Technical document: TD-013, English translation

FIRESTOP CF 120 Technical Specification and Application Manual

1. FIRESTOP CF 120 Fire-protection System

1.1. General information

FIRESTOP CF 120 is a system for protection of cables and pipes penetrations. It contains all elements for ceiling and protection of cable and pipe holes through walls. Protective period of intumescent coating has been tested and approved by certified institutes. The copy of certification document is issued to the customers as a part of Technical documentation.

1.2. Definitions of terms in this document

Producer – FIRESTOP Internacional d.o.o. (data in section XIV),
Customer (buyer or investor) – one who purchased and used product,
Fireproof coating – FIRESTOP CF 120 produced by mentioned producer,
TD – stands for this document.

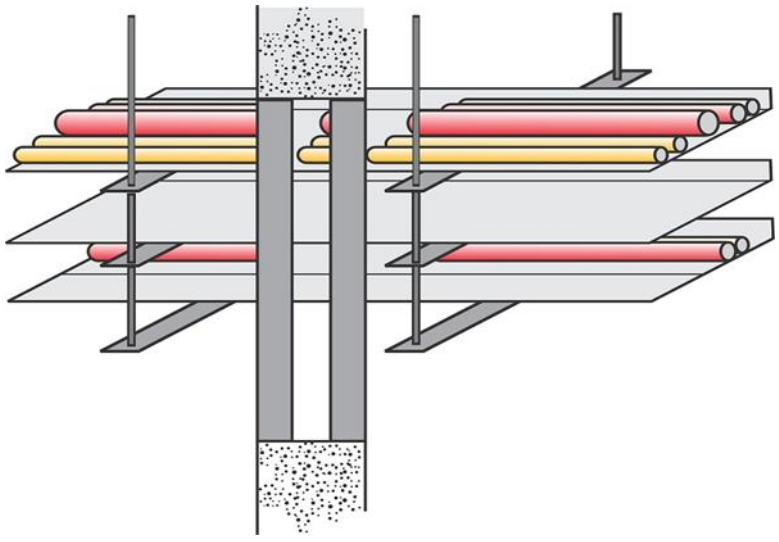
1.3. FIRESTOP CF 120 system consists of:

Firestop CF 120 intumescent coating, DFT 2-3 mm
Plate of the hard-pressed rock wool (150 kg/m^3) DFT 2 x 50 mm
Cable carrier
Cable bundle or tube
Pipe shell of the hard-pressed rock wool.

1.4. Intumescent coating FIRESTOP CF 120

FIRESTOP CF 120 is an expanding water soluble coating for protection of cables and pipes penetration holes through walls. It contains materials which at relatively low temperatures (180 - 220˚C), usually as a consequence of fire, chemically react and release gases causing the coating to expand. The resulting carbon material in combination with other elements of FIRESTOP CF 120 system serves as insulator and fire barrier on cables and pipes, for a certain period of time.

2. Application



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2.1. Application of system for protection of cable penetrations

Step 1.
Cut the panel (plate) from the hard-pressed rock wool in the same shape as the hole that must be protected. For easier assembly, if necessary cut up in pieces. Treat these elements with intumescent coating on all sides in dry film thickness of min 1mm.

Step 2.
Apply intumescent coating to the cables and cable carriers in minimum dry film thickness of 1 mm over a length of 0.5 m.

Step 3.
Fix the cable carriers and the cables into position.

Step 4.
Use the previously prepared plates of rock wool to close the gaps on both sides of the partition wall.

Step 5.
Carefully fill any residual openings and edges with intumescent coating.

Step 6.
Apply the coating to the entire penetration hole, including the wall mounts and cable with cables up to a total thickness of about 2-3 mm.

2.2. Application of system for protection of cable penetrations

This system is used for protection of non-combustible pipes (steel and copper) usually up to a diameter of 88.9 mm.

Step 1.
Cut the panel (plate) from the hard-pressed rock wool in the same shape as the hole that must be protected. For easier assembly, if necessary cut up in pieces. Treat these elements with intumescent coating on all sides in dry film thickness of min 1mm.

Step 2.
Apply intumescent coating to the pipes. Then pull over pipe shell made of the hard-pressed rock wool and also overcoat with Firestop CF 120, all in dry film thickness 1 mm.

Step 3.
Fix the protected pipes into position.

Step 4.
Use the previously prepared plates of rock wool to close the gaps on both sides of the partition wall.

Step 5.
Carefully fill any residual openings and edges with intumescent coating.

Step 6.
Apply the coating to the entire penetration hole, including the wall and pipes up to a total thickness of about 2-3 mm.

3. Surface Preparation

FIRESTOP CF 120 is applied to clean surface. Preparation of cable and cable carriers consists of grease and dirt removal - mechanically or chemically.

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4. Application Conditions

4.1. Temperature and atmospheric conditions

It is recommended to apply and use FIRESTOP CF 120 on dry elements of penetrations. Air temperature should be min 5°C. Relative air humidity should be max 80% for a successful application.

5. Tools

Brush/ Trowel:
Most convenient method of application is with brush. If thinning is required, use water up to 5%. For final application trowel can be used, to achieve uniform look and seal all penetration gaps.

6. Consumption

Assumed consumption is 1.85 kg/m^2 for 1000µm DFT.

7. Drying Time

Drying period depends on several factors:

- Temperature
- Air circulation
- Humidity
- Coating thickness
- Application method.

The following table shows adhesion/drying time in different conditions:

Air temperature→		10°C		20°C		30°C	
Air humidity ↓	Coating thickness	Without air circulation	With air circulation	Without air circulation	With air circulation	Without air circulation	With air circulation
30%	WFT 0,4 mm	8 h	2,5 h	4-5 h	1,5 h	3-4 h	1,5 h
	WFT 0,7 mm	6 h	3,5 h	6 h	3 h	4-5 h	2,5 h
	WFT 1,2 mm	12 h	4.5 h	8 h	3,5 h	6 h	3 h
50%	WFT 0,4 mm	10 h	3 h	6 h	2,5 h	5 h	1,5 h
	WFT 0,7 mm	12 h	4-5 h	8 h	3,5 h	6 h	3 h
	WFT 1,2 mm	18 h	6 h	12 h	4,5 h	10 h	3,5 h
70%	WFT 0,4 mm	12 h	6 h	10 h	4,5 h	8 h	3 h
	WFT 0,7 mm	18 h	9 h	12 h	6,5 h	10 h	6 h
	WFT 1,2 mm	24 h	12 h	18 h	9 h	12 h	7 h

8. Physical and Chemical Data (Typical Values)

Technical properties:

No.	Description	Recommended value
1.	Colour	White, matte
2.	PH value	8.00 - 9.00
3.	Viscosity	25000 - 50000 mPa*s

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4.	Solid matter content	75% (+/- 2%)
5.	Density	1.4 - 1.5 g/cm^2
6.	VOC content	<20 g/l

9. Approvals/Attestations

FIRESTOP CF 120 is tested and attested at the: IMS Institute Belgrade, Serbia to 120 minutes of fire protection. Test results and additional data are available on written request.

10. Packing, Handling and Storage

Packing: Plastic packaging, 10, 5, 3 net, or on request.
Storage: Keep in the original closed packing. Keep indoors in a dry place. Keep from freezing. Storage temperature: 5˚C-35˚C.
Product life: 18 months, if stored in recommended storage conditions and in the original packing.

11. Transport and Regulatory Information

ADR/RID/IMDG/IATA:	No restrictions

Labels and Safety: Product is not classified in accordance with GHS/ CLP directives. Precautionary Statements are listed in Safety Data Sheet.

12. Conclusion

12.1. Producer liability

Producer is liable for claim that its product is fireproof in accordance with test results performed by certified institutes and published in Technical documents. This means that fire resistance is tested in accordance with valid Serbian and EN standards, as presented in Test report. To our best knowledge, technical data contained herein (and in our other technical documents, internal standards and recommendations) are true and accurate and they can be checked only according to methods mentioned in these documents. No other warranty and liability are implied. The list of technical document is given in every our Offer to the customer. If not, customer should request these documents before accepting the Offer. In every case it is considered that customer is familiar with documents and producer liability is excluded. Additional instructions are available on reasonable request.
Customer - user of product should contact FIRESTOP Internacional to check for data accuracy in this document before giving specification or order. We assume no liability for execution of works, application conditions, protection of coated elements from atmospheric conditions or damages inflicted due to mechanical or other effects, safety regulation on worksite, etc. except in special cases defined in special contract.
Our liability, if any, is limited to the substitution of products with other delivery.

12.2. Trademark

This product a trademark of our company, legally protected in Serbian Intellectual Property Office. It is within a proprietary programme: FIRESTOP - expanding fireproof coatings – state of the art protection of steel and wooden structures: registration No. 4117, report No. A-727/08/01 and registered FIRESTOP trademark (signet) No. 57833.

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13. Date of Issue of this TD

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14. Signature

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