SOUPLETHANE UR 5

Anticorrosion protection coating, based on polyurea-urethane resin, solvent free, with high chemical and mechanical resistance (Liquid Waterproofing System) designed for applications on metal substrates.

Application Fields

SOUPLETHANE UR 5 is used on metal substrates for:

- Abrasion resistant protective coating intended for the protection of structures in the presence of high attack chemicals on metal substrates.
- Anti-corrosion waterproofing of metal basins storing chemical effluents, chemical retentions, chemical storage tanks.
- Coating of submerged structures in seawater: offshore, underwater pipes, underwater metal structures.
- Ships ballast coating, inner lining of double-hull hulls.
- Anti-acid and vapor barrier coating of digesters, gasometers, gas storage tanks.
- Anticorrosion coating of sheet piles.
- Can be reinforced with a 2-D glass fabric to resist cracking of storage tanks and retentions.

Characteristics

Chemical Nature 2-Component Polyurea-urethane resin (aromatic)
Composition Component A - polyol : Colored opaque liquid
Component B – isocyanate : Transparent amber liquid
Solvent-free 100% solid content *(ISO 1515)*
Colors : Crème-Cream (Ivory, prox. Ral1015), gris-grey (prox. Ral 7040)

Mixing ratio Comp. A / Comp. B = 3 / 1 in volume
Density (at 20°C) Mixture A+B : 1.4 g / ml *(DIN 53217 / EN ISO 2811)*
Bisphenol A-free

Advantages

Excellent chemical resistance (**pH range: 1 to 13**)
Excellent mechanical resistance
Resistance to mechanical shocks (tests CSTB)
Resistance to thermal shocks : from **-50°C to +160°C**

Solvent-free, Odor-free
Easy application
Fast start-up time
No chalking

Properties

Chemical resistance		Thermal resistance	
Corrosion resistance	**pH from 1 to 13**	Resistance to thermal shocks	**from -50 °C to + 160°C**

Mechanical properties			
Hardness shore D	**75** *(ISO 868)*	Tensile strength	**21 MPa** *(EN ISO 5470-1)*
Metal adhesion	**23** MPa *(NF EN 1542)*	Elongation	**35 %**
Resistance to back pressure	**1** MPa	Compression strength	**120** MPa
Salt spray resistance	**2 000 hours** *(ASTM B117 ASTM D1654)*	Chloride permeability	**< 10 coulombs** *(ASTM C 1202)*
		Water permeability	**No penetration** *(DIN 1048)*

Packaging	in kits
37 kg	(20 L component A + 7 L component B)
109 kg	(3 x 20 L component A + 1 x 20 L component B)
1 090 kg	(3 x 200 L component A + 1 x 200 L component B)

Storage

From the date of manufacture and in original unopened packaging, under cover at more than 5 °C in a cool, ventilated place (frost free)
Shelf life : 12 months

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Implementation

Preparation of the mixture	Thoroughly homogenize the polyol (A) before mixing Mix the mixture Comp A + Comp B with a mechanical stirrer for 40 seconds Then pour the product into a second container and resume mixing for 10 seconds. To minimize the air entrainment during mixing, it is advisable to perform this operation at low rotation speed (approx. 400 rpm), taking care to keep the agitator at the bottom of the bucket during its rotation.
Application	The use of primer is not necessary.

Substrate temperature	-20°C min. / +140°C max.	**Ambient temperature** +10°C min. / +30°C max.
Relative Humidity (RH)	< 80 %.	**Dew point :** The substrate must be at + 3 ° C above the dew point to reduce the risk of condensation.

Roll or brush application	2-3 layers	**Spraying through high-pressure 2-component airless pump**	
Application with notched comb	in 1 main layer	Viscosity	Component A : 6 300 cps / Component B : 150 cps
		Temperature	Component A : 35°C / Component B : 20°C
		Pressure	180 / 200 bars
Covering time at 20°C		Mini : 8h for flooring, 2 h vertically Maxi : 72 h	
Thickness : 1 to 3 mm			

Pot life

Temperature	+ 10°C	+ 20°C	+ 30°C
Pot life	~ 30 minutes	~ 20 minutes	~10 minutes

The pot life decreases as the temperature and / or amount of prepared product increases.

Drying / Start-up time

Temperature	+ 10°C	+ 20°C	+ 30°C
Light loads	30 hours	24 hours	12 hours
Full cure	15 days	9 days	7 days

These data are only indicative because the curing time varies according to the drying conditions (temperature and relative humidity in particular)

Cleaning tools

Tools are cleaned with acetone or MEK immediately after use. In the cured state, the product can only be removed mechanically.

Notes on the application / limits

- Substrates should not be under water pressure or condensation during the application and polymerization of SOUPLETHANE UR 5
- Protect SOUPLETHANE UR 5 from contact with moisture, condensation and water for 2 hours
- Incorrect treatment of substrate defects will reduce the life of the coating.
- Beware of the gas exchange that may be caused by a warming of the substrate before the total polymerization which may lead to a bubbling (blistering) phenomenon. It is recommended to work by down temperature.
- To avoid color differences, it is necessary to use a single lot number for each site.
- An exposure of the coating under UV may alter its color or appearance, but without impairing its mechanical performance.

Qualifications :

HQE A++ / Class A+ : Regulatory Labeling of VOC Emissions and Compliance with the AgBB Protocol (2012)

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