

Technical Datasheet

FRS-SF UV-Protection Coating



Characteristics



- Waterborne one component coating for FRS-W U300, FRS-W U600 CF Fabrics and FRS-L-S, FRS-L-H CFRP Laminates
- Provides protection against permanent moisture and spray water
- Provides protection against UV-radiation and to prevent aging of the CFRP
- Prevents carbonization of concrete substrates
- Good adhesion to concrete and CFRP substrates
- Low in volatile organic compounds

General Information

Composition	Smooth 1-component acrylic coating
Appearance	White viscous liquid
Delivery Unit and packaging	1 x thermoplastic can (12,5 l)
Art.-No.	569852
Shelf life	12 months
Storage conditions	Storage in dry conditions at temperatures between + 5 °C and 35 °C. Before using the product, please ensure that the product is at application temperature. The product must be protected from direct sun exposure.
Transport conditions	Only in original packaging or in adequate packaging protected against mechanical impact and aggressive environments.

Approvals and Assessments

EN 1504-2	EN 1504-2:2005
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Technical data of FRS-SF

Property	Performance	Unit	Remark
Chemical base	Acrylic dispersion		
Weatherability	Very good		
Density	1,30	g/cm ³	EN ISO 2811
Viscosity	3 000	mPa*s	
VOC	< 0,5	%	
pH	9,0		

The values stated represent typical characteristics of the product and are not to be understood as binding products specifications.

Technical data of the coating

Property	Performance	Unit	Remark
CO ₂ permeability	S _d > 252	m	
Cross cut test (concrete and CFRP)	≤ GT 2		
Fire behavior	Class E		
Water vapour permeability	S _d < 0,3	m	
Capillary absorption and water permeability*	W < 0,1	kg/m ² · √h	
Artificial weathering	No visible defects		
Elongation at break	> 10	%	Tensile test of free-standing films

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*Only determined in OS2 system configuration

System components / related products

CF fabrics	fischer FRS-W U300 / FRS-W U600
Saturating resin / adhesive for FRS-W application	fischer FRS-CF
CFRP externally bonded laminate	fischer FRS-L-H / FRS-L-S
Cleaning agent for the laminate	fischer FRS-CA
Epoxy mortar for the application of the CFRP laminate	fischer FRS-CS

Measurement data

The technical data given in this datasheet are based on laboratory testing according to given EN or ASTM norms. Actual measured data may deviate depending on the measurement procedures, devices and norms used.

Processing instructions

Material, underground and air temperature before application:

- at least + 5 °C (and at least 3 K above dew point)
- maximum + 30 °C (Higher processing temperatures are possible but issues such as skinning may occur and are therefore not recommended)

FRS-SF UV-Protection Coating should be stirred up for homogenization prior to application. Stir with a hand-held stirrer (max. rotation speed $U \leq 300$ rpm) until a homogeneous mass is formed if phase separation was observed after storage. By moving the stirring rod circularly in the can, it must be ensured that the material near to can sides is also thoroughly mixed. Care should be taken to keep entrainment of air to a minimum while mixing. Mixing time needs should be limited to < 1 min.

The FRS-SF can be applied via airless spray using a 0,019 - 0,021 inch nozzle at 20° - 40° spray angle and 150 bar – 190 bar pressure. A tubing with a diameter of at least 10 mm and a maximum length of 60 m should be used. Alternatively, FRS-SF may be applied manually with a brush or roller.

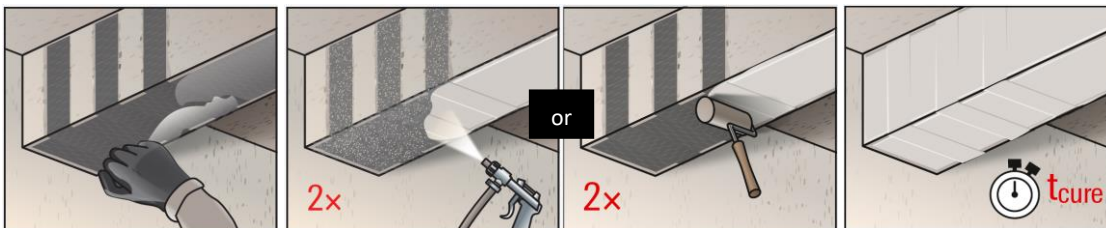
FRS-SF should be applied in at least two layers of a wet film thickness of ca. 0,20 mm. Higher film thicknesses can be applied but will result in longer drying times. The approximate consumption is around 0,30 kg/m² for a film thickness of 0,20 mm depending on the surface roughness of the concrete substrate. Coated surfaces need to be protected from rain and dew water until drying is complete.

The approximate drying times at a film thickness of 0,20 mm in dependence of the ambient temperature are given below:

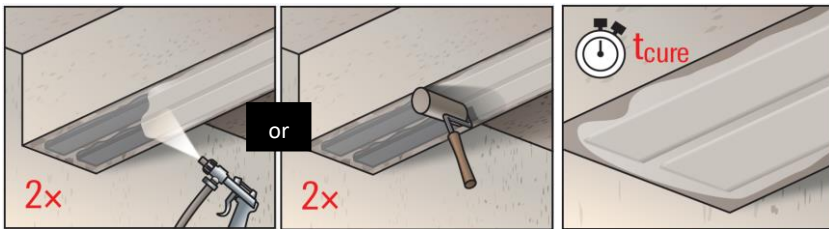
Drying time table			
Film Thickness	10 °C	20 °C	30°C
0,20 mm	8 h	5,5 h	3 h

Drying times can vary depending on the relative humidity, ventilation and material temperature.

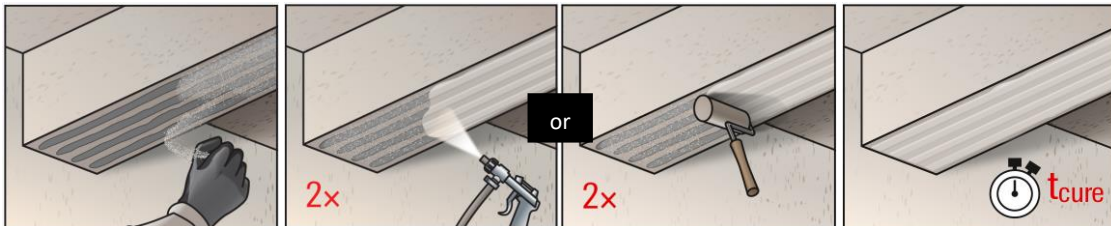
1. Recommended application of FRS-SF on CF-Fabric with previous sand-sprinkling



2. Recommended application on externally bonded CFRP Laminates, without sand-sprinkling



3. Recommended application on near surface mounted CFRP Laminates, with sand-sprinkling



Cleaning of tools

Tools can be cleaned with water prior to film formation of the coating. After drying and film formation, the tools can be cleaned with FRS-CA Cleaning Agent or other organic solvents such as acetone, ethyl acetate, butyl acetate, toluene.

Please note that the data and information provided above are guidelines from laboratory and real-life experience and are not binding. This general information describes our products and their use, but due to varied working conditions, not every case can be covered. We recommend conducting tests or consulting the fischer technical team if in doubt. We provide information to outline our products and services, without guaranteeing specific properties or suitability for a particular purpose. Please always refer to the latest Technical Data Sheet as well as any national and international regulations. Upon publication of a new version, the previous Technical Data Sheet becomes invalid. Product users must retrieve the latest product data sheet at www.fischer-international.com. Our current general terms and conditions apply.