POLYUREA RAYSTON X5

Expandable polyurea for waterproofing spray applications

DESCRIPTION

Polyurea Rayston X5 is an expandable polyurea applied with a hot spraying machine, it increases its initial volume from 3 to 5 times helping to fill voids and regularize supports. Once cured, it forms a flexible and elastic waterproofing membrane, capable or bridging possible cracks in the support. If exposed, it must be protected with an aliphatic protective finish (Impertrans, Impertrans ECO, Colodur, Impertop Fast 2K, Impermax A).

Roof waterproofing applied in two stages, when a solution is needed, simpler, faster, and cheaper than a traditional polyurea system (primer membrane and finish).

APPLICATIONS

- Waterproofing of roofs that can't be visited or with light traffic (limited resistance to punching).
- First layer of primer (adhesion and support regulator) for polyureas, when a primer applied at high productivity is necessary.
- Comfort layer for floors or continuous sheet for absorbing impact noise.

CERTIFICATIONS

- CE marked EN 1504-2: 0370-CPR-2247
- Asbestos encapsulation certificate (finished with pigmented Colodur or Impermax A)

CE

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION				
	Component A		**Component B**	
Chemical description	Polyol/Polyamine		Aromatic isocyanate prepolymer	
Physical state	Liquid		Liquid	
Packaging	Metal container 196 kg 18.6 kg		Metal container 220 kg 21 kg	
Non-volatile content	100%		100%	
Flash point	>100ºC		>100ºC	
Colour	Dark yellow		Yellowish	
Density	Temperature (ºC)	Density (g/cm³)	Temperature (ºC)	Density (g/cm³)
	25	1.08	25	1.14
Viscosity	Temperature (ºC)	Viscosity (mPa.s)	Temperature (ºC)	Viscosity (mPa.s)
	25	1160	25	390
A/B mixing ratio	A=100, B=110 by weight A=100, B=100 by volume			
Density and viscosity of the mixture	Fast polymerization. See pot life data.			
Colour	White or grey RAL 7001 paste is recommended.			
Pot life	Cream time (25ºC): 7-8 seconds Cream time (50ºC): 4 seconds			
Storage	Keep between 10º y 30ºC.			
Use before	6 months after manufacture date, kept in its sealed container.			

INFORMATION ON THE FINAL PRODUCT		
Final state	Elastomeric solid foam	
Colour	Off white. Turns to yellow under sunlight. No other colours available.	
Density	200 kg/m³	
Hardness (Shore)	45-50A (ISO 868)	
Mechanical properties	Maximum elongation: >125% Tensile strength: 1.7 MPa (UNE EN ISO 527-1/3) Tear strength 7,7 N/mm (UNE EN ISO 527-1/3)	
Static indentation As per EOTA-007	P3 at TH3, complies	
Adhesion strength	Surface	Adhesion strength (MPa)
	Concrete	1
	Concrete (with primer epoxy 100)	1,1
UV resistance	Polyurea Rayston X5 is an aromatic isocyanate-based product. A colour change is to be expected under sunlight. This change does not affect its mechanical properties, but a topcoat with polyurea, polyurethane or polyaspartic is strongly recommended.	
Thermal resistance	Stable up to 80ºC	
Fire resistance	B roof t1 (External fire exposure test). External fire exposure test (according to EN 13501-5)	
Thermal conductivity	0.044 W/mK (10ºC) 0.045 W/mK (20ºC) 0.046 W/mK (30ºC) 0.048 W/mK (40ºC) (ASTM 518)	
Crack bridging (static)	Class A5 (EN-1062-7)	
Foldability at low temperature (-45ºC)	Does not break or crack (EN-495-5)	

SUPPORT REQUIREMENTS

To achieve a good penetration and bonding, support must be:
1. Compact and cohesive (pull off test must show a minimum resistance of 1,5 N/mm²).
2. Free of cracks. If any, previous selling is necessary.
3. Clean and dry, free of dust, loose particles, oils, organic residues, or laitance.

Fibrocement substrates with humidity may require the use of a special primer (Humidity Primer) before application onto them.

Support temperature must be between 10ºC and 40ºC.

Support moisture must be less than 1,5%.

MIXING

Stir and homogenise separately both components using suitable mixing equipment before being loaded into the machine. Add the required Pigment Spray to the A-component and stir before loading. Recirculate both components while heating up to the required application temperatures.

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APPLICATION GUIDELINES

Polyurea Rayston X5 must be applied using 2-component hot spraying equipment. Recommended temperatures are:

- Component A: 60ºC
- Component B:60ºC

Pressure must be adjusted to 100-120 bar. Recommended spray gun: Master II type (Gama). For a good finish, apply the recommended amount (specific for each project) in two successive layers: a first very thin coat (150-250 g/m^2), and the rest of the intended amount 5-10 minutes after.

Priming:

On non-porous substrates there is no need of other primers. Surfaces must be clean, oil-free, and free of loose materials. On porous substrates with some moisture, it is recommended to seal the surface with humidity primer or Primer GC. Polyurea Rayston X5 is sensitive to moisture. To prevent bubble formation, spray only on fully dry surfaces.

CURING TIME

Polyurea Rayston X5 cures to touch after a few seconds after application.

TOOL CLEANING

To keep equipment in good conditions (spraying gun, gaskets), it is recommended not to use solvents. A cleaning fluid like Rayston Fluid can be used instead. Component B must be thoroughly removed and replaced with this fluid.

SAFETY

Component B of Polyurea Rayston X5 contains isocyanates and Component A contains corrosive polyamines that can cause burns. Always follow the safety instructions in the Material Safety Data Sheet. As a rule, a good ventilation, protective clothing, and respiratory protection is needed (combined organic vapor filters + particles A2P). This product must be used only for the applications here described. This product is intended for industrial and professional use. It is not suitable for DIY-type applications.

ENVIRONMENTAL PRECAUTIONS

Empty containers must be handled with the same precautions as if they were full. Treat empty containers as hazardous waste and transfer them to an authorized waste manager. If the contains still have some material left, do not mix with other product with no knowledge of potentially dangerous reactions. Component A and B may be mixed on a 1/1 ratio to get an inert material, but never do it in volumes larger than 5 liters to prevent a dangerous heat evolution.

OTHER INFORMATION

The information contained in this DATA SHEET, as well as our advice, both written as verbal or provided through testing, are based on our experience, and they do not constitute any product guarantee for the installer, who must consider them as simple information. We recommend to study deeply all information provided before proceeding to the use or application of any of our products, and strongly advise to conduct tests “on-site” to determine their convenience for a specific project. Our recommendations do not exempt of the obligation of installers to deeply study the right application method for these systems before use, as well as to conduct as many preliminary tests as possible should any doubt arise. The application, use and processing of our products are beyond our control, and therefore under the exclusive responsibility of the installer. In consequence, the installer will be the only responsible of any damage derived from the partial or total in-observation of our indications, and in general, of the inappropriate use or application of these materials.

This data sheet supersedes previous versions.

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