

S&P C-Anchor

Carbon anchor for structural reinforcement



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 C-Anchor is a high-strength, non-corrosive carbon anchor designed to be field laminated with S&P resins to create a carbon fibre-reinforced polymer (CFRP) anchor for enhanced anchoring of S&P FRP and ARMO systems. It has been developed with a pre-cured composite section to ease installation on the jobsite and increase quality.

GENERAL FEATURES

WHERE TO USE

- Enhance anchoring of composite strengthening systems
- Enhance anchoring of shear reinforcement made with S&P fibre fabrics
- Enable load transfer between different structural elements, e.g. between beams and slabs
- Strengthening of structures made from reinforced concrete and masonry, against bending, shear and tensile stresses
- Increasing strength and ductility of masonry walls
- Increasing the bearing capacity of structures
- Replacement of corroded or missing steel rebars
- Extension of service life and durability

PERFORMANCE FEATURES

- Pre-cured composite rod section allows for simple and reliable application
- Economic
- High strength
- Lightweight
- Corrosion free materials
- Flexible application
- Low aesthetic impact

PRODUCT DATA

Generic description

S&P C-Anchor

Appearance

Black carbon fibres assembled together to create an anchor. Free fibres on one side to create a flexible fan. Pre-cured composite rod section on the other side.

Size

Diameter - 10 mm

Length - 450 mm

Storage

Store in a dry place and away from direct sunlight at a temperature between +5°C and + 35°C

Shelf life

10 years if unopened and in undamaged packaging



APPLICATION

FRP Installations

The installer must respect the application instruction document of the S&P C-Anchor.

The requirements regarding substrate quality, substrate preparation, and application conditions are given in the application instruction document.

The pre-cured section of the S&P C-Anchor is chemically sealed with the appropriate S&P resin in a hole drilled in the substrate. Thanks to the pre-cured section of the S&P C-Anchor, together with the chemical resin cartridge, the substrate preparation and the installation procedure are the same as for standard chemical anchoring applications.

The flexible fan section of the S&P C-Anchor is impregnated with the appropriate S&P resin ensuring that a full fibre saturation is achieved. It has to be applied on the longitudinal direction of the S&P fabric that was first installed (parallel to the fibres). The fibres of the fan section are stretched onto the S&P fabric using the S&P Squeeze (rubber spatula).

ARMO Installations

There are a wide variety of scenarios for application with S&P ARMO systems. Please contact us for further information specific to your needs.

Note: S&P provide an application instructions document that must be respected for proper implementation. The product must be handled with care. The application work must be carried out by well-trained and experienced specialists. The application procedure must be in line with the application instructions of the combined reinforcement system that is used with S&P C-Anchors (S&P C-Sheet systems, S&P ARMO systems, etc).

TECHNICAL PROPERTIES

S&P C-Anchor		
Carbon anchor for structural reinforcement		
Technical data	Unit	Value
Length of the S&P C-Anchor ¹	mm	450
Length of the flexible fan section ¹	mm	280
Length of the pre-cured composite rod section ¹	mm	170
Diameter of the pre-cured composite rod section ¹	mm	10
Cross section of the pre-cured composite rod section ¹	mm ²	78.5
Cross section of the net carbon fibre ²	mm ²	≥ 50
Modulus of elasticity of the carbon fibre ²	kN/mm ²	≥ 240
Tensile strength of the carbon fibre ²	N/mm ²	≥ 4 000
Elongation at break of the carbon fibre ²	%	1.7

¹ The dimensions of the S&P C-Anchor are subject to production tolerances. Please contact us for more details.

² The values given are typical values according to the technical details of the fibre used. They are not design values.

DESIGN

Please consult national regulations if applicable.

The number of anchors, diameters, embedment depths, the fan-shaped part lengths and detailing of S&P C-Anchor shall be designed in accordance with recognised design guidelines/codes in order to meet the design performance specified for the application. The design shall be made by a trained and skilled Engineer.

S&P Reinforcement can provide a design document for the S&P C-Anchor product. Please contact our team for technical support.

CLEANING

Tools cleaning

Mixture that has not yet hardened can be washed off with a cleaner. Mixture that has hardened can only be removed by mechanical means.

ACCESSORIES

S&P squeeze (rubber spatula)

For smoothing of the fan section of the S&P C-Anchor, as well as for distributing the laminating resin.

S&P Press roller (Teflon)

For impregnating the fan section of the S&P C-Anchor.

S&P pump & brushes

For cleaning and preparing the drilled holes.



TESTING

All technical data stated in this product data sheet are based on laboratory tests. Jobsite circumstances may lead to deviations in comparison to the given values.

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

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.

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.

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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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