

# Technical Data Sheet (TDS)

## RPF

### Rigid Polyurea Foam

RPF is a structural Polyurea foam designed to be spray applied on concrete to cover bug holes and defects in the concrete. The foam density may vary from 5 to 25 lbs./ft.<sup>3</sup> (80 – 400 kg/m<sup>3</sup>). RPF contains special additives to improve adhesion to concrete. There may be conditions where an additional primer such as epoxy may be needed. RPF is fast setting with a tack free time of 10-15 seconds. RPF may be applied on a damp surface but not on a dripping wet surface. 100% solid Polyurea can be applied over RPF if sprayed within 16 hours. If more than 16 hours have pass, RPF will require sanding the surface or applying a primer such as WB Jet Epoxy for proper adhesion.

## Health and Safety

Read the Safety Data Sheet (SDS) and container labels for detailed health and safety information. This product is intended for industrial use by properly trained professional applicators only.

## Physical Properties

Tensile Strength	ASTM D1623	165 – 376 psi
Water Absorption (24 hr.)	ASTM D2842	<1.0%
Moisture Vapor Transmission	ASTM E96	<1.0 perms
Close Cell Content	ASTM D2856	>98 %
Density (lbs./ft. <sup>3</sup> )	ASTM D1622	5 – 25
Gel Time	Time	5-10 sec.
Mix Ratio	PBV	1A – 1B

*\*values relative to foam density*

## Adhesion Results of Typical Substrates per ASTM D-4541 Elcometer

Concrete	>300 psi	Cohesive failure; excellent bonding
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## Technical Application Data

Application substrates must be clean/dry from contaminates; i.e. free of dirt, loose rust, paint, moisture, oils, etc. Application substrate temperature ranges from 4.4°C (40°F) to 37.7°C (100°F) however ideal conditions are between 21°C (70°F) to 37.7°C (100°F). Functional ambient operation temperature ranges from -29°C (-20°F) to 82°C (180°F). Expansion may depend on substrate temperature, the warmer the substrate the better expansion rate.

RPF should be processed through commercially available, two-component, heated, spray equipment designed for that purpose. Primary heat and hose heat for spray equipment should both be set at 140°F (60°C) with machine pressure at approximately 1,500 psi. RPF should only be applied by a qualified professional applicator. It is the responsibility of the professional applicator to thoroughly understand all equipment, technical information and safe operating procedures that pertains to a spray foam application.

## Coverage and Expansion ratio

Spray coverage at 16 mils (400 microns) is 9 sqm (100 sq.ft) / mixed gal. RPF can be color-tinted if desired. A 150 kg/m<sup>3</sup> density polyurea foam will expend 7.5 times the original spray thickness. A 300 kg/m<sup>3</sup> density polyurea foam will expend 3.8 times the original spray thickness.

## Substrate Surface Preparation

The surface must be clean, dry, stable and without loose areas or parts. All residues of fats, dust, dirt, salts or any other unrelated materials should be fully removed in order to ensure the adhesion of the coating to the surface. Leveled, stable, pollutant free and free from the loose parts is a guaranteed basis for the long lifespan of the system and achievement of the result.

Casting of new **concrete** can be coated 4 weeks (28 days in a temperature of 25°C) following the casting and with humidity content that does not exceed 4% in a 2.5cm depth under the surface. Concrete must have a compressive strength of at least 30Mpa; in case this requirement does not met, other recommended solutions for reinforcing the infrastructure should be applied. The preparation of the surface should follow the requirements in the SSPC-SP13 standard in order to get a flat concrete surface that is dry, pollutant free, free from cement water loose parts and dust, with mechanical strength and upper level that are sufficiently porous and enable proper absorption of the coating. Remove completely pattern oil, curing materials, salts, efflorescence, cement water or any other materials using sandblasting, shot-blasting, mechanical milling, diamond polish or acidic etching.

**Metal** must be clean, free of contaminates and dust prior to primer / coating application. Metals should be prepared with a sandblasting, shot blast or machine sanding depending on the severity of the surface condition. Spraying aggregates using compressed air (it is recommended to manually remove peeling layers of paint, rust peels and welding residues using manual or pneumatic scrapers before spraying) to get a surface level in a cleaning level so SA 2.5 (in accordance with the standard SIS 055900) in order to remove rust, loose parts, old paint, fats etc. from at least 95% of the area (in accordance with the standard SSPC-SP10). Perform dust cleaning using air pressure (fat and humidity free) or using a vacuum cleaner. In cases when aggregate spraying cannot be performed use mechanical or manual tools for careful cleaning using a disc, steel brush, sandpaper and scraper to remove mill scales, rust, layers of loose paint and pollutants up to a cleaning level of ST-3 in accordance with the standards SSPC-SP3, SSPC-SP11.

Call or e-mail our Tech Support Group for assistance in application and preparation.

It is always best to perform a test within a small section of the application area prior to full scale engagement.

## **Warranty**

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