is used as a protective topcoat on decorative painting applications in places which are required to be hygienic and antibacterial,
- On all kinds of floor coatings including parquets for improving abrasion resistance,
- On street paints,
- On wall coatings, and
- On special decorative coatings.

• **Packaging**

A 5,5 kg set of BILIZO® PROTECT EPOXY WB consists of Component A in one pail of net 4 kg and Component B in a plastic gallon of net 1,5 kg.

• **Consumption**

Suggested consumption is 150 to 200 gr/m² in 2 layers.

• **Advantages**

- It creates a breathing (water vapor permeability) film thanks to its nanoparticular structure.
- It is odorless, it does not contain any volatile organic compound.
- It forms a transparent coating.
- Its pot life is long and it can be applied by roll, brush and aired or airless spray.
- It has high chemical resistance.
- It is stain-proof, easily-cleaned and resistant against all domestic chemicals and foods.



• **Technical Data**

Finish	Semi-glossy
Color	Colorless, with water transparency
Density	1,10 ± 0,05 kg/lt (A+B /20°C)
Mix Ratio	4:1 (A:B – by weight)
Solids by volume	77% (A+B)
Pot Life (+10°C)	8 hours
Pot Life (+30°C)	6 hours
Consumption	150 gr/m² – 75 Dft*
Touch-Dry	1.5 hours / 75 Dft* at 20°C
Hard-Dry	9 hours / 75 Dft* at 20°C
Hardness	130 Persoz in 1 day (20°C – 60% RH) 300 Persoz in 7 days (20°C – 60% RH)

• **Application**

Preparation of Surface: Application surface should be clean and free of damages. Wait-time for the previous primer or the undercoat should be observed.

• **Ambient Conditions:**

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and 24 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Preparation of Mixture:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller to saturate the surface. Recommended consumption is 150-200 g/m² in for 2 coats. Wait-time between the coats is minimum 4 hours (20°C) and there is no limit for the maximum. It is very important that the second coat should be applied within the time for over-coating specified above. It reaches to a full mechanical and chemical strength in about 7 days. Tool Cleaning: Clean them with water.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 12 months for Components A and B when stored properly in the original container unopened. Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

• **Safety Measures**

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# BILIZO® TOPCOAT 390

Water Based Epoxy Top Coat Asphalt Paint



• **Product Description**

It is an epoxy resin-based, water based, two-component and colored flooring material, which is used as topcoat with a plain and bright appearance of the paint systems designed as multilayer or thin coating.

• **Uses**

- On the concrete, cement or epoxy mortars for all industrial floors;
- In the warehouse, hangar and repair-maintenance units,
- For epoxy multilayer systems applicable at the factories, workshops, production and packaging sites having a traffic of forklift, loader and heavy vehicles,
- As a wall coatings to increase the mechanical and chemical resistance and for hygienic environment,
- On surfaces subject to medium to heavy load in many places which require mechanical and wear resistance.

• **Consumption**

Product consumption is 500-800 gr/m².

• **Advantages**

- Creates a breathable paint film with its water-based structure,
- Applicable on damp surfaces,
- Creates a hygienic, smooth, silk matt and non-slip surface,
- High friction and wear resistance,
- Odorless, in enclosed areas applications is not disturbing,
- Good chemical resistance.

• **Packaging**

A 20 kg set of BILIZO® TOP COAT 390; consists of Component A in one pail of net 10 kg and Component B in one gallon of net 10 kg.



• **Technical Data**

Finish:	Satin
Colour	All colours
Density (20°C)	1,60 ± 0,05 kg/l (A+B)
Mixing Ratio	1:1 (A:B – by weight)
Solids by Volume	%100 (A+B)
Pot Life (+10°C) (+30°C)	90 min 40 min
Wait Time Between Coats (20°C)	12 hours
Light Traffic (20°C)	1 days
Fully Cured (20°C)	7 days
Thinner Ratio	%20-30 with water
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation:** Floor surface should be clean and defect-free. Care should be given to the wait time of overcoating for the previous primer or mid coat.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

**Application Conditions:**

- Relative humidity of the air should be 75% maximum and the application (ambient and surface) temperature should be between – 5 and 35°C.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred until you have a homogenous mixture. And then, 20-30% (max.) of water should be added and stirred for 3-5 minutes. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller with short hair in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. If it is desired that the fresh flooring spread over the surface completely should give a thicker orange peel appearance, the paint film is combed by using coral roller 30 – 40 minutes after the application. Wait time between the coats is minimum 12 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up:** With water

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

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# BILIZO<sup>®</sup> LINE

Acrylic Based Marking, Road Line and Coating Paint



• **Product Definition**

It is a methyl methacrylate resin based, single component, solvent, cold-applied, interior and exterior floor marking and road line paint. It is applied on concrete, asphalt and stone surfaces.

• **Uses**

- Road line and marking paint in parking lots;
- Road line and floor coating paint in light traffic roads; and
- Floor coating paint in tennis courts.

• **Packaging**

Net 20 kg in one pail.

• **Consumption**

0,5 kg/m<sup>2</sup> (0,3 mm wet film thickness)  
0,65 kg/m<sup>2</sup> (0,4 mm wet film thickness)

• **Advantages**

- It is single-component, dries quickly.
- It has perfect resistance against environmental conditions.
- It is polymethyl methacrylate based.
- It is thermoplastic and flexible.

• **Technical Data**

Finish	Semi-Matt
Color	White, Traffic Yellow (other colors can be applied depending on orders)
Density	1,60 ± 0,05 kg/lit (A+B at 20°C)
Application Thickness	0,5 – 1,2 mm
Consumption	0,5 kg/m <sup>2</sup> (0,3 mm wet film thickness) 0,65 kg/m <sup>2</sup> (0,4 mm wet film thickness)
Drying (+20°C)	6 minutes (0.3 mm wet film thickness) 9 minutes (0.4 mm wet film thickness)
Dilution	BILIZO <sup>®</sup> LINE Diluter
Packing	Net 20 kg in one pail.
Application Equipment	Aired/airless spray, roll.

• **Application**

**Preparation of Surface:** Application surface should be dry, oil-free, clean and free of damages. Smooth surfaces should be roughened before the application. It should be applied over +5°C temperatures.

**Preparation of Mixture:** It is a single-component product and it should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture before the application.

**Surface Application**

**Marking Painting:** BILIZO<sup>®</sup> LINE is thinned by 5 to 10% by diluter, then it is applied as the paint base with a finger roll and waited to dry. After the paint base dries, the first layer or, if required, a second layer is applied. Consumption per layer is approximately 250 gr/m<sup>2</sup>. It is important, in marking paintings, that molds or masking bands are removed when the product begins to dry (when it is gum-like) in order to have a good look.

**Area/Road Line Painting:** It is applied by spraying to dry, dust-free and oil-free surfaces by road line machines, airless spray or aired manual spray guns and, when necessary, by diluting it with its own special diluter. Care should be taken so that the consumption is 250 gr/m<sup>2</sup> in a single layer.

**Tool Cleaning:** Cleaned by its own diluter.

• **Storage**

The material should be kept in a cool and dry place. Its life is 6 months when it is stored in its unopened original package and stored properly.

• **Safety Measures**

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# BILIZO® POLYURETHANE INDUSTRIAL SELF SYSTEM

## Polyurethane, Self-Leveling Flooring System

### Product Description

BILIZO®POLYURETHANE SELF SYSTEM, polyurethane based, self levelling in the floor of the industrial structure, smooth surface, easy to clean, anti-bacterial, hygienic flooring system.

### Uses

- Warehouses,
- Production areas,
- Laboratories,
- Chemical and pharmaceutical industry,
- Shopping malls,,
- Aircraft hangars,
- Exhibition areas,
- Park areas and garages

### Advantages

- Easy to apply.
- Mechanical strength and abrasion resistance is high, it allows metal wheeled traffic.
- Used in places where aesthetics and resistance is required.
- It does not allow the bacterial residue on the surface.
- It has resistance against diluted acids, sea water and soda solution.
- Easily cleaned to create hygienic environments.
- It does not allow the growth of microbes, bacteria on the surface.
- It is a flexible flooring system.

### Consumption

The consumption may vary depending on the system details and project.

### Issues To Be Taken Into Consideration

- In application, the ambient and surface temperature should be between +10°C and +30°C. Also do not apply in extremely hot, rainy and windy weather conditions.
- Materials to be used in application should be brought 1-2 days before application, stored to adapt to environmental conditions.
- In extremely cold weather, ambient and surface temperature should be increased with heater and in order to increase the workability of the material, packaging should be +20 – + 25°C to ready to use.
- Epoxy and polyurethane based floor systems should be applied by expert teams.
- Working and reaction time of resin based systems are affected by relative humidity in the air, ambient and surface temperatures. At low temperatures the chemical reaction slows down, so it extends the pot life, covered time of surface and the working time.
- The consumption is increased as the viscosity increased. High temperatures increase the chemical reactions and the above mentioned times decrease accordingly. In order to complete curing of entire material, ambient and surface temperatures should not fall below the minimum allowable temperature.
- After completion of the coating, the coating should be protected from direct contact with water for at least 24 hours.
- If a water contact, this coating will create on carbonation and softening, which will cause it to lose the properties of the coating. In the face of such a situation the entire floor of the coating has to be removed and replaced.
- For the detailed use of the product, must be referred to the Technical Product Information Brochure.

### System Detail(2-3 mm)

Intended Purpose	Used Materials	Consumption (kg/m²)
Primer	BILIZO® EPOXY COAT	0,30 - 0,50
Scatter Sand	Silica Sand 0,1 - 0,3 veya 0,3 - 0,8 mm	0,80 - 1,00
Alternative Primer (for surface disorders up to 1 mm)	BILIZO® EPOXY COAT (It is applied percentage by 1/0,5 - 1/2 with silica sand.)	0,30 - 0,50
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,25 - 2,00
Scatter Sand	Silica Sand 0,1 - 0,3 veya 0,3 - 0,8 mm	1,00 - 3,00
Pore Sealer	BILIZO® FLOOR 360	0,75 - 0,90
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,50 - 0,70
Coating	BILIZO® FLOOR 360	1,50 - 1,80
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,45 - 0,65
Alternative Top Coating	BILIZO® TOPCOAT 370	0,15 - 0,25

### Application

BILIZO® EPOXY SELF SYSTEM solutions should be applied using a toothed trowel to achieve the specified thickness. When it comes to the coating the desired consistency, should be taken in air with the help of a spiked roller.

### Important Notes

The above system solutions, if the price and products, ideal weather, ground conditions and the environment, taking into account the average employer's needs, has been formed with the purpose to some of the calculations. Changes in the environment and floor conditions can lead to changes in employer's needs, consumption and system solutions. Therefore, before the system solution, IZOBIL® CONSTRUCTION CHEMICALS specialized team and /or expert practitioners should be seen, employer needs should be identified and then the system solution should be done.

### Responsibility

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# BILIZO® POLYURETHANE COMFORT SELF SYSTEM

## Polyurethane Based, Self Levelling Comfort Flooring System

### Product Description

BILIZO® POLYURETHANE COMFORT SELF SYSTEM, polyurethane based, self leveling comfort systems with high abrasion resistance which can absorb sound as 5 dB, which cover cracks feature, easy to clean, dull surface flooring system.

### Uses

- Schools
- Libraries
- Clinics and hospitals
- Exhibition areas
- Passages
- Pediatric care units
- Bar and restaurants
- Hotels

### Advantages

- Has a structure that does not allow the formation of microbes.
- Easy to clean.
- Depends on application thickness, it has up to 5 db thickness which absorb sound.
- Resistant to cigarette burns.
- Provides very good adhesion.
- Mechanical resistance is high.
- It is anti-bacterial.
- Non-slip.

### Consumption

The consumption may vary depending on the system details and project.

### Issues To Be Taken Into Consideration

- In application, the ambient and surface temperature should be between +10°C and +30°C. Also do not apply in extremely hot, rainy and windy weather conditions.
- Materials to be used in application should be brought 1-2 days before application, stored to adapt to environmental conditions.
- In extremely cold weather, ambient and surface temperature should be increased with heater and in order to increase the workability of the material, packaging should be +20 – + 25°C to ready to use.
- Epoxy and polyurethane based floor systems should be applied by expert teams.
- Working and reaction time of resin based systems are affected by relative humidity in the air, ambient and surface temperatures. At low temperatures the chemical reaction slows down, so it extends the pot life, covered time of surface and the working time.
- The consumption is increased as the viscosity increased. High temperatures increase the chemical reactions and the above mentioned times decrease accordingly. In order to complete curing of entire material, ambient and surface temperatures should not fall below the minimum allowable temperature.
- After completion of the coating, the coating should be protected from direct contact with water for at least 24 hours.
- If a water contact, this coating will create on carbonation and softening, which will cause it to lose the properties of the coating. In the face of such a situation the entire floor of the coating has to be removed and replaced.
- For the detailed use of the product, must be referred to the Technical Product Information Brochure.

### System Detail(2-3 mm)

Intended Purpose	Used Materials	Consumption (kg/m²)
Primer	BILIZO® EPOXY COAT	0,30 - 0,50
Scatter Sand	Silica Sand 0,1 - 0,3 veya 0,3 - 0,8 mm	0,80 - 1,00
Alternative Primer (for surface disorders up to 1 mm)	BILIZO® EPOXY COAT (It is applied percentage by 1/0,5 - 1/2 with silica sand)	0,30 - 0,50
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,25 - 2,00
Scatter Sand	Silica Sand 0,1 - 0,3 veya 0,3 - 0,8 mm	1,00 - 3,00
Pore Sealer	BILIZO® FLOOR 360 F	0,70 - 0,90
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,20 - 0,30
Coating	BILIZO® FLOOR 360 F	2,00 – 2,30
Filler Sand	Silica Sand 0,1 - 0,3 mm	0,50 – 0,70
Alternative Top Coating	BILIZO® SPORTS 440	0,15 - 0,25

### Application

BILIZO® POLYURETHANE COMFORT SELF SYSTEM solutions should be applied using a toothed trowel to achieve the specified thickness. When it comes to the coating the desired consistency, should be taken in air with the help of a spiked roller.

### Important Notes

The above system solutions, if the price and products, ideal weather, ground conditions and the environment, taking into account the average employer's needs, has been formed with the purpose to some of the calculations. Changes in the environment and floor conditions can lead to changes in employer's needs, consumption and system solutions. Therefore, before the system solution, IZOBIL® CONSTRUCTION CHEMICALS specialized team and /or expert practitioners should be seen, employer needs should be identified and then the system solution should be done.

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# BILIZO® FLOOR 360

Polyurethane Based Semi Elastic Flooring Material



• **Product Description**

It is a polyester polyurethane resin-based, two-component, solvent-free and colour flooring, self levelling when mixed with proper filling materials, which is used as multilayer or thin coat hard flooring.

• **Uses**

- Workplaces, repair shops, factories and car park, warehouses and garages where chemical and mechanical resistance of medium scale is required;
- Poultry hatcheries and slaughterhouses and industrial kitchens where hygienic conditions are important;
- Food processing areas and warehouses
- Light industry production areas;
- Pharmaceutical Factories
- For hospitals to provide antibacterial effects.

• **Packaging**

A 19-kg set of BILIZO® FLOOR 360 consists of Component A in one pail of net 15 kg and Component B in one gallon of net 4 kg.

• **Advantages**

- Forms a monolithic flooring which does not require joint,
- Hygienic and healthy
- Easy to clean. It can be cleaned by detergents and cleaning agents containing solvent,
- Creates a semi – gross surface
- Wear and skid resistant

• **Consumption**

Quantity of BILIZO® FLOOR 360 to form a coating in thickness of 1 mm over an area of 1 m² is 1,4kg. Flooring in thickness of 1,8 – 2,0 mm suitable for use in the warehouse, production facilities and showrooms with medium traffic

• **As impregnation of the concrete surface:**

BILIZO® MACRO PRIMER ; 0,300-0,450 g/m²  
(For better impregnation, it is recommended to thin it with Epoxy Thinner by 10-20% depending on the surface of the concrete)

• **As base coat:**

BILIZO® FLOOR 360: 2500 g/m²  
(in mixture with 0,1 – 0,3 quartz sand at ratio of 1:2 by weight)

• **As Topcoat :**

BILIZO® FLOOR 360: 2000 g/m²  
(in mixture with 0,1 – 0,3 quartz sand at ratio of 1:1)

When colour resistance is required and at the areas exposed to atmosphere;

• **As Protective Coat:**

BILIZO® TOP COAT 370; 200 g/m²  
BILIZO® FLOOR 360 is main coating material of BILIZO® POLYURETHANE INDUSTRIAL SELF SYSTEM.



• **Technical Data**

PROPERTY	RESULTS
Finish	Semi-Gloss
Colour	Any Colours
Density	1,40 ± 0,05 kg/l (A+B)
Mix Ratio	15:4 (A:B – by weight)
Solids by Volume	100% (A+B)
Pot Life (+10°C)	60 minutes
(+30°C)	40 minutes
Wait Time Between Coats (+10°C)	24 hours / at 20°C
(+20°C)	12 hours / at 20°C
Ready for Light Traffic	48 hours / at 20°C
Full Cure	7 days / at 20°C
Shore A Hardness	65-75
Elongation at Break	30% /20°C de
Tensile Strength	170 kg/cm²
Taber Abrasion Resistance	40 mg (in full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation**

Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Surface should be primed and, if required, roughened mechanically.

**Application Conditions**

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10 and 30°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)
- Temperature of BILIZO® FLOOR 360 should be between 15-25°C. Surface exposed to wind may take a wavy form.

**Mixing Procedure**

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 5-10 minutes. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application**

After made ready to apply, the mixture is preferably applied by toothed trowel in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. Wait time between the coats is minimum 12 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. Air bubbles of the fresh coating spread over the surface thoroughly should be eliminated by use of spiked roller. (Care should be given to it especially in case of applications above 1 kg/m² or 700 microns. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet prepared as per the related EU directives before use.

Our technical advice for use, whether verbal, written or in tests, is given in good faith and reflect the current level of knowledge and experience with our products. When using our products, a detailed object-related and qualified inspection is required in each individual case in order to determine whether the product and /or application technology in question meets the specific requirements and purposes. We are liable only for our products being free from faults; correct application of our products therefore falls entirely within your scope of liability and responsibility. We will, of course, provide products of consistent quality within the scope of our General Conditions of Sale and Delivery. Users are responsible for complying with local legislation and for obtaining any required approvals or authorizations. Values in this technical data sheet are given as examples and may not be regarded as specifications. For product specifications contact our R+D department. The new edition of the technical data sheet supersedes the previous technical information and renders it invalid. It is therefore necessary that you always have to hand the current code of practice.





# BILIZO® FLOOR 360 F

Polyurethane Based Resilient Flooring



• **Product Description**

It is a polyester polyurethane resin-based, two-component, free-solvent, resilient and color flooring of self-levelling which is used as multilayer or thin layer.

• **Uses**

- Self-levelling flooring in thickness of 1-3mm at sport fields,
- For exhibition and fair halls and offices subject to light pedestrian and vehicle traffic,
- For hospitals, polyclinics, laboratory, playpens, kindergartens, poultry hatcheries and slaughter houses which require hygienic conditions.

• **Packaging**

A 19.5-kg set of BILIZO® FLOOR 360 F consists of Component A in one pail of net 16 kg and Component B in one gallon of net 3.5 kg.

• **Advantages**

- Forms a monolithic flooring which does not require joint,
- Hygienic and healthy,
- Easy to clean. It can be cleaned by detergent and cleaning agents containing solvent,
- Forms a semi-gloss surface, and
- Wear and skid resistant.
- Water resistant.

• **Consumption**

Quantity of BILIZO® FLOOR 360 F to form a coating in thickness of 1 mm over an area of 1 m² is between 1,4-1,5 kg. Coating of sport fields

- As impregnation of the concrete surface; BILIZO® MACRO PRIMER..... 0,300-0,450 g/m² (For better impregnation, it is recommended to thin it with Epoxy Thinner by 10-20% depending on the surface of the concrete)
  - As bearing layer; SBR Rubber (in thickness of 6-10 mm)
  - As pore filler on the bearing layer; BILIZO® SPORTS 420..... 400-500 g/m²
  - As resilient base coat; BILIZO® FLOOR 360 F ..... 2000-2500 g/m²
  - As color topcoat; BILIZO® SPORTS 440..... 100-150 g/m²
- BILIZO® FLOOR 360 F is main flooring material of BILIZO® POLYURETHANE COMFORT SELF SYSTEM.



• **Technical Data**

Finish	Gloss
Color	Gray, Beige, Oxide red
Density:	1,40 ± 0,05 kg/l (A+B)
Mix Ratio	16:3,5 (A:B – by weight)
Solids by Volume	100% (A+B)
Pot Life (+10°C)	60 minutes
(+30°C)	40 minutes
Wait Time Between Coats (+10°C)	24 hours / at 20°C
(+20°C)	12 hours / at 20°C
Ready for Light Traffic	48 hours / at 20°C
Full Cure	7 days / at 20°C
Shore A Hardness	80
Elongation at Break	120% /at 20°C
Breaking Strength	115 kg/cm²
Taber Abrasion Resistance	20 mg (in full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation:** Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellant, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Surface should be primed and, if required, roughened mechanically.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

**Application Conditions:**

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10-30°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)
- Temperature of BILIZO® FLOOR 360 F should be between 15-25°C. Surface exposed to wind may take a wavy form.

**Floor Conditions:**

Surface temperature should be between 10-30°C. Moisture of the surface concrete should be less than 4%. If required, it should be measured by proper equipment. Fresh concrete floors should be minimum 28 days' old. Tensile strength of the floor concrete should be minimum 1,5 N/mm².

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 5-10 minutes. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is preferably applied by toothed trowel in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. Air bubbles of the fresh coat thoroughly spread over the surface should be eliminated. (Special care should be shown for it in case of applications of 1 kg/m² or above 700 microns.) It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic or Polyurethane thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® EPOXY SELF SYSTEM

## Epoxy Based, Self-Floor Coating System

### Product Description

BILIZO® EPOXY SELF SYSTEM, is epoxy based, in industrial building floors, surfaces which exposed to medium and heavy traffic, self-leveling, smooth surface, easy to clean, anti-bacterial hygienic flooring system.

### Uses

- Warehouses,
- Production areas,
- Laboratories,
- Chemical and pharmaceutical industry,
- Shopping malls,,
- Aircraft hangars,
- Exhibition areas,
- Park areas and garages.

### Advantages

- Mechanical strength and abrasion resistance is high, it allows metal wheeled traffic.
- Used in places where aesthetics and resistance is required.
- It does not allow the bacterial residue on the surface.
- It has resistance against diluted acids, sea water and soda solution.
- Easy to apply.
- Easily cleaned to create hygienic environments.
- It does not allow the growth of microbes, bacteria on the surface.

### Consumption

The consumption may vary depending on the system details and project.

### System Detail(2-3 mm)

Intended Purpose	Used Materials	Consumption (kg/m²)
Primer	BILIZO® EPOXY COAT	0,30 – 0,50
Scatter Sand	Silica Sand 0,1 – 0,3 veya 0,3 – 0,8 mm	0,80 – 1,00
Alternative Primer (for surface disorders up to 1 mm)	BILIZO® EPOXY COAT (It is applied percentage by 1/0,5 – 1/2 with silica sand)	0,30 – 0,50
Filler Sand	Silica Sand 0,1 – 0,3 mm	0,25 – 2,00
Scatter Sand	Silica Sand 0,1 – 0,3 or 0,3 – 0,8 mm	1,00 – 3,00
Pore Sealer	BILIZO® FLOOR EPOXY SELF	0,75 – 0,90
Filler Sand	Silica Sand 0,1 – 0,3 mm	0,50 – 0,70
Coating	BILIZO® FLOOR EPOXY SELF	1,50 – 1,80
Filler Sand	Silica Sand 0,1 – 0,3 mm	1,00 – 1,50
Alternative Top Coating	BILIZO® FLOOR EPOXY C	0,15 – 0,25

### Application

BILIZO® EPOXY SELF SYSTEM solutions should be applied using a toothed trowel to achieve the specified thickness. When it comes to the coating the desired consistency, should be taken in air with the help of a spiked roller.

### Important Notes

The above system solutions, if the price and products, ideal weather, ground conditions and the environment, taking into account the average employer's needs, has been formed with the purpose to some of the calculations. Changes in the environment and floor conditions can lead to changes in employer's needs, consumption and system solutions. Therefore, before the system solution, IZOBIL® CONSTRUCTION CHEMICALS specialized team and /or expert practitioners should be seen, employer needs should be identified and then the system solution should be done.

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### Issues To Be Taken Into Consideration

- In application, the ambient and surface temperature should be between +10°C and +30°C. Also do not apply in extremely hot, rainy and windy weather conditions.
- Materials to be used in application should be brought 1-2 days before application, stored to adapt to environmental conditions.
- In extremely cold weather, ambient and surface temperature should be increased with heater and in order to increase the workability of the material, packaging should be +20 – + 25° C to ready to use.
- Epoxy and polyurethane based floor systems should be applied by expert teams.
- Working and reaction time of resin based systems are affected by relative humidity in the air, ambient and surface temperatures. At low temperatures the chemical reaction slows down, so it extends the pot life, covered time of surface and the working time. The consumption is increased as the viscosity increased. High temperatures increase the chemical reactions and the above mentioned times decrease accordingly. In order to complete curing of entire material, ambient and surface temperatures should not fall below the minimum allowable temperature. After completion of the coating, the coating should be protected from direct contact with water for at least 24 hours. If a water contact, this coating will create on carbonation and softening, which will cause it to lose the properties of the coating. In the face of such a situation the entire floor of the coating has to be removed and replaced.
- For the detailed use of the product, must be referred to the Technical Product Information Brochure.

# BILIZO® EPOXY TEXTURE SYSTEM

## Epoxy-Based, Solvent-Free, Textured Surface, Coating System

### Product Description

BILIZO® TEXTURE SYSTEM, epoxy based, solvent free, coloured, textured, suitable for use on industrial floors, anti-bacterial, hygienic flooring system.

### Uses

- Warehouses,
- Production areas,
- Laboratories,
- Chemical and pharmaceutical industry,
- Shopping malls,,
- Aircraft hangars,
- Exhibition areas,
- Park areas and garages,
- Ramps.

### Advantages

- Mechanical strength and abrasion resistance is high, it allows metal wheeled traffic.
- Used in places where aesthetics and resistance is required.
- It does not allow the bacterial residue on the surface.
- It has resistance against diluted acids, sea water and soda solution.
- Easy to apply.
- Easily cleaned to create hygienic environments.
- It does not allow the growth of microbes, bacteria on the surface.
- Textured (orange peel) and a non-slip surface.

### Consumption

The consumption may vary depending on the system details and project.

### System Detail(2-3 mm)

Intended Purpose	Used Materials	Consumption (kg/m²)
Primer	BILIZO® EPOXY COAT	0,30 – 0,50
Scatter Sand	Silica Sand 0,1 – 0,3 veya 0,3 – 0,8 mm	0,80 – 1,00
Alternative Primer (for surface disorders up to 1 mm)	BILIZO® EPOXY COAT (It is applied percentage by 1/0,5 – 1/2 with silica sand)	0,30 – 0,50
Filler Sand	Silica Sand 0,1 – 0,3 mm	0,15 – 2,00
Scatter Sand	Silica Sand 0,1 – 0,3 veya 0,3 – 0,8 mm	1,00 – 3,00
Pore Sealer	BILIZO® FLOOR EPOXY T	0,70 – 0,90
Coating	BILIZO® FLOOR EPOXY T	1,50 – 1,80

### Application

BILIZO® EPOXY TEXTURE SYSTEM solutions should be applied using a toothed trowel to achieve the specified thickness. When it comes to the coating the desired consistency, should be taken in air with the help of a spiked roller.

### Important Notes

The above system solutions, if the price and products, ideal weather, ground conditions and the environment, taking into account the average employer's needs, has been formed with the purpose to some of the calculations. Changes in the environment and floor conditions can lead to changes in employer's needs, consumption and system solutions. Therefore, before the system solution, IZOBIL® CONSTRUCTION CHEMICALS specialized team and /or expert practitioners should be seen, employer needs should be identified and then the system solution should be done.

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# BILIZO<sup>®</sup> FLOOR EPOXY SELF

Multi Functional Epoxy Coating Compound



• **Product Description**

It is an epoxy resin-based, two-component, solvent-free and color flooring of low viscosity, which is used as self levelling multilayer or thin coat coating when mixed with proper filling materials

• **Uses**

- It is used on the concrete, cement or epoxy mortars for all industrial floors;
- In the warehouse, hangar and repair-maintenance units,
- For epoxy multilayer systems applicable at the factories, workshops, production and packaging sites having a traffic of forklift, loader and heavy vehicles
- On surfaces subject to medium to heavy load in many places which require mechanical, chemical and wear resistance by mixing silica sand or different fillers.

• **Packaging**

A 20-kg set of BILIZO<sup>®</sup> FLOOR EPOXY SELF consists of Component A in one pail of net 16 kg and Component B in one gallon of net 4 kg.

• **Consumption**

– **As impregnation primer:**

BILIZO<sup>®</sup> MACRO PRIMER.....0,300-0,450 g/m<sup>2</sup>  
(For better impregnation, it is recommended to thin it with Thinner by 5-10% depending on the surface of the concrete)

–**Self levelling flooring:**

BILIZO<sup>®</sup> FLOOR EPOXY SELF .....1000 g/m<sup>2</sup>  
0,1 – 0,3 mm quartz sand .....1000 g/m<sup>2</sup>

–**High structure thin flooring:**

BILIZO<sup>®</sup> FLOOR EPOXY SELF  
1st coat .....300 g/m<sup>2</sup>  
2nd coat.....300 g/m<sup>2</sup>

–**Textured surface flooring:**

BILIZO<sup>®</sup> FLOOR EPOXY SELF  
1st coat .....300-400 g/m<sup>2</sup>  
2nd coat.....500-600 g/m<sup>2</sup> + 1,5 – 2% thickening filler  
BILIZO<sup>®</sup> FLOOR EPOXY SELF is main flooring system of BILIZO<sup>®</sup> EPOXY SELF SYSTEM.

• **Advantages**

- Solvent-free, low viscosity, resilient structure,
- High wetting capability,
- High compression and wear resistance,
- Easy to clean and resistant to chemicals



• **Technical Data**

Finish	Gloss
Color	Any colors
Density	1,4 ± 0,05 kg/ltr (A+B)
Mix Ratio	4:1 (A:B – by weight)
Solids by Volume	100% (A+B)
Pot Life (+10°C)	50 minutes
(+30°C)	20 minutes
Wait Time Between Coats	24 hours / at 20°C
Ready for Light Traffic	24 hours / at 20°C
Full Cure	7 days / at 20°C
Compression Strength	60 N/mm <sup>2</sup> (in full cure)
Taber Abrasion Resistance	50 mg (in full cure)
Flexural Strength	35 N/mm <sup>2</sup> (in full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Surface Preparation:** Floor surface should be clean and defect-free. All loose, friable particles oil and paint leftovers and cement laitance on the surface should be removed. Wide breaks and defects should be repaired beforehand. Rules of surface preparation should be observed during the priming Procedure.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

**Application Conditions:**

- Maximum relative humidity of the air should be 80%, and application (ambient and surface) temperature should be between +5 and 35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Quartz sand in the respective mix ratio is added to the ready mixture and the mixing operation is continued until it becomes homogenous.

**Surface Application:** After made ready to apply, the mixture is applied with toothed trowel on the surface primed and level-balanced for self-levelling flooring. Air bubbles of the fresh flooring that spreads over the surface thoroughly should be removed by spiked roller. Roller is used for thin coating. Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic or Epoxy thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

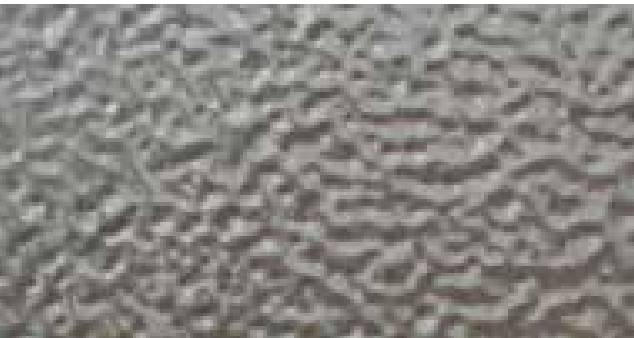
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# BILIZO® FLOOR EPOXY-T

Epoxy Based Orange Peel Thixotropic Coating Material



• **Product Definition**

It is an epoxy resin-based, two-component and color flooring with high content of solids and low viscosity, which is used as topcoat with textured – orange peel appearance for the paint systems designed as multilayer or thin flooring.

• **Uses**

- On the concrete, cement or epoxy mortars for all industrial floors;
- For the units of warehouses, hangars and repair-maintenance and assembly with forklift, loader and heavy vehicle traffic;
- For epoxy multilayer systems applicable at the factories, workshops, production and packaging sites; and
- For floors subject to medium to heavy load, featuring non-skid, mechanical strength and abrasion resistance.

• **Advantages**

- Applicable with airless spray paint application equipment;
- Resistant to diesel, petrol and many chemicals;
- High abrasion resistance,
- Resilient hard structure,
- Non-skid surface profile

• **Packaging**

A 22 kg set of BILIZO FLOOR EPOXY T consists of Component A in one pail of net 20 kg and Component B in one galloon of net 2 kg,

• **Consumption**

Floor coating of 1.8 to 2.0 mm suitable for use in garages, warehouses and service facilities.

• **As impregnation primer:**

BILIZO® MACRO PRIMER .....0,300-0,450 gr/m²  
(Depending on the concrete surface, it is recommended that the first coat is thinned with Thinner by 10 to 20% for better impregnation.)

• **1<sup>st</sup> undercoat:**

BILIZO® FLOOR 350 SC ..... 500gr/m²  
0,3 – 0,6 mm quartz ..... 2000 gr/m²

• **After the collection of the sand and wiping:**

**2<sup>nd</sup> undercoat:**

BILIZO® FLOOR 350 SC ..... 500gr/m²  
0,3 – 0,6 mm quartz ..... 2000 gr/m²

• **After the collection of the sand and wiping:**

**Topcoat:**

BILIZO® FLOOR EPOXY T  
1<sup>st</sup> Layer .....300-500 gr/m²  
*Flooring in thickness of 1.8 – 2.0 mm suitable for use at the industrial plants*

• **As impregnation primer:**

BILIZO® MACRO PRIMER ..... 150-200 gr/m²  
(Depending on the concrete surface, it is recommended that the first coat is thinned with Thinner by 10 to 20% for better impregnation.)

• **As Plain Topcoat:**

BILIZO® EPOXY MORTAR  
Undercoat .....2000-2500 gr/ m²

• **As Topcoat**

BILIZO FLOOR EPOXY T .....300-600 gr/m²  
BILIZO® FLOOR EPOXY T is main flooring material of BILIZO® EPOXY TEXTURE SYSTEM.



• **Technical Data**

Finish	Semi-Glossy
Color	All colors
Density	1,55 ± 0,05 kg/lt (A+B)
Mix Ratio	10:1 (A:B – by weight)
Solids by volume	75% (A+B)
Pot Life (+10°C)	120 minutes
Pot Life (+30°C)	50 minutes
Wait-Time Between Coats	24 hours / 20°C
Ready for Light Traffic	2 days / 20°C
Full Cure	7 days / 20°C
Taber Abrasion Resistance	30 mg (full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• **Application**

**Preparation of Surface:** Application surface should be clean and free of damages. Wait-time for the previous primer or the undercoat should be observed.

**Ambient Conditions:**

- Relative humidity of the air should be 75% maximum and the application (ambient and surface) temperature should be between 5 and 35°C.
- In case it is applied outdoors, it should not be rainy 48 hours before and 48 hours after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Preparation of Mixture:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature is not less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure that you apply the mixture within its pot life.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller with short hair in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. If it is desired that the fresh flooring spread over the surface completely should give a thicker orange peel appearance, the paint film is combed by using coral roller 30-40 minutes after the application. Wait-time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Tool Cleaning:** Cellulosic or epoxy thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened. Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® SPORTS 410

Polyurethane based glue



### Product Description

Polyurethane resin based, two components, solvent free, high strength adhesive, polyurethane glue.

### Uses

- Adhesive for latex and polyurethane backing carpets.
- Adhesive between latex floor coatings and concrete, metal and asphalt surface in exterior and interior areas.
- Adhesive for polyurethane and wooden boards, prefabricated lightweight walls made of corks and metallic folios.
- Adhesive for sandwich panels made of iron and non-iron metals, on timber.
- Tile adhesive for bathroom, kitchen like wet areas,
- Noise insulation cork or SBR panels.

### Consumption

Recommended consumption is 2 kg/m².

### Advantages

- Can be easily applied by comb trowel
- Fast curing and fast availability to walk on.

### Packaging

A set of 19,7 kg consists of; an 18 kg pail of A component and a 1,7 kg gallon of B component



### Technical Data

Appearance	Pasty
Color	Dark beige, Green
Density	1,65 ± 0,05 kg/lit (A+B)
Mix Ratio	18:1,7 (A:B – ağırlıkça)
Solid by Volume	%100 (A+B)
Mix Life (+10°C)	60 min.
Mix Life (+30°C)	40 min.
Light Traffic Availability	24 hours / 20°C
Complete Curing Time	7 days / 20°C
Shore D Hardness	55

PS: The informations above is given according to +23°C and 50% humidity.High temperatures shorten the curing time and low temperatures increase the curing time.

### Application

**Surface Preparation:** Surface should be clean and free of any defect. Care should be given to the application time of the previous primer or base coat.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10and 30°C.

### Environmental Conditions

- Relative humidity of the air should be maximum 75% and the application (ambient and surface) temperature should be between +5-35°C.
- In case it is applied outdoors, it should not be rainy 48 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)
- Temperature of BILIZO® SPORTS 410 should be between 15-25°C. Surface exposed to wind may take a wavy form.

### Mixing Procedure

It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure the prepared mixture is consumed during the pot life of the mixture.

### Surface Application

After made ready to apply, the mixture is preferably applied by comb trowel. Bonded surfaces should be pressed. Due to pressure the surfaces to be boned will be contact with adhesive and it can be transferred to the surfaces homogeniously.

**Cleaning Tools:** Cellulosic thinner. Cured glue can be only cleaned mechanically.

### Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

### Safety Measures

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use



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# BILIZO<sup>®</sup> SPORTS 420

Polyurethane Thixotropic Pore Filler



• **Product Description**

It is a polyester polyurethane resin-based, two-component, resilient and solvent-free mastic containing solids in high volume.

• **Uses**

For sport floors which are formed by cast of rubber granules on site or lay of granules on the floor after formed into a blanket, it is used to:

- provide imperviousness;
- fill pores and cavities; and
- make the rubber blanket floor suitable for coating of polyurethane – self levelling.

• **Packaging**

A 16-kg set of BILIZO<sup>®</sup> SPORTS 420 consists of Component A in one pail of net 14 kg and Component B in one galloon of net 2 kg.

• **Consumption**

Consumption must be 400-500 gr/m².

• **Advantage**

- Solvent-free;
- Resilient;
- Easy to apply thanks to its thixotropic structure.



• **Technical Data**

Finish	Mat
Color	Gray, Beige, Oxide Red
Density	1,46 ± 0,05 kg/l (A+B)
Mix Ratio	7:1 (A:B – by weight)
Solids by volume	%100 (A+B)
Pot Life (+10°C)	60 minutes
(+30°C)	30 minutes
Wait Time Between Coats	24 hours / at20°C
Ready for Light Traffic	2 days / at20°C
Full Cure	7 days / at20°C

• **Application**

**Surface Preparation:** Floor surface should be of dry, clean, defect-free and load-tolerant structure. Surface should be cleaned off from any grease, wax, grease, water repellant, free parts easily detachable and dust by use of milling machine. Surface should be primed and, if required, roughened mechanically.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists against +80°C at humid temperature (also without any chemical and mechanical effect) and against +120°C at dry temperature.

**Application Conditions:**

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10-30°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Floor Conditions:**

Floor temperature should be between 10-30°C. Moisture of the floor concrete should be less than 4%. If required, measurement should be performed by a suitable instrument. It should be minimum 28 days for new concrete floors. Tensile strength of the floor concrete should be minimum 1,5 N/mm².

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred for minimum 3 minutes until you have a homogenous mixture. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is applied by toothed trowel at such consumption amount specified in the paint system or in such dry film thickness as desired. In case of overcoating Procedure, wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**Clean Up Of Tools:** Cellulosic thinner.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

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# BILIZO® SPORTS 430

Polyurethane Very Resilient Flooring



• Product Description

It is a polyester polyurethane resin-based, two-component, solvent-free and color flooring, being very resilient, SHOCK absorber, which is used as flooring in thick coat.

• Uses

- Walks, running tracks,
- Outdoor sport floors,
- Indoor gymnasium, and
- As SHOCK absorber, creeping and resilient flooring at children's playgrounds and kindergartens.

• Packaging

A 20-kg set of BILIZO® SPORTS 430 consists of Component A in one pail of net 17.5 kg and Component B in one galloon of net 2.5 kg.

• Advantages

- Forms a monolithic flooring which does not require joint,
- Hygienic and healthy,
- Easy to clean. It can be cleaned by domestic chemicals, and
- Wear and skid resistant.

• Consumption

Quantity of BILIZO® SPORTS 430 to form a coating in thickness of 1 mm over an area of 1 m² is between 1,0-1,1 kg.

Coating of outdoor children's playgrounds and sport fields in thickness of 2 mm

– As impregnation of the concrete surface;  
BILIZO® MACRO PRIMER.....100-200 g/m²  
(For better impregnation, it is recommended to thin it with Epoxy Thinner by 10-20% depending on the surface of the concrete)

–As SHOCK absorber layer;  
BILIZO® SPORTS 430..... 1200 g/m²

–As resilient base coat;  
BILIZO® FLOOR 360F ..... 1200 g/m²

–As color UV resistant topcoat;  
BILIZO® SPORTS 440.....100-150 g/m²

Walk, running track flooring – in thickness of 2 mm

– As impregnation of the concrete surface;  
BILIZO® MACRO PRIMER.....100-200 g/m²  
(For better impregnation, it is recommended to thin it with Epoxy Thinner by 10-20% depending on the surface of the concrete)

– As SHOCK absorber layer,  
BILIZO® SPORTS 430..... 1000 g/m²

(In mix ratio 1:0.3-0.4 with SBR rubber powder in different thickness



• Technical Data

Finish	Semi Gloss
Color	Gray, Beige, Oxide red
Density:	1,40 ± 0,05 kg/l (A+B)
Mix Ratio	17,5:2,5 (A:B – by weight)
Solids by Volume	100% (A+B)
Pot Life (+10°C)	60 minutes
(+30°C)	40 minutes
Wait Time Between Coats (+10°C)	24 hours / at 20°C
(+20°C)	12 hours / at 20°C
Ready for Light Traffic	48 hours / at 20°C
Full Cure	7 days / at 20°C
Shore A Hardness	50 – 60
Elongation at Break	60% / at 20°C
Breaking Strength	100 kg/cm²
Taber Abrasion Resistance	25 mg (in full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

• Application

**Surface Preparation:** Surface should be dry, clean, free of any defects and load-tolerant. Any oil, wax, grease, water repellent, easily detachable and loose parts and dust on the surface which may impair adhesion force should be cleaned off and removed by floor planer. Surface should be primed and, if required, roughened mechanically.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

**Application Conditions:**

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10 and 30°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)
- Temperature of BILIZO® SPORTS 430 should be between 15-25°C. Surface exposed to wind may take a wavy form.

**Floor Conditions:**

Surface temperature should be between 10-30°C. Moisture of the surface concrete should be less than 4%. If required, it should be measured by proper equipment. Fresh concrete floors should be minimum 28 days' old. Tensile strength of the floor concrete should be minimum 1,5 N/mm².

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture and should be allowed to rest for 5-10 minutes. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is preferably applied by toothed trowel in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb.

Wait time between the coats is minimum 12 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic or Polyurethane thinner.

• Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• Safety Measures

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# BILIZO® SPORTS 440

Aliphatic Polyurethane Topcoat Paint



### Product Description

It is a polyester polyurethane resin-based, two-component, resilient and color flooring with low viscosity which is used as topcoat having a plain and matt appearance for sport floor paint systems designed as multilayer or thin flooring.

### Uses

It is used as topcoat paint on the sport floors indoors/ outdoors.

### Packaging

A 10-kg set of BILIZO®SPORTS 440 consists of Component A in one pail of net

### Consumption

- Coating of outdoor children's playgrounds and sport fields – in thickness of 2 mm
- As impregnation of the concrete surface;
- BILIZO® MACRO PRIMER ..... 100-200 g/m<sup>2</sup>
- (For better impregnation, it is recommended to thin it with Epoxy Thinner by 10-20% depending on the surface of the concrete)
- As SHOCK absorber layer;
- BILIZO® SPORTS 430 ..... 1200 g/m<sup>2</sup>
- As resilient base coat;
- BILIZO® FLOOR 360F ..... 1200 g/m<sup>2</sup>
- As color UV resistant topcoat;
- BILIZO® SPORTS 440 ..... 100-150 g/m<sup>2</sup>

### Advantages

- Applicable by airless spray paint application equipment,
- Resistant to diesel, petrol and many chemicals,
- High wear resistance,
- Resilient and rigid structure.



### Technical Data

Finish	Matt
Color	Any color
Density	1,20 ± 0,05 kg/l (A+B)
Mix Ratio	4:1 (A:B – by weight)
Solids by Volume	60% (A+B)
Pot Life (+10°C)	120 minutes
(+30°C)	50 minutes
Wait Time Between Coats	24 hours / at 20°C
Ready for Light Traffic	2 days / at 20°C
Full Cure	7 days / at 20°C
Taber Abrasion Resistance	30 mg (in full cure)
Surface temperature	+8°C – +35°C
Ambient temperature	+8°C – +35°C
Relative air humidity	Max %70-80
Dew Point	Pay attention to the dew point! Dew point must be at least +3°C in order to reduce the risk of condensation and blooming in finished surface and uncured coating surface temperature.

### Application

**Surface Preparation:** Surface should be clean and free of any defect. Care should be given to the application time of the previous primer or base coat.

**Strength:** Mechanically, it resists against mechanical effect of medium to high load. And thermally, it resists up to +80°C at humid temperature (also without any chemical and mechanical effect) and up to +120°C at dry temperature.

- Maximum ambient humidity should be 80%.
- Ambient temperature should be between 10 and 30°C.

### Application Conditions:

- Relative humidity of the air should be maximum 75% and the application (ambient and surface) temperature should be between +5°- +35°C.
- In case it is applied outdoors, it should not be rainy 48 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)
- Temperature of BILIZO® FLOOR 360F should be between 15-25°C. Surface exposed to wind may take a wavy form.

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. Components A and B should be stirred by using a mechanical mixer for minimum 3 minutes until you have a homogenous mixture. Make sure the prepared mixture is consumed during the pot life of the mixture.

**Surface Application:** After made ready to apply, the mixture is preferably applied by airless spray or roller in amount specified in the paint system or in such amount to obtain the desired dry film thickness as controlled by wet film comb. Wait time between the coats is minimum 24 hours (20°C) and maximum 5 days. It is very important that the second coat should be applied within the time for overcoating specified above. It reaches to a full mechanical and chemical strength in about 7 days.

**WARNING:** After 36-48 hours the material is applied, air temperature should be above 8°C, it should not be rainy or snowy and should be applied with considering the possibility of raining.

**Clean Up Of Tools:** Cellulosic or Polyurethane thinner.

### Storage

Store the product in a cool and dry place. Shelf life of the product is 1 year for Component A and 6 months for Component B when stored properly in the original container unopened.

### Safety Measures

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

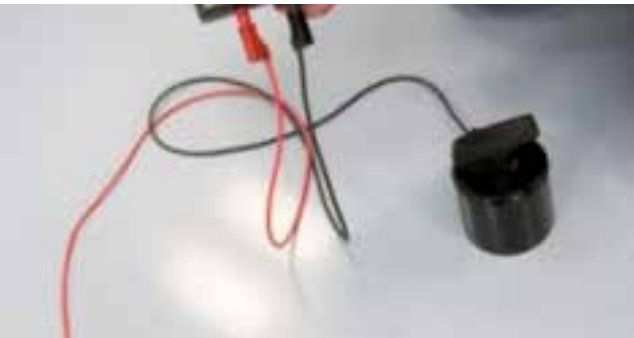
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# BILIZO® SELF AS

Multi Functional Epoxy Coating Compound



• **Product Description**

It is an epoxy resin-based, two-component and solvent-free, self levelling and color flooring material with low viscosity and aesthetic appearance.

• **Uses**

- As electrostatically conductive surface coating on the concrete and cement surfaces.
- It may be used by itself on the surfaces exposed to mechanical load of medium degree as described in the application Procedures.
- In case of surfaces exposed to heavy load, it is used as a finish coat as described in the application Procedures after preparation of the concrete surface with the bearing epoxy layers (mortar, multilayer, etc.)

• **Advantages**

- Electrostatically conductive.
- Aesthetic appearing, forming a bright surface.
- High mechanical and chemical resistance.

• **Packaging**

A 24-kg set of BILIZO® SELF AS consists of Component A in one pail of net 20 kg and Component B in one gallon of net 4kg.

• **Consumption**

-As impregnation primer:

BILIZO® MACRO PRIMER 100-400 g/m²  
(Depending on the concrete surface, it is recommended to thin the first coat with Thinner by 5-10% for better impregnation)

-As Conductive Coat:

Copper sheet in thickness of 150 g/m² and copper plate in thickness of 2mm in contact with the copper sheet. (Earthing connection will be made from these plates to a proper earthing connection in distance of 10m maximum or through the main ring to be formed at the wall base.

-As bearing coat:

BILIZO® SELF AS is mixed with quartz sand of 0,1-0,3 at ratio of 1:0,4 and at consumption ratio of 2,4-2,5 kg/m².

•Plain Surface Appearance:

Quartz sand of 0,1-0,3 in 0.7 kg is added to the mixture of 1.8 kg A+B (for 1 m², at 20°C)

•Texture Surface Appearance:

BILIZO® ETA is added to the mixture described above at ratio of 0,2-0,3 kg/m² or 8-12%.



• **Technical Data**

Finish	Gloss
Color	Any colors
Density	1,45 ± 0,05 kg/l (A+B)
Mix Ratio	4:1 (A:B – by weight)
Solids by Volume	100% (A+B)
Pot Life (+10°C)	50 minutes
(+30°C)	20 minutes
Wait Time Between Coat	24 hours / at 20°C
Ready for Light Traffic	2 days / at 20°C
Full Cure	7 days / at 20°C
In a mixture with quartz sand at ratio of 1:0,4;	
Density	1,65 ± 0,05 kg/l (A+B)
Compression Strength	80 N/mm² (in full cure)
Taber Abrasion Strength	50 mg (in full cure)
Flexural Strength	35 N/mm² (in full cure)
Shore D Hardness	79 – 81
Electric Conductivity Resistance (RE)	10⁴ – 10⁵ Ohm

• **Application**

Surface Preparation:

Application surface should be free of any damages. Surface should have compression strength of minimum 25 N/mm² and pull-off test result of minimum 1,5 N/mm², and concrete surfaces should have a maximum moisture content of 5-6%. It should be free of any loose and friable particles, oil and paint leftovers and cement grout. Wide cracks and defects should be repaired beforehand. Any cement shell and bright screed on the concrete surface should be cleaned up by equipment such as sandblasting machine, hacking machine, wiping machine with diamond drum and impact grinding machine and it should then be roughened and wiped. Remove all dust from the surface by using industrial type vacuum cleaner. Concrete surfaces in contact with the soil to be coated should be previously treated with water and water vapor sealants.

Application Conditions:

- Relative humidity of the air should be 80% maximum and the application (ambient and surface) temperature should be between 5-35°C.
- In case it is applied outdoors, it should not be rainy 24 hours before and after and during the application.
- Surface temperature should be 3°C above the then dew point. (Please call our firm for the Ambient temperature-Ambient Moisture-Dew Point table.)

**Mixing Procedure:** It is a two-component product and it should, therefore, be prepared at the mix ratio specified for the quantity to be used, taking into consideration the pot life. For a homogenous mixture, make sure that the product temperature should not be less than 15°C. Component A should be stirred by itself by use of a mechanical mixer quickly and then the hardener (Component B) should be added, taking care of the mix ratio. After the Components A and B are stirred till the mixture becomes homogenous, quartz sand of 0,1 – 0,3 should be added and mixed by a mechanical mixer at 300 – 400 rpm for minimum 3 minutes.

**Surface Application:** When ready for application, the product is applied with toothed trowel on the surface in thickness of about 1.5mm and air bubbles in the coating should be released by the spiked roller.

• **Method**

**Priming Coat:** Made ready for application, the concrete surfaces are primed with BILIZO® MACRO PRIMER, solvent-free, transparent and epoxy concrete primer by saturating the surface thoroughly. Application can be performed by roller or airless spray. After it gets dry, the appearance will be that of the wet concrete. Any concrete defects and big cavities after the application of the primer are repaired and filled with epoxy mortar to be obtained by mixing epoxy concrete primer and silica sand. And then the surface is primed again.

**Conductive Coat:** On the surface on which epoxy concrete primer is applied, copper sheet in minimum thickness of 150gr/ m² is laid all over the area within 4-6 hours after the first dry of the primer. And at the wall bases, copper plates in thickness of 2mm are placed on the laid copper sheets. Care should be given that copper sheet and plates do not touch each other.

**Bearing Coat:** Minimum 24 hours after application of the epoxy impregnation, 04. parts quartz sand of 0,1-0,3 is added to 1 part BILIZO® SELF AS electrostatic epoxy coating mixture and it is applied on the electrostatic epoxy coating bearing coat in thickness of 1.5mm.

**Clean Up Of Tools:** Cellulosic or Epoxy Thinner.

**Precautions:**

- As the thickness of the electrostatic epoxy coating will affect the conductivity, the rough surfaces should be definitely leveled before coating.
- For surfaces to be exposed to heavy mechanical load, the surface may be reinforced before application with BILIZO® MACRO PRIMER before application.
- Priming coat should not be impaired with sand.
- Do not apply the bearing coat before the priming coat becomes fully cured.
- Make sure the bearing coat should not be thicker than 1.5 mm or the consumption should not be more than 2,5 kg/m². Higher thickness reduces conductivity.
- Do not use sand to obtain texture appearance.
- Connection from the copper plates to a proper earthing connection or main ring should definitely be performed by an expert electrician.

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO<sup>®</sup> FLEX PU 30

Medium Modulus, PU Sealant for Expansion Joint



• **Product Description**

BILIZO-FLEX<sup>®</sup> PU 30 is thixotropic, permanent elastic, cold applied and cold-to-use, single-component, polyurethane elastomer (plastic), and filler material, used for lime and to fill joints. SNJF elastomer is a category 1. It shows the protective effect in contact with the ground and air moisture.

• **Uses**

- BILIZO-FLEX<sup>®</sup> PU 30 is used for:
- Expansion joints in heavy and light prefabrication and traditional masonry.
  - Joint sealer for medium movement joints.
  - Interior decoration; tiles, ridge tales and plinths.
  - Joint sealing for cracks.

• **Packaging**

BILIZO-FLEX<sup>®</sup> PU 30 is supplied in white and grey in 600 ml packing, with 24 pieces per box

• **Consumption**

Depends on the volume of the joint or crack to be filled.

• **Advantages**

- Easy to apply (one component).
- Adheres perfectly on most of the construction materials: concrete, glass, anodized aluminum, wood material and so on.
- Water resistant.
- Maintains its mechanical properties over a temperature span of – 30°C to +90°C.
- Frost resistant.



• **Technical Data**

PROPERTY	RESULTS	TEST METODU
Hardness Shore A	15-25	ISO 868
Modulus	At 100% 0,15-0,25 Mpa	ISO 8339
Elongation at break	> 250%	ISO 8339
Elastic recovery	> 70%	ISO 7389
Movement capability	25%	
Temperature	-20°C ≤ T ≤ + 80°C	
Water vapor diffusion	≈ 32g/m²/24 hrs	NF30 018
Elongation at break	700%	
Density	1,20 gr/ml	

• **Application**

**Surface Preparation**

Surface is clean, dry and sturdy; all kinds of negative effects on the plastic adhesion must be free of dirt and grease. All loose materials must be removed (Dried for at least 28 days). Moisture content should not exceed 5%. Users should check plastic viscosity, spotting, and the compatibility of chemical (First performed on a small portion).

**Joint Making**

The joint should be measured right. The recommended width is between 10 and 30 mm. The joint width/depth ratio should be approximately 2:1.

**To Fill the Joints of Motion in Order to Ensure Water Isolation of the Roof**

Only the bottom of the joint should be applied a little BILIZO-FLEX<sup>®</sup> PU 30. Then, using a brush, 200 mm wide line centered on the joint, MARISEAL<sup>®</sup> 250 should be applied as a layer. Then, right-sized polyethylene tape should be placed into the joint and firmly pressed into the gland. The remaining gaps in the joint; BILIZO-FLEX<sup>®</sup> PU 30 joint filler must be completed and should be left to rest 12 hours.

**Priming**

Concrete, cement screed or absorbent surfaces such as wood, should be primed with MARISEAL<sup>®</sup> 710. Metal and non-absorbent surfaces such as ceramic tiles should be covered using the MARISEAL<sup>®</sup> AQUA-PRIMER.

**Isolation Fill**

After the primer has dried, flexible, non-sticky in a joint filler (polyethylene strip) should be pressed into the joint. To prevent the formation of bubbles in the joint, be sure that the joint space are covered. BILIZO-FLEX<sup>®</sup> PU 30 plastic is applied using a special gun or trowel. Use protective tape to a better shutdown. In narrow joints, plastic should be applied in a single motion. By large joints the plastic should be applied three places: The first two applications on the edges of the joint, the third should be made to fill. The surface should be straightened with soapy water. Press the edges of the plastic and the joint fill. In the meantime, bubble formation should be considered, and the protective strips should be removed. After polymerization, the surface can be painted. Acrylic or vinyl paints are used after being tested.

• **Storage**

Plastics should be stored in dry and cool rooms for up to 9 months. Protect the material against moisture and direct sunlight. Storage temperature: 5°-30°C. Products should remain in their original, unopened containers, bearing the manufacturers name, product designation, batch number and application precaution labels.

• **Safety Measures**

BILIZO-FLEX<sup>®</sup> PU 30 contains is°Cyanate. Use only in well ventilated areas. Avoid contact with skin. Case of eye contact with the material, rinse eyes with plenty of water and immediately consult a doctor. NOTE: Keep out of reach of children. Please study the Safety Data sheet.

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# BILIZO<sup>®</sup> FLEX PU 30 SL

Jet Fuel Resistant, Cold Applied, Polyurethane Based, Self Leveling Type Joint Sealant



### Product Description

BILIZO-FLEX<sup>®</sup> PU 30 SL is a two component, cold applied, chemically curing, self leveling type, polyurethane based, coal tar modified, elastomeric material with high abrasion resistance and adhesion; suitable for heavy traffic conditions; resistant to jet fuels, hydraulic fluids and oils and dynamic movements. It is fully resistant to UV radiation.

### Uses

- Runways,
- Park areas,
- Terminals and ramps,
- Cargo fields and roads at airports.
- At the same time it is also a very compatible and economic joint sealant for highways subject to all types of traffic, secondary roads, bridge connections, ramps, stadium, industrial floors, pavements, fuel oil stations, roads and concrete fields at petrochemical and other industrial facilities. It is suitable for all kinds of horizontal outdoor joints.

### Consumption

Consumption changes according to size of the joint.

### Packaging

BILIZO-FLEX<sup>®</sup> PU 30 SL; is supplied in 10 kg packages (9,1 kg A Component + 0,9 kg B Component)

### Advantages

- It is polyurethane based, two component.
- It is cold applied.
- It cures chemically.
- It is self leveling.
- It has high abrasion resistance and excellent adhesion.
- It is resistant to dynamic movements.
- It is resistant to jet fuels, oils, diluted acids and bases, various chemicals.
- It can also be used in repairing cracks in concrete pavements.
- It is fully resistant to UV radiation.
- Faster or slower curing can be provided depending on the customer needs.



### Technical Data

PROPERTY	METHOD	RESULT
Base Polymer		2 Component Polyurethane
Solids Content %		100
Movement Capability	Expansion	25%
Movement Capability	Contraction	25%
Color		Black
Elongation at Break	ASTM D 412 Die B	>400%
Density (A+B)		1.40±0.05 g/cm³
Durometer Hardness (Shore)	ASTM D 2240	A25±5
Resilience	TS 5926 EN 14188-2	>98%
Penetration		0.5 mm
Pot life of the mixture @20°C HA		2 hours
Pot life of the mixture @20°C MA		10 minutes
Tack free time @20°C HA/MA	TS 5926 EN 14188-2	8 hours / 1 hour
Cure Time For Light Trafficability @20°C HA/MA		24 hours / 6 hours
Cure Time For Heavy Trafficability @20°C HA/MA		2 days / 12 hours
Cure Time For Chemical Resistance @20°C		4 days
RELATED STANDARDS: TS 5926 EN ISO 14188-2, ASTM D 1854, ASTM C 920, MIL SS-S 200E, BS 5212		

### Application

The amount of sealant that can be used within the pot life must be determined by considering the application place and the capacity of the application apparatus. Mixed material must be used within its pot life. Solvents cannot be used for thinning the sealant at the end of its pot life. Material at the end of its pot life must not be used. In machine applications pot life is important for the tip section where the components mix together. If the application is interrupted for any reason, that section must be cleaned immediately. In hand applications prepared mixture is filled into a refillable type application apparatus with piston (sealant gun – applicator). In both application types, a nozzle with a diameter enabling it to enter into the joint must be fitted to the apparatus and while the sealant is applied this tip must be moved forward by sliding over the backer rod in the joint. Thus it is ensured that no gap is left under the sealant and sufficient amount of sealant is used. After the application sealant surface can be finished by means of a spatula. Application can be carried out directly with a spatula. It is recommended to tape both sides of the joint before starting application on joints especially where the decorative look is important. In this manner material smeared outside of the joint during the application is removed by pulling off the tape after the application.

**Surface Preparation:** Joint surfaces must be clean and dry. Oil, grease, bitumen or sealant remains must be completely removed. Loose materials on the joint walls must be removed; broken joint walls must be repaired. BILIZO-FLEX<sup>®</sup> PU 30 SL is affected from water before curing like all other polyurethane materials. Therefore the joints must be dry and the sealant must not contact water until chemical curing occurs.

**Backer Material:** A rod which preferably does not adhere to the sealant must be placed in the joint in order to attain the sealant depth determined according to the joint width. Closed cell polyethylene foam rods are suitable for this purpose. Diameter of the rod must be 10 – 25% larger than the joint width; the rod must be placed tight in the joint. Rods must not be damaged during placement. In wide joints, semi-rigid materials like polystyrene foam can be used instead of rod. In such cases, it is helpful to place a polyethylene tape over backing material in order to prevent adhesion to the sealant.

**Joint Design:** Joint width must not be less than four times the expected movement or 6 mm. Up to 15 mm width, joint sealant depth must be equal to the width. Between 15 and 30 mm joint widths, sealant depth must be equal to 80% of the width. For wider joints, sealant depth must be set to 30 mm. For adjusting depth backer material must be used inside the joint. For localizing the cracks caused by contractions that may occur during and after curing at new concrete pavements, design and sealing of the contraction joints left before cure or saw cut after cure are also important. It is recommended that you refer to our technical document on joint design.

**Primer:** BILIZO-FLEX<sup>®</sup> PU 30 SL; can be used in concrete joints without primer. However, in any case primer application minimizes the negative effects of possible contamination, concrete moisture and loose materials. You can use the proper BILIZO PRIMER suitable for your surface.

**Sealing cracks:** Repairing the cracks formed and ensuring impermeability is especially important on concrete pavements at airports and highways. BILIZO-FLEX<sup>®</sup> PU 30 SL can be used for such purposes too. Generally it is helpful to saw the cracks to form a groove of minimum 10 mm depth and 6 mm width. Repair after saw cutting is sufficient at places where the cracks are infrequent. In case of severe cracking, coating for narrow cracks and combined sealing for wide cracks are recommended.

**Mixing:** BILIZO-FLEX<sup>®</sup> PU 30 SL consists of two components, namely A and B, and these are packed in proportional mixing ratios.

### Storage

The material must be kept in dry indoor storages. Recommended storage temperature is 10 – 25°C. Stored unopened in these conditions, the shelf life is 12 months.

### Safety Measures

Applicators and supervisors must read Material Safety Data Sheet (MSDS) carefully and observe the considerations written therein. Emptied packages must be handled in compliance with relevant regulations and laws.

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# BILIZO<sup>®</sup> FLEX PU 35

Polyurethane Based Sealant



• **Product Description**

BILIZO<sup>®</sup> FLEX PU 35 one component, polyurethane-based sealant that cures with the humidity. It has excellent adhesion to many plastics, cement-based building materials, bricks, ceramics, glass, wood, galvanized steel, colored steel plate.

• **Uses**

- Filling the joints between structural elements in the construction sector,
  - The laying of roof tiles,
  - The installation of PVC window frames,
  - Building-up wooden doors and window in the space between the wall and frames
  - Joints in the prefabricated building elements,
  - As sealing in rain gutters and joints of rain collecting pipes in roofs
  - In buildings, it can be used in the closure of opened left work share between between the precast concrete blocks.
- Class: meets the requirements of ISO 11600 F 25 LM.

• **Advantages**

- Does not yield, has thixotropic properties.
- There is surface adhesion, dirt-proof.
- Improved storage stabilization.
- It does not pulling.
- Permanent elasticity.
- Can be painted.
- Has the capacity to move %25.
- Bubble-free curing process.
- Within the scope of BS 6920 suitable for use in drinking water systems.

• **Packaging**

Product	Volume	Parcel number
White	310 ml	12
Black	310 ml	12
Grey	310 ml	12
White	600 ml	20
Black	600 ml	20
Grey	600 ml	20



• **Technical Data**

**BEFORE CURING**

Chemical Structure	Polyurethane Based
Form	Thixotropic paste
Curing Mechanism	Curing with moisture
Density	1.20-1,25 g/ml
Surface Drying Time	30-60 dk. (23°C and 50% R.H)
Curing Speed	Min. 2,5 mm/gün (23°C and 50% R.H)
Yielding	0 mm (EN ISO 7390)
Temperature Resistance	-40°C and +90°C
Application Temperature	+5°C and +40°C

**AFTER CURING**

Shore A	34-40 After 28 days
Elastic Recycling	≥70 (ISO 7389)
Colorability	Yes*

\*Taking into account the diversity of quality and paint structures, before the application, pre-test must be done to check compliance of the cured sealant and paint.

**CAM-CAM FUGA**

Elongation at Break	≥ %200 (ISO8339)
E100 Module (23°C)	0,35-0,40 N/mm² (ISO 8339)
E100 Module (– 20°C)	≤ 0,6 N/mm² (ISO 8339)

**PAPYON**

Max. Stress	1,5-2 N/mm² (ASTM D412)
Elongation at Break	≥ %600 (ASTM D412)

• **Application**

- The joint surface must be dry, clean, cleaned of dust and other foreign substances in order to start application.
- Mould oil used in precast panels, the surface must be cleaned before the application.
- In application, joints should be clean-cut, should have equal thickness in anywhere and materials should not overflow the edges. If it is necessary, to ensure the smoothness and cleanliness, the tape can be adhered to both sides of joints which can be removed easily and after application(before curing) they should be removed for the creation of smooth lines.
- Depth/Width ratio should be 2/1 during application (see Table 1).
- In joints; when necessary to provide the desired depth, backer rod should be used.
- During application, there is a risk of creation disorder adhesion of joint material in case of sealants adhesion to three surfaces, only two opposing surfaces sticking must be provided. In such cases, between joint sealing material and surface or filling fuse, materials which prevents adhesion(bond breaker) should be placed.

**Approximately Consumption:**

Joint Width	15 mm	20 mm	25 mm	30 mm	35 mm
Joint Depth	8 mm	10 mm	12 mm	15 mm	15 mm
Joint Length / 600 ml	5 meter	3 meter	2 meter	1,3 meter	1,1 meter

Table 1

NOTE: Below +5°C and above +40°C temperatures should be avoided. It should not be applied to wet, frozen and grounds which have water constantly.

• **Storage**

When stored in original, unopened packaging and dry conditions, away from sunlight, it is 12 months from date of production between +10°C - +25°C.

• **Safety Measures**

Follow about the product Material Safety Data Sheet (MSDS) according to arranged EU directives.

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# BILIZO<sup>®</sup> FLEX 100

Silicone Joint Sealant For General Purpose Applications



• **Product Description**

BILIZO<sup>®</sup> FLEX 100 is an one-component acetoxycure silicone sealant for a range of general sealing and glazing applications. It provides a strong adhesion and suitable for use on common non-porous building materials.

• **Uses**

- Sealing around windows and doors,
- Sealing in DIY applications,
- On bathroom, kitchen and plumbing applications,
- Connection and expansion joints on glass, porcelain, steel etc.
- Sealing electric, telephone etc. sockets and switches.

• **Packing**

Product	Volume	Package
Transparent, White, Black, Aluminum, Grey, Brown, Golden Oak	280 ml	24
White, Transparent (Sausage)	80 ml	36
White, Transparent (Tube Blister)	50 gr	24/192

• **Consumption**

Consumption changes according to size of the joint.

• **Advantages**

- Stays permanently elastic after curing,
- Remains flexible in low and high temperatures,
- Resistant to temperature extremes,
- Resistance to aging, cracking and discoloring,

• **Technical Data**

Basis	Silicone Polymer
Curing System	Acetoxycure
Density	0.96 – 0.98 g/ml (ASTM D 792)
Shore A Hardness	15-25 (after 28 days)
Skin formation	8-20 min. (23°C and 50% R.H)
Curing Rate	Min. 2.5 mm/day (23°C and 50% B.N.)
Tensile Strength	≥ 0,7 N/mm <sup>2</sup> (ASTM D412)
Elongation At Break	≥ 350% (ASTM D412)
Sagging	0 mm (ISO 7390)
Application Temperature	+5°C +40°C

• **Application**

**Surface Preparation**

Following cleaning Procedure and materials are recommended:

Glass	Degrease with alcohol or MEK
Aluminium, light alloys and stainless steel	Degrease with alcohol or MEK
Other Metals	Lightly abrade then degrease as above
Wood	Lightly abrade surface then remove dust
Plastics	Degrease using an agent recommended by plastics manufacturer

• **Instructions**

- Ensure that surfaces to be sealed are clean, dry and grease free.
- The application temperature must be between +5°C and +40°C.
- In order to reduce the deformations of the joints, their depth must be much less than their width, minimum dimensions are 5x5 mm, for wider joints the depth should be preferably half of the width and it is adjusted by the use of a backup material.
- After the application, the sealant must be tooled with light pressure within 5 minutes to spread the material against the joint surfaces and to obtain a professional finish.
- Excess uncured sealant may be cleaned with solvent. Cured sealant can be removed mechanically.
- 6 mm. joint depth is recommended for joint widths between 6 mm to 12 mm.
- Joint width and depth ratio should be about 2:1.

**Standards**

Meets or exceeds the requirements of the following specifications:

- The requirements of VOC content specifications in LEED credit EQc4.1
- “Low-emitting products” of SCAQMD rule 1168.
- CE marked for EN 15651 for façade, glazing and sanitary applications.

**Restrictions**

- It must not be used in totally confined spaces where sealant cannot cure due to lack of atmospheric moisture.
- Not recommended to use on porous surfaces like marble, natural stone, concrete etc.
- Because of acidic curing, it must not be used on mirrors and sensitive metals like copper, brazen, lead.
- Not over paintable.
- Do not use in conjunction with bitumen asphalt, neoprene and certain organic elastomers.
- It is not suitable for food contact applications.
- Do not contact with water.
- Avoid from direct UV.
- Can yellow if exposed to bleach or HCL based brick cleaners whilst curing.

**Consumption (approx.)**

Joint Width	6 mm	9 mm	12 mm
Joint Depth	6 mm	6 mm	6 mm
Efficiency /310 ml	8 meters	6 meters	4 meters

• **Storage**

The shelf life is 18 months if stored in unopened-original package in a dry place at temperatures between +5°C and +25°C.

• **Safety Measures**

Check MSDS guidelines for disposal and further information concerning safety.

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# BILIZO<sup>®</sup> FLEX 150

Acrylic Joint Sealant For General Purpose Applications



• **Product Description**

BILIZO<sup>®</sup> FLEX 150 is one-component acrylic emulsion based sealant reinforced with silicone emulsion. It has superior adhesion and good elasticity.

• **Uses**

- Sealing of low movement joints between various construction materials (wood, concrete, brick etc.)
- Sealing joints between windows, walls, doors etc.
- Filling cracks in walls and on ceilings.

• **Consumption**

Consumption changes according to size of the joint.

• **Packaging**

Product	Volume	Package
White	310 ml	24

• **Advantages**

- Its siliconized structure, makes it possible to handle movement up to 15%,
- Water based & Non-toxic,
- Very low VOC content,
- Water-proof after curing,
- Over paintable,
- Very easy to apply and clean,
- Can be used on all porous surfaces such as brick, concrete, wood etc.
- No odour.



• **Technical Data**

Basis	Acrylic Dispersion
Consistency	Smooth paste
pH	7-8
Specific gravity	1,60 ± 0,03 gr/cm³ (ASTM D 792)
Tack-Free time	50 ± 20 min (23°C and 50% R.H) (ASTM C 679)
Curing Rate (mm/day)	2 mm/day (23°C and 50% R.H)
Shore A hardness	30-50 Shore A
Ultimate elongation	≥300% (ASTM D 412)
Temperature resistance	-10°C to +80°C
Application Temperature	+5°C to +40°C

• **Application**

**Surface Preparation**

Following cleaning Procedure and materials are recommended:

Glass	Degrease with alcohol or MEK
Aluminium, light alloys and stainless steel	Degrease with alcohol or MEK
Other Metals	Lightly abrade then degrease as above
Wood	Lightly abrade surface then remove dust
Plastics	Degrease using an agent recommended by plastics manufacturer
Concrete and other alkaline Surfaces	Brush and remove dust

• **Instructions**

- The joints must be clean and free from dust, grease and rust.
- No primer is required for non-porous surfaces. On porous surfaces such as concrete, stone, cement and plaster a primer (mixture of one part acrylic sealant and 4-5 parts of water) can be applied.
- Min/max joint width must be 5mm/25mm. The recommended joint depth/width ratio is 1 to 2. Application temperature is between +5°C and +35°C.
- Immediately after the application, smooth the sealant at once with wet finger or a wet tool.
- Excess sealant can be removed by a wet cloth.
- Keep the sealed joint dry at least for two hours.
- Cured sealant can be removed mechanically.

**Standards**

Meets or exceeds the requirements of the following specifications:

- The French VOC requirements for class A+
- CE marked for EN 15651 for façade.
- The requirements of VOC content specifications in LEED credit EQc4.1 “Low-emitting products” of SCAQMD rule 1168.

**Restrictions**

- It must not be used in totally confined spaces where sealant cannot cure due to lack of atmospheric moisture.
- Should not be applied for sealing joints permanently exposed to water.
- It should not be applied in case of risk of rain or frost.

**Consumption (approx.)**

Joint Width	5 mm	10 mm	15 mm	20 mm	25 mm
Joint Depth	3 mm	5 mm	8 mm	10 mm	12 mm
Efficiency /310 ml	20 meters	6 meters	2,5 meters	1,5 meters	1 meters

• **Storage**

The shelf life is 15 months if stored in unopened-original package in a dry place at temperatures between +5°C and +25°C.

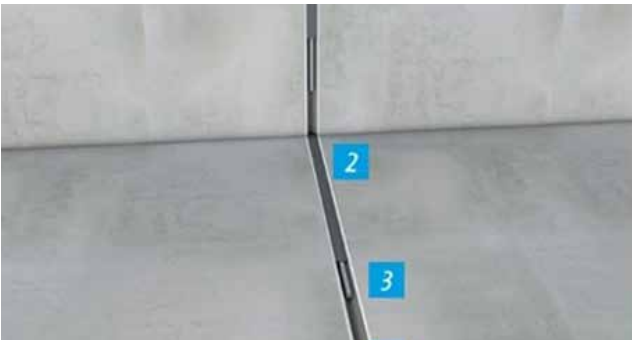
• **Safety Measures**

Bears no imminent risk to health. Check MSDS guidelines for disposal and further information concerning safety..

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# BILIZO<sup>®</sup> POLYFLEX

Joint Filling Material for Horizontal Joints



• **Product Description**

It is a polysulphite based, two component fully elastic, smooth joint applied to horizontal joints.

• **Uses**

- BILIZO<sup>®</sup> POLYFLEX is a permanent sealing material for expansion and connecting joint in structural building. Its excellent resistance to ageing and weathering makes it ideal for the use on the following objects.
- Joints in suspend building elements,
  - Terraces, balconies,
  - Joints in traffic surfaces,
  - Chemically resistant, oil refineries,
  - Roads, pavements, airport runways,
  - Cargo areas,
  - Forecourts and parking areas.

• **Packaging**

It is supplied 4 kg. two componen packs.

• **Advantages**

- Cold applied - no heating equipment required
- Fuel oil and hydraulic fluid resistant
- Self levelling
- Tough rubbery seal unaffected by climatic variations.

• **Technical Data**

Renk	Black
Form	Pourable
Density	1,50 kg/lt
Solid Ratio	%99
Hardness Shore	15-20
Movement	± %25
Cure Times	12 - 24 hour
Pot Life	25 min 45 min
Application Temperature	+5° - + 40°C
Working Temperature Range	- 40°C ~ + 120°C
Curing Product	Mangandioksit
Bond Experiment	No separation and rupture
Original Penetration	0,9 mm.
Solvent Penetration	0,7 mm.
Leaking	No
Solubility	% 0,36
Elongation at Break	%400

JOINT WIDTH(cm)	JOINT DEPTH (cm)	COVERAGE (kg/m)
0,5 – 1	0,5 - 1	0,040 - 0,150
1 – 2	1 - 1	0,150 - 0,300
2,5 – 5	1,25 - 2,50	0,450 - 1,800

• **Application**

All joints should be completely dry and free from all of dirt, dust and grease. Cleaning maybe carried out by sand/gritblasting. All joints should be completely dry, oil free compressed air to remove loose matter. After cleaning the joints faces should be primed. Stir the contents of pack B and add the entire contents to pack A and stir for a full five minutes using electric drill. Pour or gun apply immediately into joint.

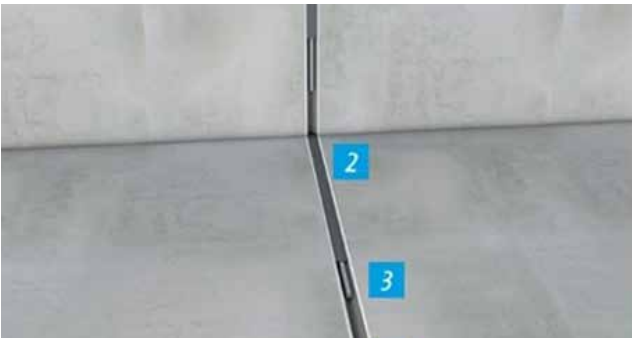


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# BILIZO<sup>®</sup> POLYFLEX T

Joint Sealant (Non Sag Type)



• **Product Description**

Two component joints sealant of permanent elasticity based on polysulphide for structural building.

• **Uses**

- BILIZO<sup>®</sup> POLYFLEX T is a permanent sealing material for expansion and connecting joint in structural building.
- Its excellent resistance to ageing and weathering makes it ideal for the use on the following objects.
- Joints in facades,
- Joints in suspend building elements,
- Terraces, balconies,
- Sealing of window constructions,
- joints in traffic surfaces,
- Prefabricated housing, metal constructions,
- Chemically resistant, oil refineries,
- Roads,pavements,airport runways.

• **Packaging**

BILIZO<sup>®</sup> POLYFLEX T is supplied 3.5 kg. two component packs

• **Advantages**

- It is applied to the desired vertical joints that need waterproofing.
- Resistant to oil, chemical substances, aqueous acid, caustic and UV.
- It sticks to concrete with perfect adherence and fully elastic.
- Long-lasting, polysulfide-based adhesives that were applied thirty years ago still retain their perfection and elasticity.
- The applied paste maintains its characteristics in temperature and weather conditions between -40°C and + 90°C.

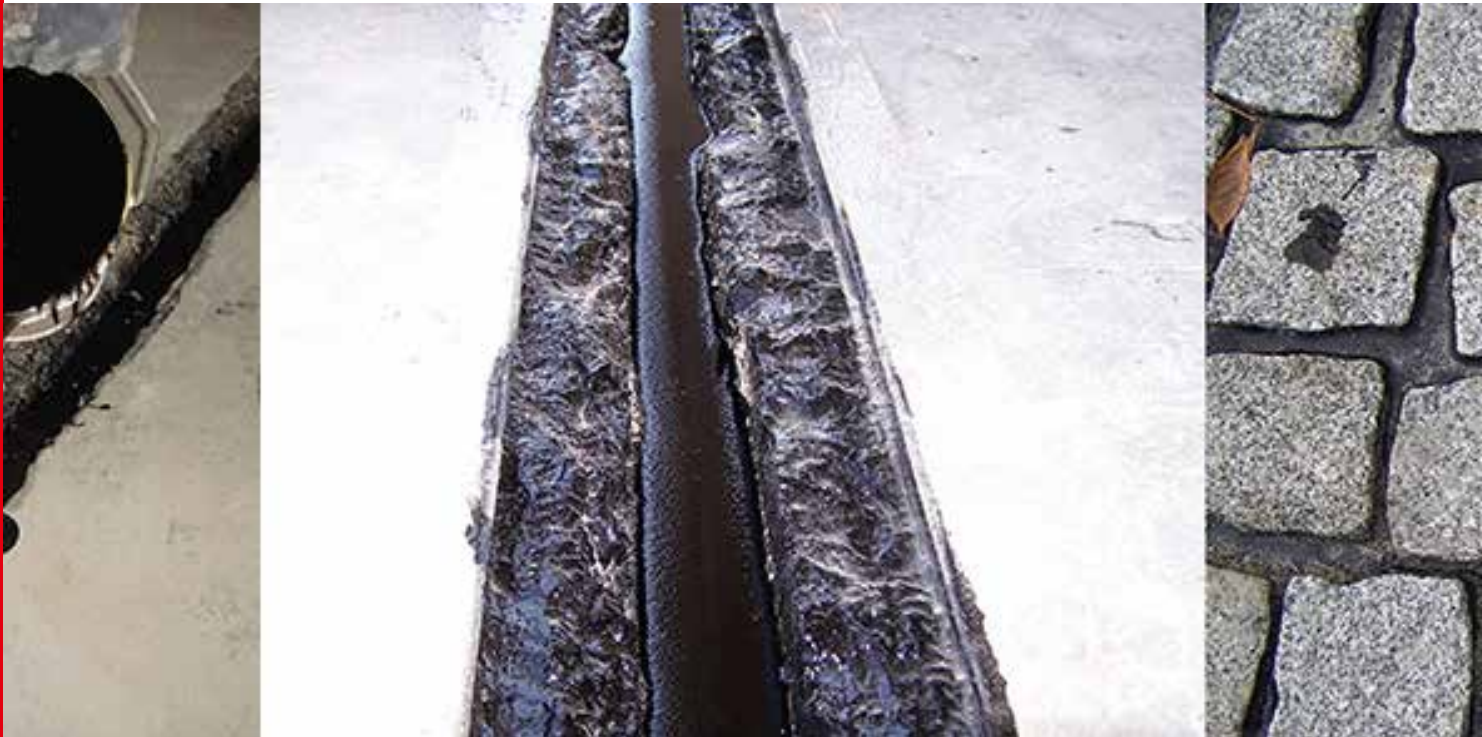
• **Technical Data**

Color	Black, grey, white and RAL colors
Form	Pate
Mixed Denstity	1,60 kg/lt
Solids Content	%99
Hardness Shore	25-40
Movement	%25
Cure Times	12 - 24 hours (depends on temperature)
Pot Life	15 min. ~ 3 hours (depends on temperature)
Service Temperature	- 40 C ~ + 90 C

JOINT WIDTH(cm)	JOINT DEPTH (cm)	COVERAGE(kg/m)
0,5 – 1	0,5 - 1	0,040 - 0,160
1 – 2	1 - 1	0,160 - 0,320
2,5 – 5	1,25 - 2,50	0,500 - 2,000

• **Application**

All joints should be completely dry and free from all trances of dirt, dust and grease. Cleaning maybe carried out by sand/ grit blasting. All joints should be completely dry, oil free compressed air to remove loose matter. After cleaning the joint faces should be primed. Stir the contents of pack B and add the entire contents to pack A and stir for a full five minutes using electric drill. Pour or gun apply immediately into joint.



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# BILIZO® MORTAR

Coving and Repair Mortar with High Strength



### Product Description

It is a high strength repair and coving mortar which is cement based, polymer-reinforced, containing silica fume.

### Uses

- Repair and finishing the concrete surfaces,
- Providing sound and waterproof layer on concrete surfaces under epoxy coatings in industrial plants,
- Repair of the defects on the concrete surfaces before waterproofing application,
- Surface leveling of repaired parts with repair mortars,
- Repair of wall and ceiling plasters,
- Surface leveling of concrete elements with surface defects.



### Consumption

To obtain a 1 mm thickness, approximately 1,72 kg/m² powder product should be used.

### Advantages

- It only mixes with water.
- It provides a smooth surface finish.
- It is applied easily and without any crack in broad surfaces.
- It is highly thixotropic.
- It is water-proofed.
- It is resistant against the freezing-thawing cycle.
- It provides perfect match under paint because of its white color.
- It provides high adhesion to concrete and plastered surfaces.
- It does not shrink.

### Packaging

25 kg in paper package with polyethylene reinforcement.



### Technical Data

Material structure	It contains mineral fillings, fibers and special cement with polymer reinforcement.
Color	
Pressure Resistance (TS EN 196)	
1 Day	20 N/mm²
7 Days	35 N/mm²
28 Days	40 N/mm²
Bending Resistance (TS EN 196)	
28 Days	9 N/mm²
Sticking Resistance (TS EN 1542)	
To Concrete (28 Days)	2 N/mm²
Application Thickness	Min. 1mm max. 5mm
Density	~ 1,85 gr/cm³
Application Floor Temperature	+5°C to +30°C
Service Temperature	-20°C to +80°C
Use Time (+20°C)	45 minutes
Full Curing Time (+20°C)	28 days

PS: The informations above is given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

### Application

**Preparation of Surface:** Application surfaces should be free of any damage and all kinds of dust and dirt. BILIZO group repair is used in surfaces which require deep repair. The surface should be slightly damped.

**Preparation of Mixture:** Approximately 190 gr of water should be used for 1 kg of BILIZO® MORTAR. Pour the amount of water into a clean mixing container according to the ratio. Open the package and add slowly BILIZO® MORTAR into the water while stirring for about 3 to 4 minutes by a 400 to 600 rpm mixing drill until homogeneity is obtained. No aggregates should be left in the material. After the material is rested for about 3 minutes, stir again for 1 minute and make ready for application. Approximately 4,75 lt of water should be added to the 25 kg paper package. Mixing density is 2,10 kg/lt.

**Surface Application:** Apply the prepared mixture with trowel at once with a thickness of 1 to 5 mm. After the mortar draws itself, sprinkle water to the surface and smooth the surface with a sponge, wooden or steel trowel. The material remains usable in the container for 30 minutes in +20°C temperature. This time period decreases as the temperature rises. The material should be applied immediately after it is mixed. Newly applied surfaces should be protected against direct sunlight and extreme wind.

### Storage

It should be stored in its original unopened package in a cool and dry environment protected against freezing. For short-term storing, a maximum of 3 pallets should be piled one over another and their shipment should be carried out by the “first in, first out” system. For longer term storing, pallets should not be piled at all. Its life is 12 months from its production date in proper storage conditions. Opened packages should be closed firmly and consumed within 1 week

### Safety Measures

Please refer to the Material Safety Data Sheet (MSDS) for detailed information.



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# BILIZO® MORTAR FIX

Epoxy Resine Based,Repair,Anchorage and Mountaing Mortar



• **Product Description**

BILIZO® MORTAR FIX ; is a two component anchorage, building up and repair mortar.

• **Uses**

- Building up of all kind of iron ore and anchorage
- Repairing and insolation of cracks
- Repairing of all structural concretes
- Excellent adhesive of metal parts to concrete or steel.

• **Packaging**

BILIZO® MORTAR FIX; is supplied in 5 kg pails. (A component is 3,75 kg and B component is 1,25 kg)

• **Consumption**

1,7 kg/m² applied for 1 mm thickness.

• **Advantages**

- Solvent free
- Easy to use
- High mechanical strength
- Waterproofing
- Adhesive to moist surfaces
- Excellent adhesive to concrete and steel



• **Technical Data**

PROPERTIES	RESULT
Composition (A component)	Epoxy Resine
Composition(B component)	Epoxy hardener
Color	Grey
The Mixed Density	±0,05 kg/litre
Chloride Ion Content	≤ %0,05
Glassy Transition Temperature	≥ 45°C
Application Thickness	Min. 2 mm, max. 30 mm
Duration Of Use Mixed Product	40 dk. (20°C)
Time to Get Full Strength	7 days
Adhesion Strength(On concrete)	3 N/mm²
Adhesion Strength(On steel)	3,5 N/mm²
Compression Strength(1 day)	30 N/mm²
Compression Strength(7 day)	75 N/mm²
Temperature	-15°C +90°C
Flexural Strength(1 day)	17 N/mm²
Flexural Strength(7 day)	25 N/mm²

PS: The informations above is given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

• **Application**

**Surface Preparation**

Cement based surfaces should be free of any contamination. Metal surfaces should be free of any corrosion and dirt.

**Application**

BILIZO® MORTAR FIX; can be applied by spud and spatula. The holes maked for iron ore should be cleaned by air and the holes also should be 6 mm larger than the fittings. This product can easily applied by mortar gun.

**Mixture**

Two component should be mixed by mixture for 3 min. While mixing, be sure that product temperature is between 15-25°C.

**Mixture ratio:** A Component 3,75 kg(epoxy resine)  
B Component 1,25 kg (epoxy hardener)

• **Storage**

Store the product in a cool and dry place. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

**Cleaning the Equipments**

Clean the equipments with detergent hot water.

**Warning**

BILIZO® MORTAR FIX should be mixed in a proper cup. Never mixed by hand or sput. Curing time of epoxy based products based on temperature. Optimum application temperature is 10-20°C. Do not add any water or othr new material to the mixture.

• **Safety Measures**

Application areas should be vebtilated. Hands and eyes must be protected with gloves and protective glasses, proper work clothes and mask must be weared. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Keep away from children.

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# BILIZO® MORTAR THIX

Cement-Based, High Strength, High Resistant Structural Repair Mortar



### Product Description

It is a high strength repair mortar which is cement based, single component, fiber-supplemented and thixotropic. It complies with the Ministry of Public Work pos number 04.613/3b – EN 1504-3 standard/R4 class.

### Uses

- Repair of high strength load-bearing concretes,
- Chamfering in joints,
- Repair of concrete floors,
- Coating concretes for protecting them against the influence of sulphate and chloride,
- Repair of tie-rod holes and drilling holes.

### Packaging

25 kg in paper package with polyethylene reinforcement.

### Consumption

To obtain a 1 mm thickness, approximately 1,72 kg/m<sup>2</sup> powder product should be used.

### Advantages

- It only mixes with water.
- It provides adhesion to concrete and fittings.
- It has high pressure resistance.
- It has highly thixotropic.
- It is water-proofed.
- It is resistant against the freezing-thawing cycle.
- It does not require primer.
- It does not shrink.
- It gets strong quickly.
- It is resistant against chloride, sulphate and oils.



### Technical Data

Material structure	It contains mineral fillings, fibers and special cement with polymer reinforcement.
Color	Grey
Pressure Resistance	Class R4
Chloride Ion Content	≤ %0,05
Bonding formed	Class R2
Classified Contraction / Expansion	Class R2
Resistance to Carbonation	dk ≥ control concrete MC 0,45
Elasticity Module	Class R4
Application Thickness	Min.10mm – max. 40 mm
Application Floor Temperature	+5°C +30°C
Service Temperature	-20°C +400°C
Use Time (+20°C)	30 minutes
Time to Walk on it (+20°C)	24 hours
Full Cure Time (+20°C)	28 days
Compressive Strength (TS EN 196)	
1 day	24 N/mm <sup>2</sup>
7 day	50 N/mm <sup>2</sup>
Flexural Strength (TS EN 196)	7 N/mm <sup>2</sup>
Adhesion Strength(TS EB 1542)	
On Concrete	2 N/mm <sup>2</sup>

PS: The informations above are given according to +23°C and 50% humidity. High temperatures shorten the curing time and low temperatures increase the curing time.

### Application

**Preparation of Surface:** Application surfaces should be free of any damage and all kinds of dust and dirt. Surfaces which are broken for repair should be steepened as much as possible. Water should be drained away from surfaces which are extremely wet or with water accumulation. Dry surfaces should be damped slightly.

**Preparation of Mixture:** The amount of water described on the package is poured into a clean mixing container. BILIZO® MORTAR THIX package is opened and it is slowly added into the water and also stirred for about 4 minutes by a 400 to 600 rpm mixing drill until homogeneity is obtained. No aggregates should be left in the material. After the material is rested for about 30 seconds, it is again stirred for 1 minute and made ready for application. Approximately 190 gr of water should be used for 1 kg of BILIZO® MORTAR. Approximately 4 lt of water should be added to the 25 kg paper package. Mixing density is 2,25 kg/lt.

**Surface Application:** The prepared mixture should be placed into the molds or cut surfaces in a single pouring so as not to exceed 4 cm. Care should be taken so that no air gaps are left in the mold while placing. Therefore the material should be placed into the space within the mold through a trowel or steel rod. No vibrator should be used. Molds should not be taken away before 24 hours and the material surface should be protected by damp sacks or curing material in the case of extreme wind or heat. The mortar surface should not be watered during drying. The material remains usable in the container for 30 minutes in +20°C temperature. This time period decreases as the temperature rises. The material should be applied immediately after it is mixed.

### Storage

It should be stored in its original unopened package in a cool and dry environment protected against freezing. For short-term storing, a maximum of 3 pallets should be piled one over another and their shipment should be carried out by the “first in, first out” system. For longer term storing, pallets should not be piled at all. Its life is 12 months from its production date in proper storage conditions. Opened packages should be closed firmly and consumed within 1 week.

### Safety Measures

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# BILIZO® GROUT

Cement-Based, High Strength Grout Mortar



### Product Description

BILIZO GROUT is cement, high strength, non-shrinking, self-compacting grout.

### Uses

- ✦ In the manufacture of curtains and column headers
- ✦ In the assembly of prefabricated concrete structural elements
- ✦ Power plants
- ✦ Fixing the base of steel column
- ✦ All kinds of industrial machinery, generators, compressors and pumps for fixing
- ✦ Reinforced concrete and steel coil(heat insulation) filling the gaps that are left is used for applications in a controlled manner.

### Packaging

25 kg polyethylene reinforced paper bags.

### Consumption

About 160 g of water for 1 kg bilizo grout should be used. 4 lt per 25 kg bag is sufficient. Mixture density 2,20 kg/lt. In order to achieve 1 cm thickness of approximately 19 kg/m² should be used with powder products.

### Advantages

- ✦ Alone mixed with water is poured into the mold and easy to apply.
- ✦ Provides high adhesion to concrete and the reinforcement.
- ✦ Has a high compressive strength.
- ✦ Freeze-thaw cycle resistant
- ✦ High fluid properties.
- ✦ Do not vomit water, plastics, and expanded in the early hardening phase.
- ✦ The physical properties of the weather conditions during the service period does not change.
- ✦ Impermeable to water, resistant to chlorine,sulfate wastes,oils.
- ✦ Does not shrink.



### Technical Data

Chemical Structure	Contains mineral fillers and special polymer reinforced cement.
Color	Grey
Compressive Strength	(TS EN 196)
1 day	30 N/mm²
7 day	50 N/mm²
28 day	60 N/mm²
Flexural strength(28 days)	(TS EN 196) 8 N/mm²
Adhesion Strength	(TS EN 1542)
Concrete(28 days)	2,00 N/mm²
Steel(28 days)	2,00 N/mm²
Modulus of elasticity(28 days)	2000 N/mm²
Application Thickness	min. 10 mm-max. 40 mm
The Temperature Of The Ground To Be Applied	+5°C +30°C
Service Temperature	-20°C +400°C
Time of use(+20°C)	45 mins
To be able to walk on time(+20°C)	24 hours
Full Cure Time (20°C)	28 days

Note: The above values are given for the +23°C and 50% relative humidity. High temperatures can shorten the duration of low temperatures will extend it.

### Application

**Surface Preparation:** Before the machine is placed in concrete grout coming loose and damaged areas should be cleaned surfaces should be roughened. Nuts and bottom surface of the contaminated oil, grease and dust, impurities must be cleaned of all kinds which could affect performance. The base plate must be previously opened the vent holes. Machinery placed l°Cation and scale should be set, then the position must not be changed at all. Setting blocks (shims) to be removed later, should be lightly oiled to prevent sticking of grout. After the installation and tuning of the machine runs for 6 hours before grouting cast concrete foundation should be saturated with water.

**Mixing Procedure:** An appropriate amount of water described above is poured into a clean mixing mold package. BILIZO GROUT bag was opened and water is added slowly while mixing the grout at a speed approximately 3-4 min until homogeneous 400-600 is stirred with the drill, the material should not be lumps. Up again after being rested for 3 minutes and mixed for 1 min the material is ready for application.

BILIZO GROUT bag is opened and water is added slowly while mixing the grout at a speed approximately 3-4 min until homogeneous 400-600 is stirred with the drill, the material should not be lumps. Up again after being rested for 3 minutes and mixed for 1 min the material is ready for application.

**Surface Application:** Molds, grout will not absorb water and leakage of solid material will be made during the operation so as to withstand the forces must be installed to meet. On the losing side of the base plate grout between the casting and the mold cavity in the edge of 5 cm should be left. To give pressure into grout for spreading, the height of the mold according to the situation on the side of the casting should be considered. It may take such measures such as lubricate the surface of the concrete foundation, the first batch of castings normally make a slurry containing more than 5% water, using equipment such as pipes, pump or make pressure until 1,5 m for filling very large plaques. The edges of the plates to prevent leakage and pressure loss should be without spaces. If necessary, the machines until receives grout plug at +20°C should not be run for at least 10-12 hours. Prepared grout surface thickness to be at least 10 mm from one floor to be poured continuously by only one of the mold. A thickness of 4-5 cm should not be exceeded in large areas, but depending on the details of casting the grout, thicker applications can be performed on the floor 2 or 3. Stone crushing aggregate to be used should be chosen as the no. 1, 5-16 mm in diameter should be cleaned and washed prior to application. The air within the mold to avoid pinching, a two-sided breakdown should be avoided. In order to fill all the gaps in the mould,the steel is made to the placement of the tip of the hook should be made using a wire. After the application, the plates for 18-24 hours should not be taken. Wide range of surfaces open to the atmosphere, especially on hot, dry and windy environments with wet burlap or water for 24-48 hours and the ingredients must be protected against rapid evaporation setup. Adjustments wedges should not be taken before 2 days. After receiving the machine business, the loosening of the nuts and bolts should ve checked and if necessary, must be tightened.

### Storage

12 months from date of manufacture under appropriate storage conditions. Enclosed by the mouth of the opened packages should be consumed within 1 week. Unopened in its original packaging in a cool, dry environment, should be stored protected from frost. Short term storage of more than 3 pallets should be placed on top, and the first-in, first-out system should be shipping with. Should not be placed on top of pallets in long-term storage.

### Safety Measures

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® SHOCK

Cement-Based Rapid Sealing and Repair Mortar



• **Product Description**

It is a ready-to-use mortar which is designed for all kinds of rapid assembly and repair works, containing special mineral fillings and bindings and which can rapidly seal active water leakages.

• **Uses**

- Rapid sealing of active water leakages,
- Repair of cracks on plaster and concrete before waterproofing,
- Bevels in concrete joints of edges and corners,
- All kinds of rapid assembly and repair works.

• **Packaging**

BILIZO® SHOCK is packaged in a 7 kg plastic pail.

• **Consumption**

Variable.

• **Advantages**

- Mixes only with water, easily prepared and applied.
- Applicable to all concrete surfaces.
- No priming required.
- No shrinking.
- Rapidly growing resistant. Waterproofing is possible in 10 minutes.
- High adhesion resistance.



• **Technical Data**

Material Structure	Special cement and mineral fillings
Color	Gray
Pressure Resistance 30 minutes	10 N/mm²
24 hours	20 N/mm²
28 days	50 N/mm²
Application Thickness	20 mm – 30 mm
Temperature Resistance	-20°C – +80°C
Setting Time	6-10 mins (It depends on the environmental conditions.)

• **Application**

**Preparation of Surface:** The application surface should be cleaned of all residual oil, grease, corrosion, paraffin, paint and bitumen which may prevent adhesion. Repair and sealing clearance depth should be 20 mm opened vertically.

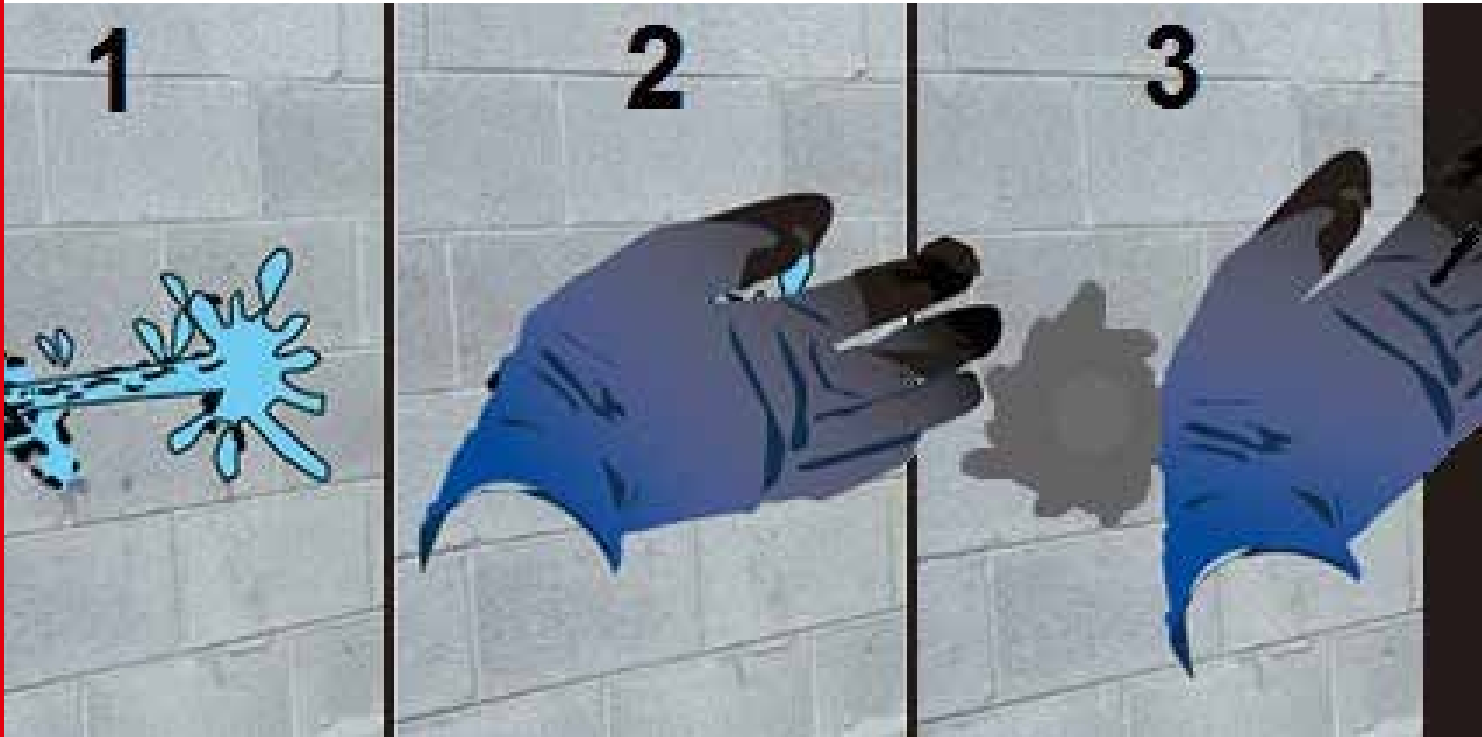
**Preparation of Mixture:** Clean water in the stipulated rate of mixture is put into a mixing container. One pail (7 kg) of BILIZO® SHOCK bag is opened and added into the water. It is rapidly mixed using gloves and it is applied rapidly in paste thickness. As the material sets quickly, care should be taken in the amount of materials to be mixed.  
Mixture Rate: 1,8 lt-2 lt of water should be used for 1 pail (7kg) BILIZO® SHOCK.

• **Storage**

It should be stored in its original unopened package in a cool and dry environment protected against freezing. For short-term storing, a maximum of 3 pallets should be piled one over another. For longer term storing, pallets should not be piled at all. Its life is 6 months from its production date in proper storage conditions. Opened packages should be closed firmly and consumed within 1 week.

• **Safety Measures**

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# BILIZO® BARRIER

Epoxy Modified Cement Based Surface Correction and Repair Filler



### Product Definition

BILIZO® BARRIER is an epoxy modified cement based, three component, moisture barrier forming, surface repair and repair mortar.

### Application Areas

- Roof, balcony, terrace,
- Water insulation of foundation and concrete shear wall,
- Indoor of flower beds, waste water and eaves trough, concrete flumes,
- Tunnels, underpass and overpass,
- Trick beds,
- Aircraft hangar floors,
- Petroleum refineries and petrochemical industries ,
- As a anticorrosive and protective coating for steel structure of steel silos indoors, ports facility, ships, chemical industry.

### Usage and Consumption

It is applied with a consumption of about 2 kg / m² for 1 mm thickness.

### Advantages

- Provides excellent adherence to moist surfaces.
- It can be coated with epoxy coatings without long waiting times.
- It is applied without primer
- Water impermeable.
- Freeze - thaw cycle resistant.
- Solvent free.

### Package

20,60 kg set  
Component A: 1.30 kg tin box  
Component B: 2.30 kg plastic drum  
Component C: 17.00 kg stitched bag



### Teknik Veriler

Structure of Material	Mineral fillers include polymers and epoxy modified cement.
Color	Grey
Mixture Density	2,00 kg / liter
* Pressure Resistance (28 days) (TS EN 196)	> 25 N / mm & lt; 2 & gt; gt;
Adhesion Strength (Betona) (28 days)	> 1.5 N / mm 2
Application Thickness	Min. 0.5 mm Max. 3.0 mm
Operating Time (+ 20°C)	30 minutes
Re-coatability (+ 20°C)	18-24 hours
Full Curing Time (+ 20°C)	28 gün

**\*Typical values:**At + 23°C, experiments with 4x4x16 cm mortar prism at 50% relative humidity were obtained. High temperatures shorten the time, low temperatures extend the time.

### Application

#### Surface Preparation:

Repaired structures cement-based surfaces of a solid, carrier, dust-free and must be clean. The surface should be thoroughly cleaned of any oil, grease, rust and paraffin residues that will weaken the adherence.

The iron and wooden blocks on the surface should be removed and the gaps up to 4 cm deep should be filled with BILIZO® MORTAR THIX. The application surface should be slightly moistened but free water should not remain on the surface.

#### Mixing:

Components A and B should be poured into a clean mixing bucket and mixed with a low speed mixer for 2 minutes. Subsequently, component C is slowly added and mixed with a 400-600 rpm agitator for 3-4 minutes until a homogenous, lumpless mixture is obtained. After resting for about 3 minutes and mixing again for 30 seconds, material handling becomes ready. No water should be added during and after mixing.

#### Mixing Ratio:

BILIZO® BARRIER	Component A	Component B	Component C
Mixing ratios	1,30 kg	2,30 kg	17,00 kg
Mixing density	2,00 kg/liter		

### Method of Application:

The prepared mortar is applied with a trowel so that the thickness of the surface will be between 0,5 mm and 3 mm. The maximum application thickness must not exceed 3 mm on a single layer. The application thickness may be 5 mm if the small area is being operated. The surface can be smoothed with a steel trowel to obtain a smoother surface. Wide surfaces that open atmosphere , especially hot, dry or windy places, should be protected from external influences like rain for 24-48 hours after application.

### Considerations:

- Repair mortar must be applied within 30 minutes at temperature of + 20°C or 20 minutes at + 30°C.
- Working and reaction times of cement and epoxy based systems are affected by ambient and substrate temperature and relative humidity in the air. At low temperatures, the hydration slows down, which extends the pot life and working time. High temperatures accelerate hydration, and the above times are shortened accordingly. In order to the material to complete curing, the ambient and ground temperature must not fall below the minimum permissible temperature.
- In external surface applications, the surface must be protected from sun, wind, rain or water for the first 24 - 48 hours after application.

### Cleaning of Tools:

Tools and equipment used after application should be cleaned with solvent. After BILIZO® BARRIER has hardened, it can be mechanically cleaned from the surface.

### Storage

12 months from date of manufacture under appropriate storage conditions. Opened packages should be stored within convenient storage conditions and should be used within one week.

### Safety Information

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. Case of eye or skin contact, rinse with plenty of water for the material and consult a doctor immediately. Adequate ventilation is required during the application. Keep away from children. Please refer to the Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO® BINDER

Acrylic Dispersion Based, Participate In Cement Mortar Additives



### Product Description

Acrylic dispersion based, increase the impermeability and adhesion which are used in plaster and alum, multi-purpose binding additive.  
Public Works Pose No:04.6131-i

### Uses

- The production of precast concrete,
- Preparation of base coat in coating mortar in alum.
- Vertical and horizontal applications in interior and exterior spaces,
- As an water resistance additive in mortars, plasters and alums,
- Upon gas-concrete with smooth and shiny surface,
- Before the application of liquid and ceramic, it can be used as additive in mortars which is prepared for natural stone, brick, tile plates as preparer of surface,
- To improve in adherence and prevent the formation of cold joints over old concrete, new concrete or flap applications,
- It is used as adherence additive in repair mortars

### Consumption

It is variable according to area.

### Advantages

- It provides excellent adhesion and elasticity.
- Improves resistance to water, oil and salt solutions.
- It provides resistance to saponification, does not contain additives that cause corrosion.
- Creates a strong and lasting bond.
- It increases resistance to freeze-thaw cycle.
- Provides water impermeability.
- A high resistance against chemical and mechanical attacks is obtained.

### Packaging

BILIZO® BINDER is presented in 10 kg and 30 kg plastic drums.



### Technical Data

The structure of the Material	Modified Polymer Dispersion
Colour	White
Density	1,05 ± 0,05 kg/lt
pH	6,0 ± 1,05
Temperature of the Service	-20°C + 80°C
Temperature of the Application	+5°C + 35°C

### Application

#### Preparation of the Surface:

Cement based surfaces have to strong, bearing, dustless, and clean. Surface must be cleaned off all kinds of oil, grease, rust, and paraffin traces that can weaken adherence. The sides of the surface, which are formed by breaking, must be cut as straight as possible, rust on the reinforcement must be cleaned, and new reinforcement must be added if necessary. If there is water leak on the surface, it has to be drained or sealed by a suitable stopper. Application surface has to be watered 12 hours before, but there must not be any free water left on the surface.

#### In Plaster Mortars

1 m3 washed river sand in suitable gradation is mixed with 350 kg cement. Liquid mixture, pr pared by adding 5 kg BILIZO® BINDER into 120 kg water, is added onto powder mixture until trowel consistency mortar is obtained. Surface must be wetted, 12 hours before application and BILIZO® BINDER admixture mortar has to be applied on wet/dry surface.

#### P.C.C. (Polymer Cement Concrete) Primer in Grouts

It is used to prevent cold joint formation and increase adherence in new concrete or grout applications on old concrete. A: 1 kg cement is mixed with 3 kg (0-3 mm grainy) washed river sand. B: 1 kg BILIZO® BINDER is mixed with 2 kg water. A and B mixtures are mixed until it becomes creamy. Then, it is applied on surface, which was moisturized 12 hours before, with 2 cm thickness by brush. Fresh concrete has to be placed on P.C.C. before it dries. After applying second layer of P.C.C. fresh concrete is placed on top of it. There is a total of 0.35 kg/ m2 coverage in first and second layers.

#### Grout

1 m3 river sand in suitable gradation is mixed with 350 kg cement. 4 kg BILIZO® BINDER is added to 110 kg water. This liquid mixture is added to prepared powder mixture until suitable mortar for making primer is obtained. Primer layer, which was described in detail above, has to be applied on surface. Fresh concrete must be placed on primer layer before it dries.

#### In Coating Mortars

1 m3 aggregate in suitable gradation is mixed with 250 kg cement, 3 kg BILIZO® BINDER and appropriate amount of water. Coating material is applied on soil with prepared mortar with admixture.

#### In Shake Mortars

1 m3 river sand in suitable gradation is mixed with 350 kg cement and 10 kg BILIZO® BINDER. Water is added to this mixture until it becomes creamy. Then, it is applied on surface, which was moisturized 12 hours before, with sprinkle tool and left to dry. Surface is moisturized before plaster or ceramic tile application.

### Storage

Store the product in a cool and dry place with the original package. The storing place temperature must be over +5°C. Short-term storing; max. 3 pallets should be superpose. Long-term storing; pallets should not be superpose. Under suitable conditions, storage life is 12 months from the production date.

### Safety Measures

Application areas should be ventilated. Hands and eyes must be protected with gloves and protective glasses. In case of eye or skin contact with the wet material, rinse with plenty of water. In case of swallowing by mistaken consult a doctor immediately. Keep out of children. Refer to Material Safety Data Sheet prepared as per the related EU directives.

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# BILIZO® CONCRETE MIX

Waterproof Concrete Admixture Material



• **Product Description**

It is designed for improving waterproofing properties of concrete and reduce the cracks formed by shrinking, also it is a concrete admixture for blocking penetration of moisture and water into concrete by performing chemical reactions in the capillary channels and pores in order to increase combination of cement components in concrete with water(hydration).

• **Uses**

- Swimming pools,
- tunnels and underground passages,
- Trapeze channel,
- All types of underground concrete plants,
- Sewage and water treatment plants,
- The water towers and water tanks,
- structures exposed to the sea,
- Locked cobblestone,
- HES tunnels,
- It is used to ensure the waterproofing of concrete walls and floors.

• **Packaging**

BILIZO® CONCRETE MIX is packaged as 20 kg bags/buckets.

• **Consumption**

6 kg consumption is used for 1 m³ concrete. The amount of cement in 2% of participates. 2 kg BILIZO® CONCRETE MIX is added per 100 kg cement. Depending on the ratio, more concrete that contains cement, may need more BILIZO® CONCRETE MIX.

• **Advantages**

- Eliminates the membrane-filtration.
- Easy to use. It can easily be added directly into the concrete in ready-mixed concrete trucks or fresh concrete in concrete production plants.
- Implementation costs are very low. Increase productivity, reduce costs.
- Eliminating the penetration of moisture and water into the concrete.
- stops the corrosion of reinforcing iron in reinforced concrete.
- prevents the penetration of contaminants into the concrete with water.
- Increases the life and durability of concrete.
- The possibility of making mistakes is low and does not hinder production.
- Stops water under high hydrostatic pressure.
- Cracking prevents up to 80%.
- Eliminates completely the need for additional water-related sealing system.



• **Technical Data**

Appearance	Granular powder
Color	Grey
Maximum Particle Size	Mesh 30
Bulk Density	0,6-0,7
Solids by Volume	%100
pH	13
Resistance to Water Pressure	120 m water column

• **Application**

BILIZO® CONCRETE MIX should be added in construction site or before arriving at the construction site during the blending of wet concrete mixture in ready-mixed concrete trucks. Before casting, to guarantee a perfect mixture and mix at high speed for 5 minutes. If a strong thickening (plasticizers) is added to concrete, first add BILIZO® CONCRETE MIX and then add other additives. Do not add water to the mixture to increase the property crash.

• **WARNINGS:**

- BILIZO® CONCRETE MIX usually do not cause any delay at initial and final curing (setting) times of concrete.
- BILIZO® CONCRETE MIX does not contains oils, stearates, chlorides and silica-based materials.

• **Storage**

Store the product in a cool and dry place with the original package. Shelf life of the product is 1 year for Components A and B when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use.

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# BILIZO<sup>®</sup> WATER FOAM

One Component Polyurethane Based Injection Foam



• **Product Description**

Solventless, low viscosity, reacted with water and moisture, created intensive, flexible and fine-mesh pore structure end of the curing, one component polyurethane injection foam. Especially it has been developed for stop the small to mid – volume water leaks.

• **Uses**

- Stopping of small to mid – volume water leaks of underground of concrete structures.
- Stop the water leaks of tunnel coating concrete and diaphragm walls,
- Stabilisation of coarse sand and gravel,
- It is used to stop the excess water leaks of concrete, brick and naturel stone walls' cracks, joint and gap

• **Consumption**

It is recommended to use in concrete elements in the case of structural motion. It is applied with one component injection pump.

• **Advantages**

- Solventless and high expansion factor
- Good bonding to wet surfaces

• **Packaging**

BILIZO<sup>®</sup> WATERFOAM net 25 kg, BILIZO<sup>®</sup> WATERFOAM Catalyst (accelerator) is 2,5 kg.

• **Technical Data**

Colour	Light Yellow
Density (20°C)	1,18 ± 0,02 (TS EN ISO 2811)
Solids by weight	100 (TS EN ISO 3251)
Viscosity 25°C' de (CPs):	300 – 400 (ASTM D 4889)
Flash point:	> 150
Mixing Ratio (with BILIZO <sup>®</sup> WATERFOAM Catalyst)	10: 1
* Start of reaction (sec) (with 10% water and 10% accelerator) :	15-25
Maximum Blowing Ratio (with 10% accelerator) :	25 – 30 kat

For +23°C and %50 relative humidity ambient conditions. High temperetures will be shorten the time, low temperetures will be extended the time.

• **Application**

**Wet conditions:**

Add the BILIZO<sup>®</sup> WATERFOAM Catalyst(accelerator) to BILIZO<sup>®</sup> WATERFOAM-1K (between 5 – 10%, depending on the required reaction time) mix quickly and thoroughly to be homogenous. Inject this mixture through a single component injection pump to the water area. The moisture / water in the ground or structure will cause the foaming reaction.

**Dry conditions:**

For injection purposes, flush holes with water to thoroughly wet the injection area. Add the BILIZO<sup>®</sup> WATERFOAM Catalyst(accelerator) to BILIZO<sup>®</sup> WATERFOAM (between 5-10%, depending on the required reaction time) mix quickly and thoroughly to be homogenous. Inject this mixture through a single component injection pump to the water area. The moisture / water in the ground or structure will cause the foaming reaction.

• **Storage**

Store the product in a cool (15°C – 21°C) and dry place. Shelf life of the product is 6 months year when stored properly in the original container unopened.

• **Safety Measures**

Refer to Material Safety Data Sheet (MSDS) prepared as per the related EU directives before use





**BILIZO<sup>®</sup> PUR FOAM**

**Spray Polyurethane Foam**



**Product Description**

BILIZO<sup>®</sup> PUR FOAM A and B components, spray polyurethane foam for insulation applications with “Polyurethane” are system components. Component A is self-extinguishing formulated polyol system according to norms DIN 4102 B2.

**Packaging**

BILIZO<sup>®</sup> PUR FOAM; including the 250 kg of component A and 220 kg of component B ; packaged in 470 kg of sheet barrel.

**PHYSICAL PROPERTIES**

	UNIT	BILIZO PUR FOAM POLYOL	MDI ISOCYANATES	TEST METHOD
OH Value	mgKOH/g	280-300		ASTM D 4274
NCO Content	%		30-31	ASTM D 5155
Viscosity(25°C)	mPa.s	180-220	220-250	ASTM D 4878
Specific Weight (20°C)	g/ml	1,12	1,23	ASTM D 891

**REACTION PROPERTIES**

	UNIT	MACHINE MIX	TEST METHOD
Creaming Time	sn.	4-5	Izobil laboratory method
Gelation Times	sn.	10-12	Izobil laboratory method
Intensity	Kg/m³	28-30	Izobil laboratory method

**REACTION PROPERTIES**

	Weight	Volume
BILIZO PUR FOAM POLYOL	100	100
MDI ISOCYANATES	109	100

**STORAGE**

	UNIT	BILIZO PUR FOAM POLYOL	MDI ISOCYANATES
Storage Temperature	°C	15-25	15-25
Shelf Life (*)	Month	6	12

\* Under the conditions proposed in the original barrels off and if they are stored in a dry place.

**Safety Measures**

Avoid direct contact with material and inhalation. In case of skin contact, eye irritant and has effects on the respiratory system. Should be referred to the nearest health facility in case of a eyes, skin contact and inhalation. Follow SDS form for product safety information.



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# BILIZO® D-BAND T

## TPE Dilatation Band



### Product Description

BILIZO® D-BAND T; is dilatation band which has high elasticity, thermoplastic and is used for insulation of cracks and dilatation gaps, expansion joints.  
It is tested according to ABP DIN 500143-23/50-2 – DIN 16726 – DIN EN ISO 527 – DIN 13484 – DIN EN 193 for A1, A2 ve C deformation classes.

### Uses

- The dilatation of the horizontal and vertical building applications,
- Foundations and walls that remain under the soil,
- Tunnels and culverts,
- Raft-partition, partition-raft cold joints insulation,
- Water tanks, pools, drinking water, waste water treatment plants.

### Advantages

- The property of high elasticity to 600%,
- Adhering to dry or slightly damp concrete,
- Resistant to plant roots,
- High performance in different temperature ranges (-40 +80°C)
- Ozone, gasoline and oil resistant,
- Easy applied with epoxy adhesive,
- To be able to connected each other with heat,
- It is manufactured as perforated or non-perforated.

### Packaging

BILIZO® D-BAND T is presented as 25 m rolls.



### Technical Data

TPE (Thermoplastik elastomer)	
Color	Light Grey
Shore A	75
Service Temperature	-60 / 80°C
The Temperature Of The Thermal Source	250°C
Elongation at Break	%630
Tear Strength	>47 N/mm
Resistance Against Water Pressure	>8 bar
Tensile Strength	>6.6 Mpa
Heat and UV resistance	Stabilizer



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# BILIZO® D-BAND E

## EPDM Dilatation Band



### Product Description

BILIZO® D-BAND E is a dilatation band which has high elasticity, thermoplastic based, can be used in insulation of cracks, dilatation gaps, expansion joints, and it is produced in DIN 7864 standards, it show resistance in atmospheris conditions and resistance to chemical materials in water and salt, stem holder, has UV resistant, black color, produced by the vulcanizing process and synthetic elastomer calendering, it is also mononer based.

### Uses

- Horizontal and vertical dilatation in all building applications,
- The dilatations and joints that remaining under the soil,
- Waste water, sewage, drinking water, water tanks and pools,
- Terrace, balcony, parapet and roof joints,
- Tunnels and culverts,
- Raft-partition, partition-raft cold joints insulation,
- Junction points of different construction materials like reinforced concrete and steel construction,
- Feature of implementation in concrete, plaster, screed, epoxyand cement-based repair mortar, wood, steel plate, aluminium, CTP, epoxy, natural and artificial stone etc.,
- Foundation and walls, concrete, building diatation, concrete pipe, carrying water containers,
- It can be used in dilatation of parking deck and parking areas.

### Advantages

- Easy applied with epoxy adhesive,
- The property of high elasticity to 500%,
- Resistant to plant roots,
- UV resistant,
- Ozone, gasoline and oil resistant,
- High performance in different temperature ranges (-40 +120°C) the ability to connect to each other,
- Can be applied inside and outside,
- It can adapt to the cracks and dilatation in multiple dimensions,
- It is manufactured as perforated or non-perforated.

### Packaging

BILIZO® D-BAND E is presented as 25 m rolls.



### Technical Data

Chemical Properties	EPDM Dilatation Band
Color	Black
Service Temperature	-40/+120°C
Elongation at Break	%480
Tear Strength	>80 N/mm
Resistance Against Water Pressure	>8 bar
Tensile Strength	>7,5 Mpa
Static Load Resistance	>15 kg
Water-tightness	>EN1928W1
UV Resistance	>EN1844 High
Ozone Resistance	>EN1844 High
Sulfuric Acid Resistance	Good
Alcohol Resistance	Good

### Product Code

#### D-BAND E,

150/1 mm EPDM Dilatation:	15 cmx 1mmx 25mt roll
200/1 mm EPDM Dilatation:	20 cmx 1mmx25mt roll
250/1 mm EPDM Dilatation:	25 cmx 1mmx 25 mt roll
300/1 mm EPDM Dilatation:	30 cmx 1mmx 25 mt roll
350/ 1mm EPDM Dilatation:	35 cmx 1 mmx 25 mt roll
400/1 mm EPDM Dilatation:	40 cmx 1 mmx 25 roll
150/1,5 mm EPDM Dilatation:	15 cmx 1,5 mmx 25mt roll
200/1,5 mm EPDM Dilatation:	20 cmx 1,5 mmx 25mt roll
250/1,5 m EPDM Dilatation:	25 cmx 1,5 mmx 25 mt roll
300/1,5 mm EPDM Dilatation:	30 cmx 1,5 mmx 25 mt roll
350/ 1,5 mm EPDM Dilatation:	30 cmx 1,5 mmx 25 mt roll
400/1,5 mm EPDM Dilatation:	40 cmx 1,5 mmx 25 roll



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# BILIZO® SEAL HARD

Solvent-Based, Water Repellent Insulation Material



• **Product Description**

Siloxane based, confers water repellent by impregnating the surfaces of structural members, transparent material.

• **Areas of use**

- Exterior coating
- In vertical surfaces
- Concrete, marble , granite,slate or as little on absorbent surfaces
- Brick, colored brick, aerated concrete, travertine, on absorbent surfaces, such as limestone,
- protection against atmospheric effects used in historical monuments.

• **Type of packaging**

BILIZO® SEAL HARD is packaged in the form of 30 lt. plastic bins.

• **Usage**

Dependig on the labour and surface condition 0,020-0,050 kg/m²

• **Advantages**

- High penetration ability, colorless, transparent, impregnated material
- Provides protection without changing the appearance the exterior coating and film forming layer
- Reduces the negative impact of the atmosphere making them impervious surfaces of structural elements
- Alkaline and UV rays resistant
- Vapor permeable..
- By keeping the dry of structural elements, reduces heat loss and heating costs.
- Contains solvent.



• **Technical data**

Color	Yellow , transparent liquid
Density (kg/lt)	± 0,1
Dryin time	45 – 60 min.
Temperature resistance of cured product	( -25°C ) - ( +80°C )
Surface and Ambient Temperature	:+5°C - +35°C
Application time	200C-30 min.
Cleaning time	200C- 1 h

NOTE: The above values is provided for relative humidity environment at +23° C and 50%. Higher temperatures reduce the time, low temperature increases the time.

• **Application**

Surfaces must be clean, smooth and durable, all kind of dust, grease, dirt, rust, mold oil, prevent adhesion of substances such as detergents and waste should be cleaned. Concrete segregation (segregation) should be discarded if there are damaged and loose, weak parts must be removed. If there cracks and cavities on the floor or Wall, it should be repaired with appropriate repair mortar. BILIZO® SEAL HARD application should be started after 3-4 days.

**Preparation of the mixture:** Free from any material that prevent adhesion, in a clean container or in its packaging with a low speed mixer min. 3 minutes must be mix. It is ready to use, absolutely must not added the water.

**Applied to the surface:** Should be applied to the dry surface with brush, roller or spray machine for maximum penetration on the first coat. Approximately 4 hours later, a second coat should be taken. To provide maximum protection, very porous surfaces may be necessary to apply more than one coat.

**Cleaning:** After the application should be protected from direct sunlight, strong wind, high air temperature (+35 ° C or more) adverse weather conditions such as rain and frost. Before the product is fully cured and hardening taking, hands should be cleaned with water and detergent.

**Cleaning of equipment:** Immediately after application, yet hardening, equipment should be cleaned with cellulose thinners. After curing of the product should be cleaned by mechanical means.

• **Storage Conditions**

Unopened and undamaged original packaging is 12 months from date of manufacture.

• **Safety Information**

Users must consult the chemical product's material safety data sheets (MSDS) for safe handling, storage and disposal information and recommendations for physical, ecological, toxicological and containing other safety-related data .

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