Technical Datasheet

FRS-FP Fire Protection Coating

Characteristics

- Waterborne intumescent one component fire protection coating for FRS-W U300, FRS-W U600 Carbon Fiber Fabrics and FRS-L-S, FRS-L-H CFRP Laminates
- Provides protection against flame spread and smoke development
- Class A rating according to ASTM E84 with FRS-L-S / FRS-L-H CFRP Laminates
- Class A rating according to ASTM E84 with FRS-W U300, FRS-W U600 CF Fabrics
- Good adhesion to concrete and CFRP substrates
- Low in volatile organic compounds

General Information

Composition	Thixotropic 1-component acrylic coating
Appearance	White viscous liquid
Delivery Unit and packaging	1 x steel can (Filling weight 25 kg)
Art.-No.	569849
Shelf life	9 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

ESR-4774 (ICC-ES Evaluation Report)	According to AC 125

Technical data of FRS-FP

Property	Performance	Unit	Remark
Chemical base	Acrylic dispersion		
Solid content	69	% by mass	± 3 %
Density	1,38	g/cm^3	EN ISO 2811, ± 0,02 g/cm^3
Viscosity	35 000	mPa*s	
VOC	< 0,5	%	

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

System components of ESR-4774 (ICC-ES Evaluation Report)

Externally bonded unidirectional CF fabrics	fischer FRS-W U300 / FRS-W U600
Saturating resin for CF Fabric application	fischer FRS-CF
Fire protection coating against flame spread and smoke development	fischer FRS-FP
CFRP Laminates	fischer FRS-L-H / FRS-L-S / FRS-L-S NSM
Epoxy mortar for the application of the CFRP Laminates	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 + 10 °C (and at least 3 K above dew point)
- maximum + 40 °C

FRS-FP should be stirred up for homogenization prior to application. Stir with a hand-held stirrer (max. rotation speed U ≤ 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 should be limited to < 1 min.

Try to cover the vessel to avoid evaporation and skinning during the application, especially at elevated application temperatures. The FRS-FP can be applied manually with a roller and brush but is recommended to be applied via airless spray using a 0,019 - 0,021 inch nozzle at 20° - 40° spray angle and 170 bar – 205 bar pressure. A tubing with a diameter of at least 10 mm and a maximum tube length of 60 m should be used.

Make sure that the ventilation during processing is sufficient. Wear respiratory protection with P2 particle filter as well as protective glasses during spray application.

FRS-FP should be applied in two layers of a wet film thickness of 0,50 - 1,00 mm in the range of CFRP reinforcements with at least 10 cm overlap at the edges. Higher film thicknesses can be applied but will result in long drying times.

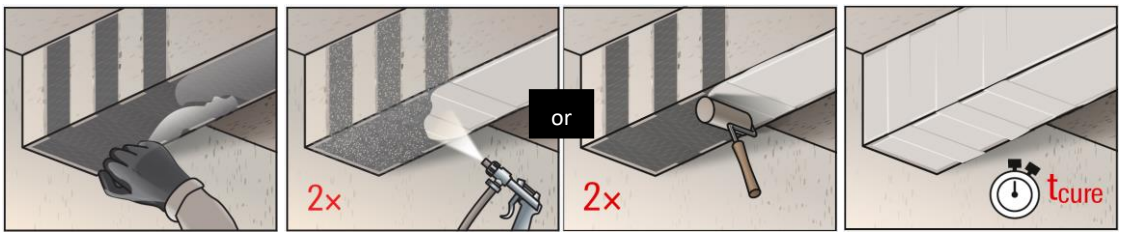
The approximate consumption is around 1 kg/m² for a film thickness of 0,5 mm.

The drying time of a 1,00 mm layer at 20 °C is approximately 1 h until the layer is tack-free and 4 h until the layer can be overcoated. Coated surfaces need to be protected from rain and dew water until drying is complete.

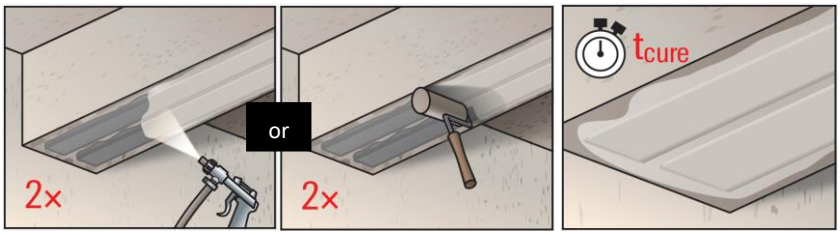
Drying time table

Wet Film Thickness	10 °C	20 °C	30°C
0,2 mm	3 h	2 h	1 h
0,5 mm	4 h	3 h	2 h

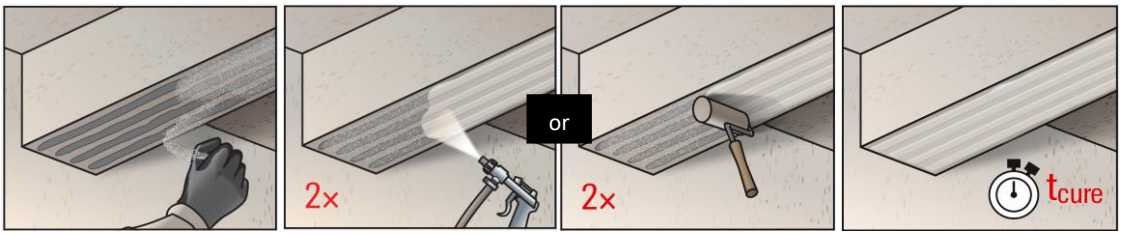
1. Recommended application of FRS-FP on CF-Fabric with previous sand-sprinkling



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 tools can be cleaned with FRS-CA Cleaning Agent or other organic solvents such as acetone, ethyl acetate, butyl acetate, toluene or others.

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.