

S&P Resicem HP

Structural epoxy adhesive

Laminating resin and bonding agent



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 Resicem HP is a structural adhesive for different materials like concrete, carbon fibre, glass fibre, aramid and steel. High performance, solvent-free, 3-component epoxy resin with formulated amine hardener. S&P Resicem HP improves vapour exchanges between the concrete member and the external environment. The product is enriched with special fillers and additives.

WHERE TO USE

- S&P Resicem HP is used as a laminating resin for the following S&P sheet systems:
 - S&P C-Sheet
 - S&P G-Sheet E / AR
 - S&P A-Sheet
- Bonding agent for concrete elements, including
 - Monolithic construction joints between fresh and hardened concrete.
 - Bonding precast concrete elements
 - Bonding steel to concrete

PERFORMANCE FEATURES

- Good wettability
- Good stability
- High performance
- Can be applied by machine
- Easy to mix and apply
- Solvent free
- No primer needed
- Very good adhesion for most construction materials
- Suitable for dry and damp concrete surface (max. residual moisture 12%)

PRODUCT DATA

Generic description

S&P Resicem HP

Appearance

Component A – Translucent yellow liquid epoxy resin solution

Component B – Transparent hardener for epoxy resin

Component F – Binding agent, powder, white

Delivery

10 kg unit

Density

Comp. A: 1.17 kg/l

Comp. B: 0.98 kg/l

Comp. F: 2.8–3.2 kg/l

Mixed A+B: approx. 1.3 kg/l

Storage

Component A + B: 24 months in original packaging
optimal storage +10°C to +25°C

Component F (powder): 12 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

- Method 4.4: Adding mortar or concrete (Adhesive)



APPLICATION

S&P Resicem HP should be applied by well-trained and experienced specialist. S&P Resicem HP is supplied in the required mixing proportions. The powder component (Comp. F) is added to the resin (Comp. A). Mixing of the components is ideally done using a low speed mixing device. When the hardener (Comp. B) is added, thorough stirring is again required. Proper mixing from the sides and from the bottom ensures that the hardener is evenly distributed throughout the container. The mixed product must be of homogeneous appearance, i.e. streak-free. The temperature of the components at the time of mixing should ideally be 15–20 °C. Higher temperatures reduce the application time considerably.

Cementitious surfaces with a residual moisture of up to max. 12 % must be clean and free of loose parts, grease and oil.

Consumption

Depending on temperature, porosity of substrate and S&P sheet system being installed.

MECHANICAL PROPERTIES

Technical data	Test Method	Unit	Minimum requirements according to EN 1504-4			Value		
Density	In house test	kg/dm ³	-			1.4 - 1.5		
Mix ratio A:B:F	-	By weight	-			4.2 : 1.8 : 4		
Consumption for bonding agent*	-	kg/m ²	-			1 mm: 1.5 kg/m ² 3 mm: 4.5 kg/m ²		
Open time at 21°C	EN 12189:2000	Minutes	-			45		
Open time at 35°C		Minutes	-			30		
Final cure	-	Days	-			7		
Application temperature	-	°C	-			+8 °C to +35 °C		
Hardness Shore D	In house test	HD	-			> 70		
E-Modulus (compression)	EN 13412:2008	MPa	≥ 2000			≥ 6500		
Coefficient of thermal expansion	EN 1770:1999	µm/m °C	≤ 100			≤ 50		
Tg Glass transition temperature	EN 12614:2006	°C	≥ 40			54		
Linear shrinkage	EN 12617-1:2004	%	≤ 0.1			0.01		
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		
EN 1504-9 Method 4.4: Adding mortar or concrete (Adhesive)								
Compressive strength	EN 12190:1999	MPa	≥ 30			≥ 90		
Adhesion to concrete	EN 12636:2000	-	Concrete failure			Pass		
Adhesion on wet substrate	EN 12636:2000	-	Concrete failure			Pass		
Slant shear strength	EN 12615:2000	MPa	> 6 Concrete failure			> 6 Concrete failure		
Durability of structural bonding agent Thermal cycles Warm-moist environment	EN 13733:2002	-	Concrete failure			Pass		

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

*The consumption depends of the conditions of use like the flatness and the roughness of the substrate. The actual consumption could be higher. For FRP products please refer to the FRP product TDS.

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.

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.

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.

Head Office

S&P Clever Reinforcement Company AG

Seewernstrasse 127

CH-6423 Seewen

Phone: +41 41 825 00 70

Fax: +41 41 825 00 75

Web: www.sp-reinforcement.ch

E-Mail: info@sp-reinforcement.ch