

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.
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DESCRIPTION

S&P Resicem HP is a structural adhesive for different materials like concrete, carbon fibre, glass fibre, aramid and steel. It is a high performance, 3-component epoxy resin. In comparison to conventional epoxy resins, S&P Resicem HP improves vapour exchanges between the substrate and the external environment.

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
- Bonding agent for concrete elements, including
 - Bonding agent between fresh and hardened concrete
 - Bonding precast concrete elements
 - Bonding steel to concrete

PERFORMANCE FEATURES

- Suitable for dry and damp concrete surface (max. residual moisture 12%)
- Good wettability and stability
- High performance
- Easy to mix and apply
- Can be applied by machine
- Very good adhesion to most construction materials
- Formulated without solvent
- No primer needed
- Low shrinkage

PRODUCT DATA

Generic description

S&P Resicem HP

Appearance

Component A – Translucent yellow liquid epoxy resin

Component B – Transparent hardener

Component F – White cementitious powder

Size

10 kg unit (comp. A 4.2 kg + comp. B 1.8 kg + comp. F 4 kg)

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:

- 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.

TECHNICAL PROPERTIES

Property	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		
Pot life at 21°C	In house test	Minutes	-			40		
Pot life at 35°C	In house test	Minutes	-			30		
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.

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