EDITION: SEPTEMBER 2013

PU PRIMER 870

TRANSPARENT, ONE COMPONENT, POLYURETHANE-BASED PRIMER, USED AS AN ADHESIVE COMPONENT FOR SAFEPOL MULTICOLOR 859

GENERAL CHARACTERISTICS

POLYURETHANE PRIMER 870 is a clear, polyurethane-based, one-component resin, which is used as an adhesive component between the sub-floor and **SAFEPOL** as well as between **SAFEPOL** and **SAFEPOL MULTICOLOR**.

- Penetrates in depth.
- Ideal for old and new surfaces.
- Improves adhesion of **SAFEPOL MULTICOLOR 859** on cement and asphalt surfaces and even on well-stepped, clean and dry gravel.

TECHNICAL DATA

Basis:	one-component polyurethane
Appearance:	liquid
Color:	transparent
Viscosity:	135 ± 5mPa•s at 23°C
Density:	1,049 ± 0,002 gr/cm^{3}
Temperature for the application and drying of the material:	12 – 35°C
Adhesive strength:	> 3 N/mm^{2}(breaking of concrete)

PREPARATION-APPLICATION

Applied on dry surfaces, free of materials that might prevent bonding e.g. dust, loose particles, grease etc (in case of asphalt or concrete). The success in the application depends on the right preparation of the underlay and use of the material.

- **Good, dry** cleaning of the surface from dust and residues.
- Priming of the surface with **POLYURETHANE PRIMER 870** in two layers. Consumption: 250-400 gr/m^{2}, depending on the absorption of the underlay. It is recommended that the second layer should be applied in sections each time, right before the application of the **SAFEPOL** mixture, in order to ensure proper adhesion.
- After application and hardening of **SAFEPOL** follows priming of the surface with **POLYURETHANE PRIMER 870** in one layer. Consumption: 200 gr/m^{2}.Similarly the primeris applied in sections of the underlay right before the application of **SAFEPOL MULTICOLOR** for the proper adhesion.

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CONSUMPTION	200-400 gr/m^2 in two layers depending on the type and the absorbency of the underlay.
APPLICATION TOOLS	Nappy rolls, brushes. Tools should be cleaned with **POLYURETHANE SOLVENT 133** immediately after use.
PACKAGING	Supplied in drums of 4 Kg.
STORAGE	8 months in unopened containers in dry and cool conditions.
REMARKS	• Working time of **POLYURETHANE PRIMER 870** decreases when ambient temperature rises. • Prolonged storage of partially used containers containing **POLYURETHANE PRIMER 870** must be avoided as contact with atmospheric moisture will result in skinning and clouding of the product. • Our recommendation is that the asphalt subfloor should be applied on well compacted 150 mm road base subfloor and asphalt should be laid in one layer(and not 2) in 6 to 8 cm with fine and coarse aggregates (up to 15mm granulometry) like the kind of asphalt used in road construction. So, new road-grade asphalt will have to be laid (minimum 60mm) in one layer containing coarse aggregates and then mature for 30 days at least, before any application takes place on top of the asphalt to avoid bubbles on the final layer of the sport or rubber floorings.
CAUTION	The application must take place in well-aired places using protective gloves. Skin or eye contact must be avoided, otherwise wash carefully with soap and water. **For more information consult the material safety data sheet.**

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SBR RUBBER GRANULES 858

GENERAL CHARACTERISTICS

IT CAN BE USED IN SPORT FACILITIES SUCH AS INFILL IN SYNTHETIC GRASS WITH THE PARALLEL USE OF ROUND SAND AND ALSO AS ONE THE COMPONENT IN CASE OF CAST APPLIED WET POUR SYSTEMS FOR PLAYGROUND FLOORINGS OR AS SHOCKPAD FOR SPORT SUBFLOORS IN ATHLETIC TRACKS OR SPORT FIELDS.

Rubber granule is derived from car and truck tires. During processing, the tyres are mechanically granulated, removing all metal and synthetic fibres, as well as any other foreign part contained in there with specially designed sieves, so as to produce a 99.99% clear rubber with high quality, certified by ISO 9001 and ISO 14001.

PROPERTIES

- Totally environment friendly
- 100% recyclable
- Long life
- Resistance to adverse weather conditions
- High shock absorbency and vibration damping
- High abrasion resistance
- It is not harmful to human health

PREPARATION-APPLICATION

- In sports facilities, playgrounds, recreational and circus to ensure flexibility of surface and vibration absorption.
- In drainage layer construction zones, in new type landfills and explosion of biogas in uncontrolled waste areas, as replacement of gravel.
- In lime and cement factories and energy production units, because of the high calorific efficiency during combustion.
- On construction of river dams under unstable conditions, in ball form,
- As replacement of various materials such as cement, gravel and protection sandbags.
- In Earth banks / dikes to reduce the noise of urban road arteries.
- As road substrate with anti-vibration and thermal insulation properties.
- On building constructions as replacement of traditional insulating materials such as extruded polystyrene, the LECA and metal slag.
- In gardens to ensure moisture.
- In shoe soles, technique implemented for recent years from Timberland company.

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TECHNICAL CHARACTERISTICS

DENSITY:	1.08kg/cm ^{3}
BULK DENSITY:	0.49g/cm³
HEAT LOSS (ASTM D1509) kgf/cm^2 :	< 1 %
METAL CONTENT (ASTM D5603):	< 0.5 %
FIBER CONTENT (ASTM D5603)-ML (Vr):	< 1 %

PACKAGING

Packaging is available in big-bags -1 ton in following sizes:

Grain size	0,5-1,5 mm
Grain size	0,5-2,5 mm
Grain size	0.5-4.0 mm
Grain size	2-8 mm
Grain size	8-20 mm
Grain size	80-50 mm
Grain size	80-120 mm

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PU BINDER 1118

POLYURETHANE BINDER

GENERAL CHARACTERISTICS

100% solids, aromatic polyisocyanate-prepolymer moisture-curing binder based on diphenylmethane diisocyanate. It is MDI based and solvent free. It exhibits excellent adhesion to all rubber granules and gives a strong performance both in terms of tensile strength and durability.

It is mixed with **RECYCLED RUBBER 858** or **EPDM granules** for the creation of the elastic safety floorings **SAFEPOL MULTICOLOR** or other flexible rubber floorings,ideal for playgrounds, athletic tracks, schools etc.

PU BINDER 1118 cured with the air humidity,has low viscosity,is solvent free. **PU BINDER 1118** combines and bonds SBRor EPDM rubber granules,RIM components, polyurethane granules and sponge particles. Also it can be used as lining for insulation and for pasting

TECHNICAL DATA

Test	Method	Device	Value
Density (20°C)	PK.DT.01	Pycnometer	: about 1,09±0.1 gr/cm³
Viskosity (25°C)	PK.DT.08	NDJ-1 Rotational Viskometer	: 8000±1000 mPas
Isocyanate NCO value %	PK.DT.10	Potentiometric Titration	: 10.5±1
Colour			: Clear/pale yellow

PREPARATION-APPLICATION

Can be used for kids playground, running tracks, sports grounds, walkways and offices.

Moulded in production: Rubber granules and binder are mixed, taken into moulds, and then pressure is applied. Rigid parts are obtained like in the form of different types of tiles. After that in the application area, by adding together, the ground is covered.160 bar pressure, mold temperature of 130 degree gives reasonable results in 12 - 15 minutes. In molding applications, binder content should not fall below %5.

On-site applications: Applied on dry surfaces, free of materials that might prevent bonding e.g. dust, loose particlesetc (in case of asphalt or concrete). The success in the application

depends on the right preparation of the underlay and use of the material.

- **Good, dry** cleaning of the surface from dust and residues.
- Priming of the surface with the special **POLYURETHANE PRIMER 870** in two layers. Consumption: 250-400 gr/m^2, depending on the absorption of the underlay. It is recommended that the second layer should be applied in sections each time, right before the application of **PU BINDER 1118** and **RECYCLED RUBBER 858** in order to ensure proper adhesion.
- Good mixing of the **PU BINDER 1118** and the **RECYCLED RUBBER 858**. Mixing should be performed using a low revolution mixer (300-600 rpm) for 1-2 min. Stirring of the mixture should be performed thoroughly near the sides and bottom of the container in order to achieve homogeneity.
- Following, the mixture is poured on the surface and spread on the desired thickness using paving machine or by hand. Consumption: 6,5kg/m^2/cm.
- Small irregularities in the surface may be removed by rolling the surface using a metallic cylinder.
- In case there will be on top an additional layer of **EPDM 856 + PU BINDER 1118** (e.g. in wet-pour playgrounds), the next day, after hardening of the mixture of the **PU BINDER 1118** and the **RECYCLED RUBBER**, follows priming of the surface with the special **PU PRIMER 870** in one layer. Consumption: 200 gr/m^2. **PU PRIMER 870**is applied in sections of the underlay right before the application of **SAFEPOL MULTICOLOR (PU BINDER 1118** and **EPDM 856** mixture)for the proper adhesion.
- The application procedure for **SAFEPOL MULTICOLOR (PU BINDER 1118** and **EPDM 856** mixture) on top of asphalt or waterproof concrete directly is the same as for **SAFEPOL (**the mixture of **PU BINDER 1118** and **RECYCLED RUBBER)**,
- Good mixing of the **PU BINDER 1118** and the **EPDM 856** and application of the mixture using paving machine. Consumption: 10kg/m^2/cm.
- Finally any small irregularities on the surface may be removed by rolling the surface using a metallic cylinder.

RATIO MIXTURE

Recommended: 16% **PU BINDER 1118** and 84%**RECYCLED RUBBER 858.**
20% **PU BINDER 1118** and 80%**RECYCLED RUBBER 858** for hot climates like GCC countries**.**
20% **PU BINDER 1118** and 80% **EPDM 856**

PACKAGING

220kg in barrels.

STORAGE

8 months in unopened original packaging stored in standard room conditions.

REMARKS

The floor must be smooth, dry and clean. Must be removed from oil, dirt, rust and burr. Do not add any foreign material. In application, if ambient and surface temperatures are under +10 degrees Celsius or below +30 degrees Celsius, the optimum temperature must be waited. Concrete humidity should not be above 4%, ambient humidity should be at least 40% and most 80%.To begin the application, must wait for the appropriate humidity

Working time of **PU BINDER 1118** decreases when ambient temperature rises.

Prolonged storage of partially used containers containing **PU BINDER 1118** must be avoided as contact with atmospheric moisture will result in skinning and clouding of the product.

CAUTION

The application must take place in well-aired places using protective gloves. Skin or eye contact must be avoided, otherwise wash carefully with soap and water.

For more information consult the material safety data sheet.

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POLYSPORT MAT 1052

UV-RESISTANT, POLYURETHANE-BASED, TWO-COMPONENT, MAT FINISH ALIPHATIC COATING

GENERAL CHARACTERISTICS

POLYSPORT MAT 1052 is a polyurethane, two-component, solvent-based, mat finish aliphatic coating for outdoor sports surfaces.

- It is applied as a final, sealing layer on top of playground floorings made of **SBR rubber** plus **PU binder** mixture, or **EPDM** plus **PU binder** mixture, on safety tiles, or on top of any outdoor sports court in general.
- Provides a mat surface with exceptional resistance in abrasion and various chemical agents.
- It is UV-resistant and thus absolutely suitable for outdoor surfaces.

TECHNICAL DATA

Mixing Ratio (transparent)	83,5 :16,5 (By weight)
Mixing Ratio (colored)	85 :15 (By weight)
Density (20°C)	app. 1,3±0.1 gr/cm3
Application Temperature	Min 5°C
Curing (20°C)	8-10 hour
VOC	170 g/kg (Council Directive 1999/13/EC)
	After 12 hours you may walk over it.
	After 7 days it resists against mechanical load and chemical substances.
Color	Standard plus Colors from color chart

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PREPARATION-APPLICATION

- Good, dry cleaning of the surface from dust and residues using vacuum cleaner and squeegees.
- Caution must be taken so that temperature of the support surface as well as ambient air remains above 15°C during application and curing of the materials while relative humidity does not exceed 75%.
- The resin component should be thoroughly stirred to incorporate any slight separation, whilst continuing stirring the contents of the hardener container should be added. Continue stirring until a homogeneous mix is obtained. Airless sprayer or roller can apply **POLYSPORT 1052**.

CONSUMPTION

App.200-500 gr/m², depending on the substrate. Apply two coats at least.

PACKAGING

5kg, 15kg set (A+B).

STORAGE

12 months in unopened containers in dry places with minimum temperature 5°C and maximum temperature 28 °C.

REMARKS

- Working time of **POLYSPORT MAT 1052** decreases when ambient temperature rises.
- Prolonged storage of partially used containers containing **POLYSPORT MAT 1052** must be avoided as contact with atmospheric moisture will result in skinning and clouding of the product.
- After hardening **POLYSPORT MAT 1052** is completely safe for health.
- The two layers of **POLYSPORT MAT 1052** will have to be applied strictly within 24 hours of one another (European conditions) **or within 3-6 hours (GCC high-temperature conditions)** in order to cover the surface swiftly and protect it from unwanted weather or other adverse conditions (sand dust, accumulated dirt or foreign matter etc.). In case the 24-hour limit (Europe) or the 3-6-hour limit (GCC) is surpassed or weather or other adverse conditions interfere between layers at any time, the surface might need sanding again to restore smoothness and cleanliness before applying subsequent layers of the aliphatic top coat

CAUTION

The application must take place in well-aired places using protective gloves. Skin or eye contact must be avoided, otherwise wash carefully with soap and water. Flammable before application.

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CHEMICAL RESISTANCE

Ammoniac (% 25)	1	
Antifreeze	1	
Acetone		3
Acetic Acid (% 10)	2	
Beer	1	
Benzene		2
Buthanol	3	
Butyl Acetate	3	
Ethyl Acetate	3	
Ethanol	1	
Phormic Acid (% 98)	4	
Formaldehyde	2	
Gas oil	3	
Hydraulic Oil	2	
Hexane	1	
Isopropanol	3	
Chlorined Bleaching Liquid	1	
Cromic Acid (% 50)	1	
Chloric Acid (% 5)	3	
Xylene	3	
Lactic Acid (%3)		2
Liqueur	1	
Grease	1	
Methyl Alcohol	1	
Methyl Ethyl Ketone	3	

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Methylene Chloride	1
Nitric Acid (% 5)	1
Oxalic Acid (% 10)	1
Potassium Hydroxide (% 25)	1
Citric Acid (% 10)	1
Sodium Chloride (% 5)	1
Sulphuric Acid (% 30)	4
Sugar (% 20)	1
Water	1

1 :FILM RESISTANT

2: FILM LOW SOFTENING

3: FILM SOFTENING

4: FILM NOT RESISTANT

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