KRYPTON – ProLine AB85H

Hybrid Polyurea for industrial applications – Abrasion and Impact.

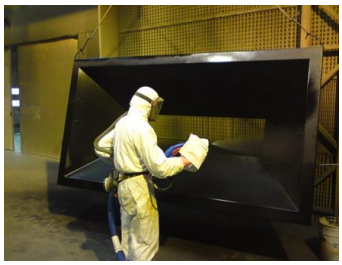
DESCRIPTION

Krypton ProLine AB85H is formulated using hybrid polyurea technology and produces an abrasion resistant and impact resistant seamless protective lining.

Applied to any thickness in one application and curing in minutes it provides a very rapid solution to industrial maintenance projects that require abrasion resistance, impact resistance, permanent corrosion protection of the substrate and a very rapid return to service..

APPLICATIONS

- Bins and hoppers.
- Dump truck bodies.
- Ball mill linings.
- Slurry and processing tanks
- Bulk material storage and handling facilities – grain, fertiliser, sand, gravel, coal, iron ore, gypsum etc
- Bulk material rail carriages.
- Conveyor belt repairs.
- Truck linings.
- OEM parts subject to abrasion.



FEATURES

- Spray applied to any thickness in one application and instant curing – rapid return to service.
- Seamless – no joins or welds.
- Permanently bonds to substrate avoiding corrosión.
- Very good impact resistance.
- Excellent elongation
- Can be easily and quickly repaired.
- Can incorporate wear indicator zones for planned maintenance.

TECHNICAL DATA

INFORMATION ON THE PRODUCT BEFORE APPLICATION

	Component A	Component B
Chemical description	Polyol/Polyamine	Aromatic isocyanate prepolymer
Physical state	Liquid	Liquid
Packaging	Metallic container 203kg Component C (Paste of color) 4 kg metal container	Metal container 213 kg
Non-volatile content (%)	Approx 100%	100%
Flash point	>100ºC	>100ºC
Colour	Dark yellow	Slightly yellow
Density	Temperature (ºC) / Density (g/cm³): 20 / 1.05; 60 / 1.02	Temperature (ºC) / Density (g/cm³): 20 / 1.14; 60 / 1.10

Viscosity	
approximate Brookfield	Temperature (ºC) / Viscosity (mPa.s): 5 / 2400; 10 / 1800; 20 / 975; 30 / 550; 40 / 335; 50 / 230; 60 / 170 Temperature (ºC) / Viscosity (mPa.s): 5 / 2500; 10 / 1800; 20 / 800; 30 / 450; 40 / 300; 50 / 200; 60 / 120
VOC (2004/42/CE)	<2g/L, <0,2% A, j 0 A, j
A/B mixing ratio	A=1, B=1 by volume
Density and viscosity of the mixture	Fast polymerization. See Pot life data
Colour	Dark yellow. Component A is pigmented by addition of pigment paste (Pigment Spray) delivered with each kit of product Posibility of aluminium versión
Pot life	Gel time mixture A+B (20 g) 8-9 s at 25ºC 4-6 s at 60ºC
Storage	Keep between 10º and 30ºC. Product is hygroscopic: protect from moisture. Component B may become hazy upon storage at low temperatures. Reheat mildly before use.
Shelf life	Approximately 12 months from manufacture

INFORMATION ON THE FINAL PRODUCT

Final state	Solid elastomeric membrane
Colour	Variable, depending on the chosen pigmentation. For colours available, please contact Krypton Chemical.
Hardness (shore)	85A (± 5)
Tear strength	69 N/mm (ISO 34-1 Method B)
Mechanical properties	Elongation at break: 400% Tensile strength: 15 MPa (EN-ISO 527-3)
UV resistance	Good resistance to UV-induced degradation. Aromatic polyureas undergo change of colour under sunlight.
Fire resistance DIN 4102-1:1998	Class B2
Water vapour permeability (EN ISO 7783:2012)	μ = 1534
Abrasion resistance	10 mg (Taber, CS10 wheel, 1000 grams, 1000 rev)
Chemical resistance	Permanent contact (7days, 80ºC 0=worst, 5=best)

Chemical	Result
Water	5
Ammonia (3%)	5
Hydrochloric acid 3M (9%)	4
Isopropyl alcohol	1
Xylene	0
Sulphuric acid (50%)	0
Urea	5
Ammonium nitrate	5

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SUBSTRATE REQUIREMENTS

The substrate must be free of contaminants (fats, oils and silicones), dust and loose materials. Irregularities pointed or protruding from the surface should be eliminated.

In the case of concrete, it must be totally cured and free of any laitance. Ideally a concrete substrate must be completely dry, in this case it will be primed with the Epoxy 100 or Epoxy Gel Primer. Epoxy Gel primer is recommended on vertical surfaces. If the concrete substrate has a humidity level higher than 4%, it should be primed with the Primer GC.

Steel surfaces should be prepared with a class 2 ½ blast with a surface profile of approximately 50-70 microns and application anticorrosion primer Krypton ProLine Pu Zn primer or Krypton ProLine Pu Al primer.

For specific application methodologies consult with the Krypton Technical team.

RECOMMENDED ENVIRONMENTAL CONDITIONS

The temperature of the substrate should be between 10ºC and 40ºC. In all cases substrates should be 3ºC above dew point before applying primers or membranes. For this polyurea is very important comply with the ambient humidity parameters during the application.

MIXING

Add the required Pigment to the A-component and thoroughly power stir before using and periodically during spraying operations. It is recommended to pre-heat both components by recirculating both components through the spray machine with the heaters set at recommended settings.

APPLICATION GUIDELINES

➢ ***Krypton ProLine AB85H*** can only be applied using high pressure heated plural component spray equipment by trained and experienced applicators.
➢ In ambient temperatures below 20C chemical drums should be pre-heated using band heaters to 30 – 40° C.
➢ The A-side component should be thoroughly power stirred prior to the commencement of spraying and periodically during the spraying process to ensure there is no settling out of the A-side chemical components.
➢ The Pigment is always mixed into the A-side using a ***power stirrer***.
➢ Both the A-side and B-side drums should be fitted with desiccant dryers.
➢ Compressed air supply should be supplied via an air dryer.
➢ Primary heaters should be set at between 65-70°C. Adjustments can be made on-site based on environmental conditions, mixing module size and application circumstances.
➢ It is important to ensure sufficient heat is maintained. Failure to maintain sufficient heat can compromise the mix and final physical properties of the coating.
➢ Hose heaters should be set at 70 ° C. Adjustments can be made on-site based on environmental conditions, mixing module size and application circumstances.
➢ For best results ensure spray pressure (not static pressure) is a minimum of 155 bar (approximately 2250 psi)
➢ For full substrate preparation and / or repair procedures consult with your Krypton Technical representative

Contact Krypton Chemical for more detailed technical information.

CURING TIME

Approximate hardness values are provided as reference only (2 mm, polypropylene substrate, 20ºC 50% RH)

Time	Hardness (shore A)
10 min	74
20 min	77
1 hr	80
24 hr	85

REAPPLICATION

Usually, not necessary as desired thickness can be obtained in one single application. In the event additional thickness is required apply additional material within 2 hours of original coating application.

Ensure the overcoat window between primer-Polyurea before applying Krypton ProLine AB85H.

For repairs or overcoating existing Krypton linings consult with the Krypton Technical Team.

RETURN TO SERVICE

Under most conditions (25ºC, 50% rh), the membrane is resistant to light pedestrian traffic in 1 hour. After 2 days, more than 90% of the final properties are reached.

TOOL CLEANING

Solvent use for machine component cleaning is discouraged. A cleaning plasticizer fluid like Rayston Fluid is suitable. Component B must be completely removed from all air-exposed parts and replaced with this cleaning fluid

FAQ

Problem	Question	Cause	Solution
Does not cure or remains sticky	AB ratio is correct?	Pressure differences	Check and correct pumping equipment
Bubbles or open pores	Porous substrate?	No primer	Apply an Epoxy type primer before Polyurea
Not enough hiding power	Horizontal?	Too few	Use 2 kg/m^2 minimum
		No pigment	Thoroughly mix pigment in component A before spraying

PRESERVATION AND MAINTENANCE OF THE PRODUCT

An inspection and maintenance program should be followed relevant to the application.

SAFETY

Component B contains isocyanates. Always follow the safety instructions in the Material Safety Data Sheet. Respiratory protection is mandatory (combined organic vapor filters + particles) along with protective clothing. This product must be used only for the applications here described. This product is intended for industrial and professional use only.

DISPOSAL

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 containers still have some material left, do not mix with other product to avoid potentially dangerous reactions. Component A and B may be mixed on a 1/1 ratio to create a reaction that results in an inert material. Never manually mix volumes greater than 5 litres in order to prevent the development of excessive exothermic heat.

OTHER INFORMATION

The information contained in this Technical Data Sheet, as well as our advice, both written and verbal or provided through testing, is based on our experience, and does not constitute any product guarantee.
We recommend to study thoroughly all information provided before proceeding to handle or apply of any of our products, and strongly advise to conduct tests “on-site” in order to determine the products suitability for a specific project.
Our recommendations do not exempt the obligation of installers to determine the suitability of the product and the application methods for each project.
The application, use and processing of our products are beyond our control, and are therefore under the exclusive control and responsibility of the installer. Consequently, the installer is responsible of any damage caused by the partial or non-observation of Krypton`s guidelines and instructions and in general, any inappropriate use or application of these materials.

This Technical Data Sheet supersedes previous versions.

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