

Quick Spray INDUSTRIAL AF – Hot Spray – 2 part coating – aromatic

POLYUREA

1. Characteristics:

QuickSpray INDUSTRIAL AF (aromatic) is a very fast set, premium, 2-component 100% solids coating/elastomer derived from a reaction of an Isocyanate Pre-Polymer and an Amine terminated resin blend. This high-grade pure Polyurea has been especially designed to protect metal substrates and inorganic substrates like e.g. concrete against the deposit and growth of microorganism and algae. The product reacts within seconds and once cured, leaves a flexible, durable, tough surface. It is extremely effective when used as a protective coating whether applied over concrete, steel, any other surface or as a substrate on Geotextile fabric. The material must be applied utilizing high pressure, heated plural component spray proportioning equipment.

2. Features:

- **PURE Polyurea utilization even under extreme climatically conditions**
- **Same properties as the standard material QSP Industrial, but with additional features**
- **Reduction of the deposit and growth of algae, microorganism and shells on different substrates**
- **Long-term effect on account of the integration of the AF-additive-package in the polymer matrix**
- Fast reactivity and cure times from 5 seconds up
- Fast return to service time > long life-cycle > almost maintenance free > significant savings
- Anti corrosive & waterproofing
- Excellent adhesion on concrete, steel, aluminum, plastics, fibers, wood, foam etc.
- Hydrolysis firm > non sensitive to humidity
- Resistant to most aggressive chemicals, solvents, acids and caustics
- Seamless and joint-less coating and lining, solid, high application thickness possible
- High elongation at break
- Very good tensile and structural strength
- 100% solids, VOC-free, no solvents
- Little or no odor
- Without the use of catalysts
- Excellent muffling of noises
- UV-, chlorine- and saltwater resistant
- High abrasion resistance
- Thermal stabile
- Broad colour range (RAL-tones)

3. Typical Uses:

- Highly used industrial- warehousing- or work areas, breakwater wall in the harbour area
- Water treatment reservoirs, chlorine tanks, mud tanks, sewage tanks, man holes
- Fishing and industrial ponds, public and private swimming pool
- Biogas reactors, fermenters

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4. Processing properties:	Datas		
Mixing ratio of Comp. A to Comp. B	100 : 100 per volume		
Material consumption [kg/m ² /1mm]	ca. 1,2		
Recommended thickness [mm]	Minimum: 0,5	Maximal: indefinitely	
Gelification time at 20 °C [sec.]	5 – 15 (dependent on the temperature of the substrate)		
Tack.Free-Time at 20 °C [sec.]	15 – 30 (dependent on the temperature of the ambient)		
Over coat cycle [h]	0 – 12 (without any pre-treatment)		
Curing/loading after [h]	Walkable: 1	Mechanical: 2	Chemical: 12
Temperature range for application (ambience) [°C]	-10 - +50		
Temperature range for application (substrate) [°C]	-10 - +50		
Material Temperature (Preconditioning) [°C]	25 – 30		
Material Temperature (Spraying) [°C]	70 - 80		
Maximal relative air humidity for application [%]	98		
Pay attention to the dew point limit	min. 3K > DP (dew point)		

5. Physical Properties:	Datas		
Chemical Base	-	Comp. A: MDI-Prepolymer Comp. B: Polyetheramine-Mixture	
VOC-content	DIN EN ISO 11890-1 / ASTM D-1259	0%	
Solids content	DIN EN 827 / ASTM D-2697	100%	
Colour	-	miscellaneous (on request)	
Viscosity [mPa*s] @ 25 °C	DIN EN ISO 2884-2 / ASTM D-4878	Comp. A: 600 – 1.000	Comp. B: 500 – 900
Density [g/cm ³] @ 20 °C	DIN EN ISO 2811-1 / ASTM D-1217	Comp. A: 1,09 – 1,13	Comp. B: 1,00 – 1,04
Density [g/cm ³]	EN ISO 1183 / ASTM D-792	1,04 ± 0,02	
Tensile strength [MPa]	ISO 37-2005 / ASTM D-638	≥ 25	
Modul [MPa]	ISO 37-2005 / ASTM D-638	100% Elongation: ≥ 11	300% Elongation: ≥ 21
Elongation at break [%]	ISO 37-2005 / ASTM D-638	≥ 345	
Hardness [Shore D]	ISO 868-2003 / ASTM D-2240	50 ± 5	
Rebound resilience [%]	ISO 4662 / ASTM	≥ 31	
Tear growth resistance [N/mm]	ISO 34-1 method A	≥ 50	
Volume abrasion [mm ³]	DIN ISO 4649	≤ 185	
Taber Abrasion [mg]	ASTM D-4060	< 22 (Wheel CS17 / 1.000g / 1000 Cycles) < 156 (Wheel H18 / 1.000g / 1000 Cycles)	
Peel off strength [N/mm]	ISO 813 / ASTM	Concrete: ≥ 4	Steel: ≥ 8
Pull off strength [N/mm ²]	DIN EN ISO 4624 / ASTM D-4541	Concrete: ≥ 1,5	Steel: ≥ 6
Max. Process temp. [°C]	ISO 11346 / ASTM D-2485	Wet: 60	Dry: 130 Peak temperature dry: 150

* All datas measured at 77 °F @ 50%rH. Meanderings at different ambience- and processing parameters have to be taken into account.

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5. Physical Properties:		Datas
Heat Conductivity [W/m*K]	-	0,245
Sound absorption	-	> 10 dB (A)
Surface resistance [Ohm]	DIN IEC 60167	$\geq 1,0 \cdot 10^{11}$
Volume resistance [Ohm]	DIN IEC 60093	$\geq 1,0 \cdot 10^{11}$
Storage conditions [°C]	DIN EN 12701	10 – 30 (in closed original drums, stored at dry and well ventilated place; beware of freezing)
Shelf life	-	12 months

6. Hints for the application:

The drying times depend naturally on the climate and environmental influences, e.g. ambient temperature, relative humidity of air and ventilation etc.

Therefore the times specified can only be used as guidelines. The exact times have to be determined by testing on site.

Aromatic Polyurea Coating Systems are UV-stable but are not color stable. The cured coating system may exhibit discoloration when exposed to sunlight. This does not influence the physical properties of the material!

7. Form of delivery:

Product name	Unit	Ref.-No.
Quick Spray Industrial AF Comp. A+B	2 x 20 l (pails)	On Request
Quick Spray Industrial AF Comp. A+B	2 x 200 l (drums)	On Request

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Valid is only the actual version of this technical data sheet in each case.

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