

Product Information Nitroil[®] Polyurea HD

General Information

MASK[®] Polyurea HD is a newly developed polyurea spray elastomer system (resin component). MASK[®] Polyurea HD is designed for heavy duty surfaces with extremely resistant physical properties. The HD series is a pure

polyurea formulation designed for heavy traffic areas or industrial maintenance such as mining and truckbeds. It combines advantages of seamless films with very long life cycles and strong durability.

Properties	Unit	Typical values	Sales specifications
Chemical and Physical Data of Nitroil[®] Polyurea AMINE WP / Nitroil[®] Polyurea ISO WP			
Appearance Amine component Isocyanat resin		clear to yellowish liquid yellowish to brownish liquid	
Density at 25°C Amine component Isocyanat resin	g/cm ³ (lb/ft ³) g/cm ³ (lb/ft ³)	1.00 (62.4) 1.12 (69.9)	
Primary amine value / NCO content	mg KOH / g wt%	210-225 16	> 210 15.4 – 16.4
Viscosity Amine component Isocyanat resin	mPa·s mPa·s	< 1500 1000	
Water content of the Amine	wt %	0.3	max. 0.5
Boiling point Amine component Isocyanat resin	°C (°F) °C (°F)	> 200 (> 392) > 200 (> 392)	
reaction time	s	12	
Processing parameters			
Block Temperature	°C (°F)	70 - 80 (158 - 176)	
Hose Temperatures (A and B)	°C (°F)	70 - 80 (158 - 176)	
Constant pressure	bar	120	
Physical Properties of the reaction product / sprayed surface			
cure time, walkable	min	2	
Density at 25°C (cured)	g/cm ³ (lb/ft ³)	1.02 (63.7)	
Elongation ASTM D412	DIN 53455	225	
Tensile strength ASTM D412	DIN 53504	24	
Tear strength ASTM D624C		36	
Shore-A/D ASTM D 2240	DIN EN 53505	98/55	
Abrasion (Taber H 18)	DIN 53516	150 (approx.)	

Application

In comparison to conventional polyurea, crosslinking of this product is increased, providing higher mechanical strength and decreased elongation. To adjust the elastomer properties, various modified versions also incorporating nano fillers of this grade are available for specific applications such as glass recycling or mining.

Usual applications are:

- heavy traffic areas
- industrial flooring and coatings

Processing

Surface preparation:

Before spraying the surface should be blast cleaned to achieve a smooth appearance. Also the surfaces should be free from any contaminations such as oil or dust and should be dry.

Processing parameters:

The re-coat window ranges from 20 seconds to a few hours depending on the application. The post cure takes at 20°C 24 hours. The temperature of the sprayed object can be theoretically between 0 to 50°C, with reaction times significantly longer at low temperatures in the range of 0 to 15°C. Observe dew point.

Spraying machine

A high pressure spray proportioning machine for plural heated components such as those manufactured by GlasCraft and Graco should be used for this material.

Necessary amount

For a sprayed area of 1 m² with 2 mm coating thickness approx. one litre of each components is needed.

Note:

The coverage figure is theoretical – due to wastage factors and the variety and nature of substrates, practical coverage figures may vary.

Coating

Should be applied by specialist applicators approved by MASK Polyurea. Do not dilute MASK Polyurea HD under any circumstances. Use appropriate chemical for flushing of equipment. If material is stored for a period of time thoroughly mix the amine component with drum mixer until a homogenous mixture and color is obtained.

Safety and Handling

MASK® Polyurea HD

Classification: MASK Polyurea AMINE HD

Labelling



C, N (Xn): Corrosive, dangerous for the environment, harmful

R-Phrases 21/22-34-48/22-50/53

S-Phrases 20-23-26-36/37/39-45-57