KEMICA COATINGS *Reinventing coatings*

Technical Datasheet

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SOUPLETHANE 6 N

Two-component, solvent-free, polyurea-urethane resin for decontaminatable and irradiation resistant liquid waterproofing, anti-corrosion protection or flooring. Applied mechanically with an airless spraying machine.

Decontaminatable (class 1 -4 of CEA) and resistant to irradiations of nuclear plants

Application Fields

SOUPLETHANE 6N can be used on every substrate (concrete, metal, etc.) for : (water)proofing and/or sealing of radioactive effluent storing tanks, purification plants, walls, ceilings, radioactive containers, silos, hoppers, tanks, chemical retentions - sanitation of radioactive buildings

Characteristics

Chemical Nature Composition : 2-Component Polyurea-urethane resin (aromatic)
Component A - polyol : Colored opaque liquid
Component B – isocyanate : Transparent amber liquid

Solvent-free : 100 % solid content *(ISO 1515)*

Mixing ratio : Comp. A / Comp. B = 3 / 1 in volume

Density (at 20°C) : Mixture A+B : 1.3 g / ml *(DIN 53217 / EN ISO 2811)*

Fire resistance : Bfl-S1

Flash point Component A : 248 °C

Flash point Component B : 212 °C

Colors : Crème-Cream (Ivory, prox. Ral1015), gris-grey (prox. Ral 7040) – Others upon request

Advantages

Decontaminatable (class 1 -4 of CEA)
Nuclear plants irradiation resistant (≤10 MGray)

- Excellent adhesion: 4 MPa on concrete
- Resistance to cracking concrete : 5 mm
- Resistance to thermal shocks and hydrolysis : 90 ° C
- Compression strength : > 110 MPa
- Excellent chemical resistance
- Solvent-free, Odor-free
- Bisphenol A-free
- Fast start-up time
- Easy application
- No chalking

Properties

Concrete adhesion	**4 MPa** (concrete failure) *(NF EN 1542)*	Shrinkage	**0**
Steel adhesion	**9 MPa** *(NF EN 1542)*	Tensile strength	**20 MPa** *(NF EN ISO 527-3)*
Service temperature (air)	**- 50°C to + 160°C**	Elongation	**60 %** *(NF EN ISO 527-3)*
Fire resistance	**Bfl-S1** *(NF EN 13501-1 + A1 :2013)*	Shore A Hardness	**95** *(ISO 868)*
Chemical resistance	**1< pH<13**	Compression strength	**113 MPa**
Resistance to Radon gaz / compared to PVC	Attenuation Coeff. C1/C2 **159 000 / 9**	Chloride permeability	**<10 coulombs** *(ASTM C 1202)*
Resistance to back pressure	**1 MPa**	Service temperature (in immersion in water)	**80°C**
Chemical attack due to concrete	**No effect**	Water permeability	**No penetration** *(DIN 1048)*
Thermal shock resistance	**- 50 °C to + 160°C**	Salt spray resistance	**2 000 hours** *(ASTM B117 / D1654)*

Packaging	in kits
5 kg	Pre-dosed Kit
35 kg	(20 L component A + 7 L component B)
104 kg	(3 x 20 L component A + 1 x 20 L component B)
1 040 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.
Application	Check the humidity of the substrate, the relative humidity, the ambient temperature of the products and the substrates, and the dew point beforehand. If the humidity of the substrate is > 4%, the KEMIPOX or PU AQUEUX system can be used to form a barrier against ascending humidity.

Substrate temperature	-20°C min. / +70°C max.	**Dew point :** The substrate must be at + 3 ° C above the dew point to reduce the risk of condensation.
Relative Humidity (RH)	< 95 %.	

Spraying through high-pressure 2-component airless pump

Thickness	1 to 3 mm	**Viscosity (20°C)**	Comp. A : 3 800 cps / Comp. B : 150 cps
		Temperature	Component A : 35°C / Component B : 20°C
application possible in one continuous layer of 5 mm if necessary		**Pressure**	180 / 200 bars
Covering time		immediately	
Start-up time		12h	

Pot life	Temperature		+ 20°C	
	Pot Life		~ 2 minutes	
	The pot life decreases as the temperature and / or amount of prepared product increases.			
Covering time	Before application of SOUPLETHANE 6N on KEMIPOX or PU AQUEUX			
	Temperature	+ 10°C	+ 20°C	+ 30°C
	Mini	24 hours	12 hours	8 hours
	Maxi	4 days	2 day	1 day
Drying / Start-up time	Temperature	+ 10°C	+ 20°C	+ 30°C
	Light loads	20 hours	12 hours	8 hours
	Full cure	14 days	7 days	5 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 6N
- Protect SOUPLETHANE 6N 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

Tests CEA decontamination (class 1 -4)
Tests COGEMA (Orano) – Resistance to Gamma rays
CSTB N° AT : 12/15-1704 _v1
DTA N° 5.2/18-2615-V1 / ETE-13/0156
Fire resistance : Bfl-S1
TESTS CSTB : N°RSET -09-260138
HQE A++ / Class A+ : Regulatory Labeling of VOC Emissions and Compliance with the AgBB Protocol (2012)

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