Waterproofing - Polyurea

SMARTCARE HYPERTRON PURE POLYUREA

Two component spray applied high performance protective lining

Description

SmartCare Hypertron Pure Polyurea is an instant curing, spray applied, seamless, and flexible protective membrane. SmartCare Hypertron Pure Polyurea is suitable for use in a wide range of demanding applications requiring abrasion, impact and chemical resistance. SmartCare Polyurea is an excellent primary and secondary containment membrane providing seamless, instant curing, flexible containment solutions that require a higher performance level than standard waterproofing membranes. SmartCare Hypertron Pure Polyurea is an ideal lining for abrasive liquid containment, industrial, chemical and impact applications.

Uses

- Protection of concrete substrates in water, waste water treatment plants and sewage water treatment plant.
- Steel and concrete tank linings subject to corrosion, abrasion and chemical attack.
- Waterproofing of areas subject to impact, abrasion, traffic loads, UV exposure.
- Protection of substrates against abrasion and impact in materials handling applications. – Mining, concrete manufacture, concrete batching plants, sand and gravel quarries.
- Sacrificial wear plates and linings in the mining and transport industries.
- Secondary containment linings in the power, petro chemical, oil and gas industries.
- Applications where substrates are being subjected to abrasion, impact and corrosion in industrial applications

Characteristics

- Can be applied even under extreme climatic conditions. Hot, cold and humid conditions
- Very good abrasion, impact and chemical resistance for most applications
- Resistant to most standard chemicals, acids, oils, and bleaches
- Very good elongation at break
- Very good tensile strength Suitable for exposed applications
- Seamless application and seamless finish. No welded joints or glued seams
- Excellent adhesion to concrete, steel, aluminum, plastics, fibers, wood, foam etc.
- Can be applied across multiple substrates in the same application process
- Remains flexible under a wide range of climatic conditions
- Rapid application to any thickness and very fast cure results in faster turnaround times
- Can build to any thickness in one ap2plication. Does NOT require multiple coats
- 100 % solids, VOC-free, contains zero solvents

Product Data

Mixing Ratio of Component A to Component B by volume	1 : 1 by volume
Theoretical coverage @ 1 mm	1 Kg /m²
Recommended DFT (For project specific DFT recommendations consult with manufacturer)	Concrete – Min 2 mm and Max unlimited Steel – Min 1 mm and

	Max unlimited Tack Free Time at 20°C 10 – 20 Sec
Over coating window	0 – 12 hrs. (without prep and primer)
Curing / loading after	Foot Traffic: 1 hrs. | Mechanical: 2 hrs. | Chemical : 12 – 24 hrs.
Temperature range for application (ambient & substrate)	-10°C to +50°C
Material Temperature (Pre-conditioning)	25 – 30°C
Material Temperature (Spraying)	65 – 75°C
Maximum relative air humidity for application	98 %
Dew Point limit (critical)	Substrate should be 3°C greater than Dew Point

Mechanical & Physical Properties

VOC content , % DIN EN ISO 11890-1 / ASTM D 1259	0
Solid content , % DIN EN 827 / ASTM D 2697	100
Viscosity @ 25°C, mPa*s DIN EN ISO 2884-2 / ASTM D 4878	Comp A: 600 – 1000 | Comp B : 500 - 900
Density @ 20°C, g/cm³ DIN EN ISO 2811-1 / ASTM D 1217	Comp A: 1.09 ± 0.02 | Comp B : 1.04 ± 0.02
Tensile Strength. MPa ISO 37 – 2005 / ASTM D 638	≥ 25
Density g/cm³ EN ISO 1183/ ASTM D638	1.01 ± 1.05
Elongation @ break, % ISO 37 – 2005 / ASTM D 638	100% Elongation :≥ 10 | 300% Elongation :20
Hardness (Shore D) ISO 868 – 2003 / ASTM D 2240	45 ± 5
Tear growth resistance. N/mm ISO 34 – 1 method A	≥ 32
Taber Abrasion, mg (1Kg/1000 cycles) ASTM D 4060	CS17 wheel: < 6 | H18 wheel : < 125
Pull Off Strength, N/mm² DIN EN ISO 4624 / ASTM D 4541	Concrete: ≥ 1.5 Steel : ≥ 6
Max Process temp (°C) ISO 11346 / ASTM D-2485	Wet: 80 Dry: 130 | Peak Temperature: 160
Rebound resilience (%) ISO 4662	≥ 32
Impact Resistance (J/mm) DIN EN 10290-2004 Class A	23°C:9.0 | -5°C:7.0

Coverage

Theoretical coverage @ 1mm – 1 kg/m^2

Chemical Properties

Component A – MDI Pre-polymer
Component B – Mixture of Polyether Amine & Polyol

Application Method

- SmartCare Hypertron Pure Polyurea can only be applied using high pressure heated plural component spray equipment by trained and approved applicators.
- In ambient temperatures below 15°C chemical drums should be pre-heated using band heaters to 30°– 40°C.
- The B-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 B-side chemical components.
- The Pigment is always mixed into the B-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°-75°C. Adjustments can be made on-site based on environmental conditions, mixing module size and application circumstances.
- Hose heaters should be set at 70°C. Adjustments can be made
- on-site based on environmental conditions, mixing module and application circumstances.

Value Base

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control and different test methods.

Health & Safety Information

- All applicators of SmartCare Hypertron Pure Polyurea should be trained and approved by the manufacturer.
- Spray applicators should wear appropriate PPE including approved breathing equipment, eye wear, Nylex or similar light weight spray suit and appropriate covered footwear.
- Avoid breathing in vapours during spraying or when handling chemicals.
- Avoid eye and skin contact.
- Store chemical drums in a cool dry environment. Avoid storing chemicals for long periods in direct sunlight.
- Do not store chemicals next to food stuffs.
- Ensure chemical drums are kept tightly sealed and avoid ingress of air and moisture.
- For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Material Safety Data Sheet.

Version No. V01/23. Please note that this datasheet supersedes all previous versions

For enquiries, feedback and complaints please contact or write to us at

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