PolyShield HS

Hot Spray Poly Urea

Heavy duty, excellent chemical resistant hybrid polyuria

Polyshield HS is a coating system with super-fast drying time and properties. It consists of two components which are ۱۰۰٪ solid. Polyshield HS can be applied only by a two-component spray machine and is applied hot Polyshield HS is a high performance coating which creates a membrane that has fast gel time in comparison to common products available at the market. Polyshield HS can be applied in the condition of very low temperatures environmental conditions as its performance is not affected. Polyshield HS is recommended for waterproofing and as a high-resistance protective system for steel and concrete tanks which do not have noticeable expansions

Applications:

- Protective coatings against corrosion
- Waterproofing and protection of retention basins
- Protection of pavements which are in contact with spilled-over chemical products.
- Waterproofing of gas-oil and petroleum tanks
- Anticorrosion coating of containers
- Protection of metals against corrosion.

Advantages:

- Fast reaction and drying time
- Almost immediate putting into operation
- ۱۰۰٪ solids
- Excellent crack-bridging properties
- High resistance to solvents, petrol, acids and bases (consult technical department)
- Excellent anticorrosion protections

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• Resistant to ۹۵-۹۸ octane gasoline

Physical state

RESIN: Part B: liquid for pigmentation

ISOCYANATE: Part A: yellowish liquid

PIGMENT: Color pigment chart (Grey RAL: ۷۰۱۱, White RAL: ۹۰۰۳, Black RAL: ۹۰۰)

Packing

Resin Part B: ۲۱۵ kg drum

Isocyanate Part A: ۲۵۰ kg drum

Specification

Chemical base	**Polyurea**
Density:	Part B: ~ ۱,۰۰ kg/l Part A: ~ ۱,۰۷ kg/l Mixture: ~ ۱,۰۲۵ – ۱,۰۷۵ kg/l All density values are at ۲۵ ºC
Gel time	Approximately ۸-۱۵ seconds
Time of loss of stickiness	Approximately ۱۵-۲۰ seconds
Curing time	۲٤ hours
Solids content	۹۹٪
Viscosity	Part B: ~ ۷۰۰ mPas Part A: ~ ٤۰۰ mPas

Mechanical and chemical properties

Traction resistance	~ ۲۰ N/mm۲
Shore hardness (D)	~ ۸۵ a ۹۰
Elongation at break	۱۰٪
Abrasion resistance	۱۵ (Roll H-۱۸/ ۱ kg/mg/cycle)
Tear strength	۳۵۰ KN/m
Reaction to the fire	Euroclass F
Chemical resistance	Poly Urea HS ۱۵ resists to the majority of chemical products. Please, ask a detailed table on chemical resistance.

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Consumption / dosage	Coating system	Product	Consumption
	System for Concrete structures	Prime coating according to type Dusting with quartz sand Membrane	۰,۳ - ۰,۵ kg/m۲/layer ۱ - ۱,۵ kg/m۲ ~ ۱ kg/m۲ = ۱mm
	Technical properties and behavior of Poly Urea HS ۱۵ are not affected at exposure to UV radiation. PPNM-۱۳۱can sustain esthetic discoloration if it is exposed to UV radiation. These values are theoretical and do not include additional material which can be required due to porousness of surface, side face of surface, variations of level and losses, etc.		
Quality of Surface	The concrete surface should be thick and should have enough surface compression strength (minimum ۲۵ N/mm۲) and minimal pull-out resistance of ۱, ۵ N/mm۲. The surface should be clean, dry and free of pollutants like dust, oil, fat, painting and other surface treatments. In case of doubt, a test should be made first.		
Surface preparation	The concrete surface should be prepared mechanically by using abrasive blasting equipment or by scarifying it for peeling off surface grout and getting a textured and open-pore surface. Weak concrete and surface defects like cracks and gaps should be eliminated. The surface should be repaired by filling up cracks, gaps and leveling it by appropriate products. It is necessary to prime and level the surface until getting the desired result. Sharp-angle irregularities should be eliminated by a polishing machine. All dust and loose materials should be removed from the surface before application of the product, using brush or vacuum cleaner.		

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APPLICATION CONDITIONS

Surface temperature	From ۲۰º C to +۷۰º C
Temperature of the environment	From ۲۰º C to +٤۰º C
Humidity content in surface	≤ ۱۰٪ of parts of humidity content by weight. There should not be humidity on capillary rise according to ASTM norms (polyethylene film)
Dew point	Attention to condensation! The surface and uncured membrane should be at least ۳ºC above the dew point for reducing the risk of condensation and avoiding damage to a membrane finish.

APPLICATION INSTRUCTIONS

Mixture	Part A: Part B = ۱۰۰:۱۰۰ (by volume) Before spraying, Part C (pigment) should be mixed with part A by mechanical means until getting homogeneous mixture. Next step, measure out and mix two proper components by spray equipment which functions by hot method. Both components should be warmed: component A- Isocyanate should be warmed up to ٦۰ ºC and component B- Polyol- up to ۸۰ºC. It is necessary to test out the mixture and measure it out at regular intervals. PPNM-۱۳۱should not be diluted under any conditions. The component A, a material of resin, should be mixed vigorously until getting a homogenous mixture and color.

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Application method	Before applying, verify the humidity content of surface, relative humidity of the air and dew point. Priming: It is necessary to implement priming on already prepared surface with Primer- ۰۲۲, Primer-۳۰۰.It should not be applied only by dumping. For avoiding forming of pores, this product should be applied with roller, and if necessary, in two layers. After each application, lightly dust with silica sand of ۰,۳-۰,۸ mm. For avoiding forming of air bubbles do not excessively dust with sand. Waterproofing: Spray with proper spray equipment which functions by hot method, spraying two components under high pressure. The equipment used should be capable to provide correct pressure and temperature along the length of the appropriate hose
Cleaning of tools	Clean tools and equipment used for application immediately after using them with solvent DIMETIL. For cleaning hoses, use solvent DOP. After hardening, the material can be removed only by mechanical means

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