

## System FLAMMOTECT-A

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### Ablative cable coating

Solvent and halogen free fire protection coating for cables in indoor and outdoor areas



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## Table of contents

	Topic	Page
<b>1.</b>	<b>Preliminary remarks / Overview</b> .....	<b>3</b>
1.1	Target group.....	3
1.2	Use of the instructions.....	3
1.2.1	Safety instructions.....	3
1.3	Field of application.....	3
<b>2.</b>	<b>Technical Data</b> .....	<b>4</b>
2.1	Certificates and tests.....	5
2.1.1	Chemical resistance in accordance with EN ISO 2812-1.....	5
<b>3.</b>	<b>Allowed services</b> .....	<b>7</b>
3.1	Cables / cable bundles / cable trays.....	7
<b>4.</b>	<b>Used Products</b> .....	<b>7</b>
4.1	Declarations of Performance.....	7
<b>5.</b>	<b>Installation steps</b> .....	<b>8</b>
5.1	General information.....	8
5.2	Preparation.....	9
5.3	Coating instructions.....	9
5.4	Installation.....	10
5.5	Measuring film thickness.....	11

# System FLAMMOTECT-A

## 1. Preliminary remarks / Overview

### 1.1 Target group

The installation instructions are intended solely for personnel trained in fire protection.

### 1.2 Use of the instructions

Before starting work, read through these installation instructions completely once. Pay particular attention to the following safety instructions.

The authorisation holder assumes no liability for damage caused by failure to comply with these instructions.

Pictorial representations serve as examples only. Installation results may differ in appearance.

Unless stated otherwise, all lengths are specified in mm.





All information in this document represents the state of the art at the time of writing or the current version of the standard.

Upon request, svt will be pleased to provide the relevant legal and technical framework and manufacturer specifications for each individual case.

#### 1.2.1 Safety instructions

Consult the respective safety information for the individual penetration seal components.

Personal protective equipment:

	Wear protective clothing and non-slip shoes.
	Use safety goggles, safety glasses.
	Use protective mask with P2 particle filter in case of short-term or low level exposure. For intensive or prolonged exposure use a breathing apparatus with independent air supply. Use breathing protection in compliance with international/national standards.
	Use chemically resistant gloves. Recommended materials: butyl rubber, nitrile rubber, fluorinated rubber, PVC.

### 1.3 Field of application

#### Reaction to fire

The ablative component FLAMMOTECT-A meets class E for reaction to fire in accordance with EN 13501-1.

#### Release of dangerous substances

The ablative component FLAMMOTECT-A does not contain any substances identified as dangerous in the list of the European Commission.

#### Durability and serviceability

The ablative component FLAMMOTECT-A meets the requirements of type X in accordance with EOTA TR 024.

# System FLAMMOTECT-A

## 2. Technical Data

<b>Colour</b>		white, other colours on request		
<b>Density (at +20 °C)</b>		1.34–1.48 g/cm <sup>3</sup>		
<b>Volatile Organic Compounds (VOC)</b>		< 50 g/l (GS-11, Green Seal Standard)		
<b>Viscosity</b>	<b>Coating</b>	6 000–10 000 mPa·s	(Viscosity can be adjusted by adding water)	
	<b>Solid emulsion</b>	25 000–40 000 mPa·s		
<b>Field of application</b>	<b>Coating</b>	thin layer application quantities		
	<b>Solid emulsion</b>	thick layer application quantities		
<b>Application instructions</b>		Recommended application at temperatures from +5 °C to +30 °C and relative humidity of less than 85 %. Surfaces to be coated must be free of contamination and old coatings.		
<b>Type of application</b>	<b>Coating</b>	<ul style="list-style-type: none"> <li>brush or roller application,</li> <li>airless spray gun (nozzle orifice &gt; 0.019" = 0.48 mm)</li> </ul>		
	<b>Solid emulsion</b>	<ul style="list-style-type: none"> <li>brush or spatula application,</li> <li>airless spray gun (nozzle orifice &gt; 0.019" = 0.48 mm)</li> </ul>		
<b>Usage category</b>		Type X in acc. with EOTA TR024		
<b>Example consumption</b>	<b>solid body (weight)</b>	<b>application quantity [g/m<sup>2</sup>]</b>	<b>film thickness [mm]</b>	
			<b>wet</b>	<b>dry</b>
	66–86 %	1000	approx. 0.9	approx. 0.5
		2000	approx. 1.8	approx. 1.0
		3200	approx. 2.9	approx. 1.6
	4000	approx. 3.6	approx. 2.0	

<b>Drying times at +23 °C and 65 % relative humidity</b>		dust-dry	can be coated over with itself	dried through
	<b>Coating</b>	min. 4 hrs.	min. 8 hrs.	min. 4 days
	<b>Solid emulsion</b>	min. 4 hrs.	min. 8 hrs.	min. 4 days
<b>Storage</b>		Protect from frost! Storage at room temperature (+5 °C to +30 °C). Can be stored for at least 18 months in the original sealed container.		
<b>Safety information</b>		No hazardous material according to German Hazardous Substances Act (GefStoffV) and no hazardous material according to German Act on the Transport of Dangerous Goods (GGVS/ADR). For further safety instructions, please read the safety data sheet.		
<b>Declaration of performance (DOP) no.</b>		011551-FLAMMOTECT-A		

# System FLAMMOTECT-A

## 2.1 Certificates and tests

	IEC 60332-3-22 DIN EN 60332-3-22 / VDE 0482-332-3-22 test of flame spread: Cat. A: 2018 for 60 min. DNV GL Certificate No. TAE00003BN dry film thickness $\geq 0.5$ mm
	FM Approval Class 3971 FM Approvals – Certificate of Compliance Approval Identification: 3037058 certified dry film thickness of 1.6 mm
	IEC 60331-21 DIN IEC 60331-21 / VDE 0482-331-21:2017-06 Circuit integrity maintenance: several successful tests up to 90 min. for various cable types and voltage ranges. More details on request.

### 2.1.1 Chemical resistance in accordance with EN ISO 2812-1

The chemical resistance of FLAMMOTECT-A was assessed in accordance with DIN EN ISO 2812-1 (Paints and varnishes – Determination of resistance to liquids – Part 1: Immersion in liquids other than water).

The series of tests comprises the most common chemicals which may occur in sensitive or dangerous areas. Tests range from minor exposure caused by accidental contact (generally not longer than 30 minutes) to lasting exposure (measured on the basis of a residence time of 28 days).

The coated cable samples were exposed to the respective chemicals at 80 % of their length. After exposure the samples were cleaned with distilled water, dried for 24 hours and assessed according to the intactness of the coating.

#### Assessment criteria

Complete resistance; no changes occurred.	+++
Resistance is intact; slight changes are noticeable.	++
Resistance is still intact, there are visual and slight mechanical changes.	+
Resistance is no longer intact; mechanical changes have a limiting effect on the function.	-
Resistance is no longer intact; the chemicals destroy parts of the coating.	—

## System FLAMMOTECT-A

Chemical	Concentration	Short term exposure	Long term exposure
Boric acid	5%	+++	+++
Acetic acid	undiluted	--	--
Acetic acid	10%	+++	-
Nitric acid	undiluted	+++	--
Nitric acid	10%	+++	--
Nitric acid	1%	+++	+++
Hydrochloric acid	undiluted	+++	--
Hydrochloric acid	10%	+++	++
Hydrochloric acid	1%	+++	+++
Sulfuric acid	undiluted	+++	--
Sulfuric acid	10%	+++	+++
Sulfuric acid	1%	+++	+++
Phosphoric acid	undiluted	+	--
Phosphoric acid	10%	++	--
Phosphoric acid	1%	+++	--
Potassium chloride	10%	+++	+++
Caustic potash	50%	++	--
Caustic potash	10%	+++	--
Caustic potash	1%	+++	+++
Caustic soda	50%	+++	-
Caustic soda	10%	+++	-
Caustic soda	1%	+++	+
Sodium chloride	10%	+++	+++
Ammonia	undiluted	+++	--
Ammonia	3,5%	+++	--
Hydrogen peroxide	undiluted	--	--
Hydrogen peroxide	3%	+++	--
Seawater	3%	+++	+++
Natron	10%	+++	+++
Tap water	undiluted	+++	+++
Urea	undiluted	+++	+++
Formaldehyde	30%	+++	+++
Formaldehyde	3%	+++	+++
Hydrogen fluoride	undiluted	--	--
Butyl acetate (ester)	undiluted	++	--
Acetone	undiluted	+++	+
Isopropyl alcohol	undiluted	+	--
Methanol	undiluted	++	--
Ethanol	undiluted	++	+
Ethanol	20%	+++	+
Butanol	undiluted	++	--

## System FLAMMOTECT-A

White spirit (odourless)	undiluted	+++	++
White spirit	undiluted	+++	++
Glycerol	undiluted	+++	++
Heating oil / diesel	undiluted	+++	++

### 3. Allowed services

#### 3.1 Cables / cable bundles / cable trays



##### Electrical cables and lines of all types (including fibre optic cables)

Without limitation to the overall cross section of the individual cables. Can be installed vertically, horizontally or diagonally.

Wave guides are not allowed



##### Cable bundles

Without limitation to the overall cross section of the individual cables. Can be installed vertically, horizontally or diagonally.



##### Cable trays

Non-combustible cable trays of building material categories A1 and A2-s1, d0 in accordance with EN 13501-1. Can be installed vertically, horizontally or diagonally.

### 4. Used Products



##### FLAMMOTECT-A Coating

5 kg pail – Art. no. 01155132  
12.5 kg pail – Art. no. 01155131  
15 kg pail – Art. no. 01155150



##### FLAMMOTECT-A Solid emulsion

5 kg pail – Art. no. 01155121  
12.5 kg pail – Art. no. 01155136  
15 kg pail – Art. no. 01155151

##### Recommended tools

- duct tape / masking tape
- airless spray gun
- brush and/or roller
- if necessary: mirror
- wet film comb
- metal strip, plates or similar to measure the dry film thickness
- electrical dry film thickness gauge

#### 4.1 Declarations of Performance

The Declarations of Performance for the featured products are available for download on our website:  
<https://flamro.com/eu/downloads>

## System FLAMMOTECT-A

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### 5. Installation steps

#### 5.1 General information

- Cables of all types may be installed vertically, horizontally or diagonally. There is no limitation to the overall cross section of the cables. Cable trays must be certified in accordance with EN 13501-1 as classes A1 or A2-s1,d0.
- FLAMMOTECT-A must be processed at above 5 °C and below 85% relative humidity.
- Stir FLAMMOTECT-A thoroughly before installing. Water may be added to adjust viscosity.
- The desired value for the applied quantity / dry film thickness on cables is in accordance with IEC 60 332-3-22 category A (equivalent to EN 50266-2-2 category A): 1000 g/m<sup>2</sup> (wet)  $\triangleq$   $\geq$  500  $\mu$ m (dry)
- The desired value for the applied quantity / dry film thickness on cables is in accordance with the FM test procedure: 3200 g/m<sup>2</sup> (wet)  $\triangleq$   $\geq$  1600  $\mu$ m (dry)
- Allow for loss of material during processing.
- Primers or varnishes are not necessary.
- If the coating was partially damaged, FLAMMOTECT-A may be used to coat the surface anew. NOTE: It is important that the coating once again has the necessary dry film thickness.
- Document the results. The measurement report is necessary for approval.
- FLAMMOTECT-A must be applied in accordance with local building regulations.

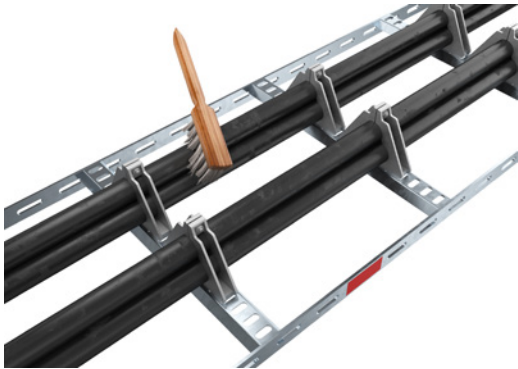


## System FLAMMOTECT-A

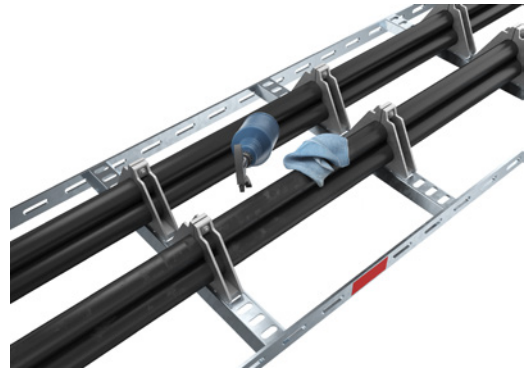
### 5.2 Preparation

These steps should be taken at all times, regardless of the subsequent installation.

1. Remove dust and dirt from cables and cable trays.



2. Use a neutral cleaning agent to free cables and cable trays from grease. Do not use strong alkaline cleaning solutions (pH > 8,5). Carefully remove remaining cleaning agent. It is not necessary to prime the plastic cable sheaths.



### 5.3 Coating instructions

1. It is possible to apply FLAMMOTECT-A with an airless spray gun (nozzle bore > 0.019 " = 0.48 mm).



Alternatively the cables may be coated by hand, using a brush or a roller.



1a brush

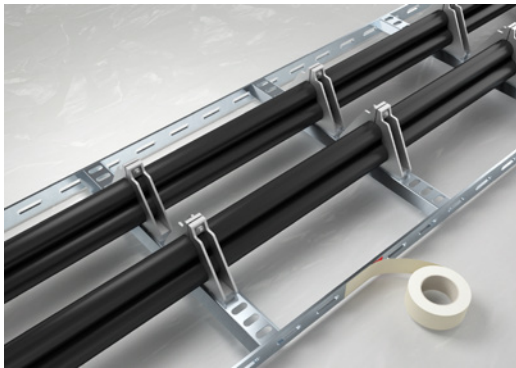


1b roller

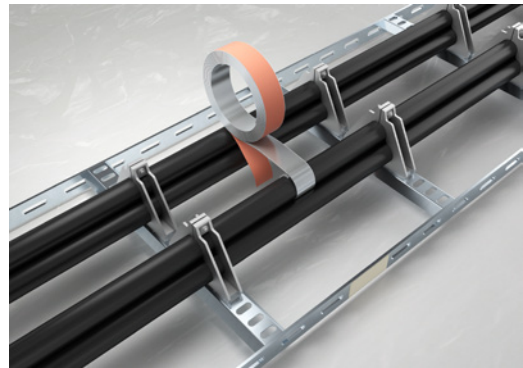
## System FLAMMOTECT-A

### 5.4 Installation

1. Cover floors, walls and electrical equipment with sheets or mask them with tape to protect them from spray. Labels that are relevant to the cable installation must still be legible after coating.



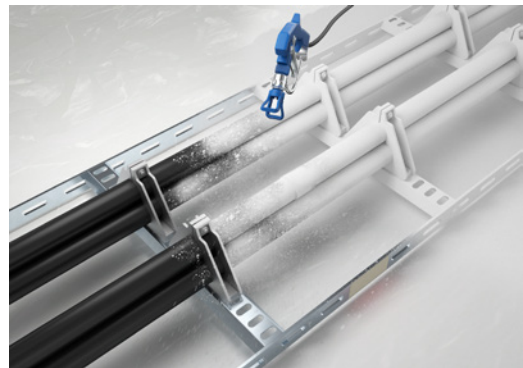
2. Prepare measuring the film thickness by choosing a suitable method. For example, wrap a metal strip around the cable or use metal plates for measuring the subsequent dry film thickness.



3. Use a paint stirrer attached to a drill to stir the material thoroughly until the consistency necessary for processing is reached. If the viscosity is still too high after stirring, it is possible to use 3–5 % of water for dilution.



4. Coat all open surfaces evenly with FLAMMOTECT-A, according to the project either by painting or by spraying. Consult the instruction manual of the airless spray gun.



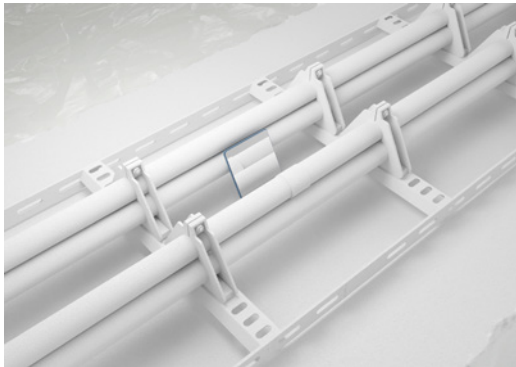
5. Fill gaps between cables carefully by spraying. Use spray gun accessories such as the extension tube or joint nozzles for coating areas which are hard to reach.



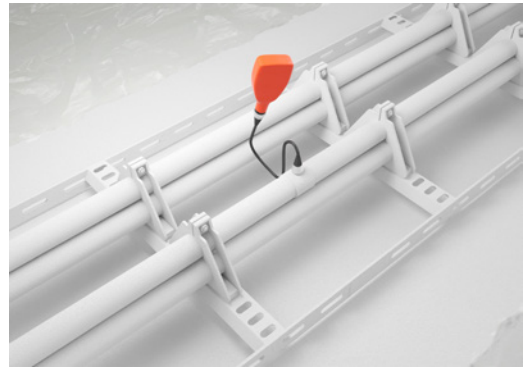
## System FLAMMOTECT-A

### 5.5 Measuring film thickness

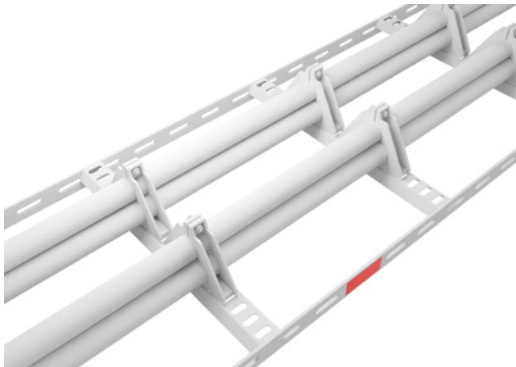
1. Check that all areas are completely coated. Use a mirror or a technical aid for areas which are hard to see.



2. When the coating is completely dry, use an (electronic) gauge to measure the dry film thickness, for example at the metal strip or plates. Document the results.



3. Finally remove all tapes and sheets.



# Measurement Report

Construction site / building: \_\_\_\_\_

Processor: \_\_\_\_\_

Used coating product: \_\_\_\_\_

Date: \_\_\_\_\_

Measured by: \_\_\_\_\_

Measuring device: \_\_\_\_\_

Approved by: \_\_\_\_\_

		Element 1		Element 2		Element 3	
Target value DFT (µm)							
Measuring points		Measured DFT (µm)	Target value reached?	Measured DFT (µm)	Target value reached?	Measured DFT (µm)	Target value reached?
	1						
	2						
	3						
	4						
	5						

		Element 4		Element 5		Element 6	
Target value DFT (µm)							
Measuring points		Measured DFT (µm)	Target value reached?	Measured DFT (µm)	Target value reached?	Measured DFT (µm)	Target value reached?
	1						
	2						
	3						
	4						
	5						

Place/date

Signature