

QuickSpray *SUPREME S (slow)* – Hot Spray –2 part coating – aromatic

POLYUREA

1. Characteristics:

QuickSpray *SUPREME S* (slow-aromatic) is a slower reacting 2-component 100% solids coating/elastomer derived from a reaction of an Isocyanate Pre-Polymer and an Amine terminated resin blend. This general purpose pure Polyurea has been especially designed to protect and coat almost all surfaces requiring a slower set time allowing for self-leveling or for broadcasting and aggregate into the product before the viscosity builds. The product reacts within minutes and once cured, leaves a flexible, durable, tough surface. It is extremely effective when used as a protective coating whether applied over concrete, steel, earth or on Geotextile fabric. The material must be applied utilizing high pressure, heated plural component spray proportioning equipment.

2. “Pro’s” at a glance:

- ◆ **Delayed Open- and Set-time - Allows interspersion**
- ◆ Self-leveling, even run with high class optical impression
- ◆ Seamless and joint less coating and lining, maintains flexibility
- ◆ Allows agents to be strewn on wet surface for decorative purpose or anti-slipping
- ◆ Fast return to service time, long life cycle, almost maintenance free, cuts cost
- ◆ Excellent adhesion on concrete, steel, aluminum, plastics, fibers, wood, foam ect.
- ◆ Extremely resistant to most chemicals, solvents, acids and caustics
- ◆ High impact & abrasion resistance, resilient, will not crack or check, stays flexible
- ◆ 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
- ◆ Cures with no catalyst, UV resistant
- ◆ Hydrolysis firm > non sensitive to humidity
- ◆ Excellent muffling of noises
- ◆ UV- and saltwater resistant, excellent weathering
- ◆ Waterproof and anti corrosive
- ◆ Thermal stabile
- ◆ Broad colour spectrum (RAL)



3. Applications:

- ◆ For surfaces with a high class of optical appearance
- ◆ Decorative floors and encapsulation of decorate elements
- ◆ Walkways around pool areas, slides, ponds
- ◆ Theme parks and recreation areas
- ◆ Molds and modeling
- ◆ Furniture industry

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4. Processing Properties:	Data EU	Data US
Mix Ratio	1:1 (volume)	1:1 (volume)
Theoretical coverage	1m ² = 1l = 1mm (1:1:1)	1m ² = 1l = 40mil (1600sq.ft./1gal/1mil)
Recommended thickness	minimum 1,5mm	minimum 60 mil
Maximum thickness	Unlimited	unlimited
Recoat time *	0 – 12 hr.	0 – 12 hr.
Working time * (Pot life)	6 – 8 min	6 – 8 min
Tack free *	~ 10 min	~ 10 min
Cure to dry service *	after 60 – 90 min	after 60 – 90 min
Ultimate cure *	after 3-4 days	after 3-4 days
Temperature (ambient)	-30 °C to +50 °C	-22 °F to +122 °F
Temperature (substrate)	+5 °C to +80 °C	+41 °F to +176 °F
Service temperature (Polyurea)	+70 °C to +80 °C	+160 °F to +176 °F
5. Physical Properties:	Data EU	Data US
Chemical base (A)	Isocyanate	Isocyanate
Chemical base (B)	Amine	Amine
Solids	100%	100%
Solvent (VOC)	0%	0%
Viscosity (A)*	~ 1000 mPa.s	~ 1000 cP
Viscosity (B)*	~ 800 mPa.s	~ 800 cP
Density (A) *	1,12 g/cm ³	1,12 g/cm ³
Density (B) *	1,06 g/cm ³	1,06 g/cm ³
Shore Hardness (A)	~ 93 Sh-A	~ 90 Sh-A
Shore Hardness (D)	~ 50Sh-D	~ 50 Sh-D
Thermal stability	-50 °C to +150 °C	-58 °F to +300 °F
Tensile strength - DIN ISO 527/2/5A/500	~ 23,9 MPa (N/mm ²)	~ 3465 psi
Tear strength	~ 3,1 MPa (N/mm ²)	~ 450 psi
Peel strength	~ 6,2 MPa (N/mm ²)	~ 900 psi
E-Module - DIN ISO 527/2/5A/500	~119 MPa (N/mm ²)	~ 17.310 psi
Tear growth resistance	~ 39,1 kN/m	~ 39,1 kN/m
Elongation - DIN ISO 527/2/5A/500	~ 350%	~ 350 %
Change in volume	< 1%	< 1%
Sound adsorption at 2mm	< 10dB (A)	< 10dB (A)
Chemical resistance	See separate table	see separate table
Shelf conditions	+18 °C to +23 °C @ 50%rF	+65 °F to +73 °F @ 50%rh
Shelf life	180 days	180 days
Standard colors (RAL)	grey (7005), black (9011)	grey (7005), black (9011)

*) all data at +23°C @ 50%rh. Deviation due to temperature and humidity possible!

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6. Surface preparation:

Mechanical preparation: In many cases surfaces such as concrete, metal or existing previous coatings are contaminated. These areas need to be cleaned mechanically. In general all surfaces must be dry, clean and free of oil, grease, dust and other contaminants. Various methods like grinding, grit blasting or blast-cleaning with sand or water produce a rough, even surface in addition to cleaning it thoroughly. These methods improve mechanical adhesion substantially.

Chemical preparation: Priming is always recommended after preparation of the surface area. Primers secure pore density, level the surface, take care of voids and subsequently improve adhesion properties. The amount of primer required depends on the absorbency of the substrate and may differ from 0,1l/m² (metal) to 0,6l/m² (concrete). The temperature of the area to be primed should not be less than +5°C (41°F). To avoid condensation it has to be watched in particular at high temperatures and high humidity that the surface temperature during the application and the curing process is at minimum 3°C (37-38°F) above the dew-point. Apply primer manually with a brush or core-roller. Alternatively airless-application is an option. Before continuing with Top Coat the surface has to be tack free. The timeframe to observe depends on whether or not a 1-Part or a 2-Part Primer system is used. (Please take note of the technical data sheets of the different VIP Primer products)

Important Notice pretreatment: Before starting with any coatings adhesive pull-strength measures of the substrate should be taken. The target value of the pull-off-test should not fall short of 1,5 Mpa, to ensure a sustainable layer of coating. Most failures in the performance of surface coatings can be attributed to poor surface preparation. Always observe correct and proper preparation in accordance with the standard of the industry and existing mandatory regulations.

Concrete: Concrete must have a 28 day cure prior to application. Remove any curing agent, from release materials, oils, wax, moisture or any material that may affect bonding. Mechanical and chemical preparation of the surface is always recommend. Depending on the Primer system used the grip between coating-material and surface may be improved by scattering sand into the material. Perform a moisture vapor test before making the coating application on concrete. The residual moisture content should not exceed 5% on a depth of 20mm. To avoid backside water-vapor-pressure and in case of high humidity a moister barrier may have to be applied.

Steel, Cast-Iron: Metal surfaces too must be free of any residues. Sanding and scuffing of the original paint finish down to the blank metal is required to get best bond. Welding seams and edges have to be abraded. The quality of the depth of the profile of the prepared surface is defined in the following guidelines: NACE-No.2; SSPC-SP10; and ISO-Sa2^{1/2}. Clean with solvent after sandblasting. In any event priming of the surface is recommended to prevent flash-rust, corrosion and to improve adhesion.

Repair of existing coating: Polyurethane/Polyurea

According to conditions and time interval, chemically reactivate existing coatings with MEK (Methyl-Ethyl-Ketone) or else and subsequently clean with i.e. Acetone.

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7. Application:

General considerations: Do not spray onto wet surfaces. *QuickSpray SUPREME S* should basically be used on horizontal surfaces. For vertical applications it should be applied in thin coats to avoid runners. Receptacles are to be opened just prior to work and both components to be protected from humidity by means of drying agents or nitrogen. Special attention must be given to surface temperature of the substrate of app. +5°C (+41°F) and the dew-point. In particular at low temperatures and/or high humidity, the temperature of the substrate during application and drying process has to be at least 3°C over and above the dew-point-temperature. *QuickSpray SUPREME S* can be applied in multiple layers to achieve the desired thickness. It should be applied in a cross-directional method, also for vertical or overhead applications. Structured or restructured surfaces can be achieved using special spray techniques. Beware of overspray. Protect surrounding areas with covers, tents or nets. Mask-tapes should be removed promptly. Dark colors don't fade as quickly as light ones. The subsequent use of an aliphatic Polyurea as a Top Coat (VIP Quick Spray Top Coat) will guarantee color stability.

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!

Mixing: The mixing ratio of 1:1 (volume) for the two components has to be observed at all time. Never dilute *QuickSpray SUPREME S*. Isocyanate-side (A) needs little or no mixing, but has to be protected from humidity and direct sun (solar) irradiation. The Polyamine-side (B) requires premixing for about 30 min. until a homogenous, uni-coloured compound, that also ensures complete suspension of filling agents is achieved. It is absolutely necessary that the mixing process also takes place constantly during the application. Utilize a professional adjustable stirring device and mix with approximately 300-400rpm. Do not allow air to be incorporated into the product.

Equipment: *QuickSpray SUPREME S* should only be applied using a plural component, heated, high pressure 1:1 spray mixing equipment such as those manufactured by Graco, Gama, WIWA or equivalent. Adequate pressure of app. 2.140psi (150bar) and a flow rate of app. 9-15kg/min are required. Both components of the material are to be preheated if necessary to reach a working temperature of 80°C (176°F) in order to achieve optimal cross-linking. The temperature needs to be maintained constantly up to the spray gun. Under these circumstances areas of up to 1.000m² can be covered daily. The cleaning of the equipment has to take place immediately after finishing the job. Use organic solvents such as Mesamoll or equivalent to remove residues of the material. Once the material has hardened it can only be removed mechanically.

8. Miscellaneous:

Storage: *QuickSpray SUPREME S* has a shelf life of six (6) months from date of manufacture in original, factory sealed containers. Avoid exposure to direct sunlight and freezing temperatures for an extended period of time. Keep receptacles at room temperature 18°C-23°C (65°F-73°F) and place on wooden pallets to avoid direct contact to ground. Rotate drums Side-A and Side-B regularly if stored for longer periods

Packaging approx. data: Set: 2x20L cans (A:22,5kg/B:20,7kg); Set: 2x200L drums (A:225kg/B:207kg); Set 2x1.000L IBC-Container (A:1.250kg/B:1.038kg)

Transport: Polyurea can be shipped via commercial truck, rail, ocean and air carriers. The A-side (Isocyanate) is unregulated. The B-side (Amines) shipped as a corrosive (ADR). For details please see current MSDS.

Disposal: Cured material can be disposed without restrictions. For the disposal of liquid components please see our current MSDS and adhere to local environmental laws and ordinances.

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9. Safety:

This product is for use by professional applicators only. Wear protective glasses and clothing. Please read all information in the general guidelines, technical data sheets, method statements and material safety data sheets (MSDS) before applying material. Published technical data and instructions are subject to change without notice. All contractors/applicators are obligated to keep an application log respectively a user's protocol for each individual job. This application log will enable all parties involved to reconstruct and track the sequence of operation and work flow. The application log is a precondition for VIP to initiate any claim what so ever. Contact your local VIP GmbH representative or visit our website for current technical data and instructions.

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The quality and performance of the product is dependent upon the proper mixture and application of the components by the applicator. There are no warranties that extend beyond the description on the face of this instrument. We refer to the rights of the buyer in respect to the quality and performance of the products to our "General Terms and Conditions" at a time relevant version, which are the only valid contractual basis for any business transaction between VIP GmbH and the buyer.

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