

S&P Resin 55 HP

Epoxy adhesive (saturant) & primer



A Simpson Strong-Tie® Company

The information in this technical data sheet is valid for the S&P range of products, systems and solutions.
Please note that the information in your country may vary. Visit sp-reinforcement.eu to find your local branch.

DESCRIPTION

S&P Resin 55 HP is a high performance, solvent free, two-component, high-strength, high-modulus, epoxy resin adhesive used to saturate S&P sheet fabrics and prime substrates.

WHERE TO USE

- S&P Resin 55 HP is used as a laminating resin for the following S&P Sheet systems:
 - S&P C-Sheet
 - S&P G-Sheet
 - S&P A-Sheet
 - Near surface (slot-applied laminates)
S&P C-Laminate
- Sheets of up to 400 g/m² can be manually laminated directly onto the bearing substrate
- Sheets of 400–800 g/m² are pre-impregnated with the Wet-lay-up machine and are applied wet

PERFORMANCE FEATURES

- Good wettability
- Good stability
- High performance
- Can be applied by machine
- Easy to mix and apply
- Very good adhesion of most construction materials
- Solvant free
- Resistant against bases, diluted acids, saline solutions, mineral oils and aliphatic hydrocarbons

PRODUCT DATA

Generic description

S&P Resin 55 HP

Appearance

Comp. A – Translucent yellow liquid epoxy resin solution

Comp. B – Transparent hardener for epoxy resin

Size

6 kg unit

Density

Comp. A: 1.17 kg/l

Comp. B: 0.98 kg/l

Mixed: Approx. 1.15 kg/l

Storage

24 months in original packaging

optimal storage +10°C to +25°C

CERTIFICATION



This product conforms to EN 1504-4:2004.

Principles and methods according to EN 1504-9: 2008

Principle 4: Structural strengthening (SS):

- Method 4.3: Bonding plate reinforcement



MECHANICAL PROPERTIES

Technical data	Test Method	Unit	Minimum requirements according to EN 1504-4			Value		
Density	In house test	kg/dm ³	-			1.0 - 1.1		
Mix ratio A:B	-	By weight	-			4.2 : 1.8		
Open time at 21°C	EN 12189:2000	Minutes	-			45		
Open time at 35°C	EN 12189:2000	Minutes	-			30		
Final cure	-	Days	-			7		
Application temperature	-	°C	-			+8 °C to +35 °C		
Hardness Shore D	In house test	HD	-			> 70		
Compressive strength	EN 12190:1999	MPa	≥ 30			≥ 100		
E-Modulus (compression)	EN 13412:2008	MPa	≥ 2000			≥ 3200		
Coefficient of thermal expansion	EN 1770:1999	µm/m °C	≤ 100			≤ 65		
Tg Glass transition temperature	EN 12614:2006	°C	≥ 40			53		
Linear shrinkage	EN 12617-1:2004	%	≤ 0.1			0.02		
EN 1504-9 Method 4.3: Bonding plate reinforcement								
Adhesion steel to steel (shear strength)	EN 12188:2000	MPa	50° ≥ 50	60° ≥ 60	70° ≥ 70	50° ≥ 50	60° ≥ 60	70° ≥ 70
Adhesion steel to steel (tensile strength)	EN 12188:2000	MPa	≥ 14			≥ 14		
Durability of structural bonding plate Thermal cycles Warm-moist environment	EN 13733:2002	-	No failure in specimens			Pass		

Above test results are carried out in laboratory conditions at +20 °C and 65 % RH unless otherwise stated.

APPLICATION

S&P Resin 55 HP should be applied by well-trained and experienced specialist. The S&P Resin 55 HP is delivered in the prescribed mixing ratios. The hardener (Comp. B) is poured into the resin (Comp. A). It is important that the hardener is used up completely. Mixing of both components is preferably done by means of a low speed drill equipped with a mixing paddle. Mix thoroughly and carefully. Scrape the sides and bottom of the container while mixing to ensure that the hardener is evenly distributed vertically as well. After blending, the mix must be homogeneous, i.e. without streaks. The temperature of both components at the moment of mixing should ideally be 15–20 °C. Higher temperatures reduce the application time considerably.

The S&P Resin 55 HP must be protected from moisture for 6–8 hours after the application. Should any contact with moisture occur during this period, the surface will turn white and tacky; the resin below, however, will still cure perfectly. In discoloured or tacky areas, the bond to any subsequent coating is either reduced or completely prevented.

Substrate preparation

The substrate must be free of substances that can influence adhesion (oils, fats, waxes, etc.). In addition, the substrate must be dust-free, clean, hard and dry

Substrate moisture content: 4%

Information

When reinforcing elements with the S&P FRP System, the tensile forces of the engraved laminates or fabrics must be transmitted through the adhesive into the substrate. A mechanical treatment (cleaning) of the substrate must therefore always be carried out. The usual methods such as sanding, milling, sandblasting, etc. can be used. The substrate must be levelled before the fabrics are installed.

Dosing

Approx. 0.7-1.1 kg/m². Adhesive consumption depends on the temperature, roughness and porosity of the substrate and the applied fabrics. The actual consumption can therefore vary.

ACCESSORIES

S&P offers special tools and accessories that facilitate the processing of resins, such as gluing machines or application rollers.

TESTING

Please contact us if you require any information regarding tests that have been conducted. Test reports may be available.

CLEANING

Tools cleaning

Mixture that has not yet hardened can be washed off with S&P Cleaner. Mixture that has hardened can only be removed by mechanical means.

WARNING

The shelf life of the resin must be respected.

S&P's range of products are for industrial use. They must be installed by specialised personnel and competent professionals with adequate training. The installation instructions must be followed and can be found in S&P application manuals and several "Guideline" documents / existing technical notes.

HEALTH & SAFETY

Important safety instructions

For detailed safety information, we recommend that you see the current safety data sheet which is available on www.sp-reinforcement.eu or you can contact us on +41 41 825 00 70.

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The information and data in this technical data sheet serve to ensure the normal intended use and normal application suitability; the information and data are based on our knowledge and experience. They do not absolve the user from their own responsibility to check the suitability and application method.

The rights to make changes to product specifications are reserved. Furthermore, our general sales and delivery terms apply. The current, most recent product data sheet is valid, and should be requested from us.

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