



SOUPLETHANE 5 N

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

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

Application Fields

SOUPLETHANE 5 N 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	2-Component Polyurea-urethane resin (aromatic)	Mixing ratio	Comp. A / Comp. B = 3 / 1 in volume
Composition	Component A - polyol : Colored opaque liquid Component B – isocyanate : Transparent amber liquid	Density (at 20°C)	Mixture A+B : 1.3 g / ml (DIN 53217 / EN ISO 2811)
Solvent-free	100 % solid content (ISO 1515)	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



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	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 %.			
Roll or brush application	1 mm / layer (1,3 kg/m²)	Spraying through high-pressure 2-component airless pump		
Application with notched comb	Up to 4 kg/m²	Viscosity (20°C)	Comp. A : 3 800 cps / Comp. B : 150 cps	
		Temperature	Component A : 35°C / Component B : 20°C	
Thickness	1 to 3 mm	Pressure	180 / 200 bars	
Covering time at 20°C	mini 5 h / maxi 72h for flooring 1h vertically	Covering time	3 h	
Start-up time	24 h	Start-up time	24h	
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.			
Covering time	Before application of SOUPLETHANE 5N on KEMIPOX or PU AQUEUX			
	Temperature	+ 10°C	+ 20°C	+ 30°C
	Mini	24 hours	12 hours	8 hours
	Maxi	4 days	2 days	1 days
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 5N
 - Protect SOUPLETHANE 5N 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)

This product is used in accordance with the provisions of the Specifications, Technical Specifications, Technical Advice of the Company

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