



AQUA

## 1. DESCRIPTION

Cargotherm is an one-component intumescent water based paint especially designed for the passive fire protection of aluminium structures on rail carriages. The intumescence of Cargotherm starts when, in presence of fire, the temperature approaches 150 °C. The thin film of Cargotherm expands into a thick and self consistent foam with very low thermal conductivity thus preventing metal structures from warping and collapsing. It is also available with intumescence starting over 200°C (application on electrical equipment cases).

### 1.1 Areas for Use

Various metal surfaces for fire and heat protection in the fields of railway industry, mechanical engineering, construction and steel structures. **Please, ask for our professional advice!**

### 1.2. Variety

**CARGOTHERM** thick coat, matte, white

**S-50.3.1.0001**

Dilution:

piped water

### 1.3 Packaging

20 kg pails and 200 kg drums

## 2. CHARACTERISTICS

Solid content:	70 ± 1 %
Density, 20 °C:	1,30 ± 0,5 kg/liter
Consumption without loss for 500 µm dry film thickness:	cca. 1,1 kg/m <sup>2</sup>
Theoretical material usage for 500 µm dry film thickness:	0,9 m <sup>2</sup> /kg
Drying times at 20 °C for 500 µm dry film thickness	
- powder dry:	after 2 h
- touch dry:	after 3 h
- complete dry:	after 24 h
- recoatable:	after 1 day
VOC content according to ISO 11890:	> 20 g/liter
Shelf life, between +5 °C and +30 °C, original unopened package:	12 month
Fire behaviour according to EN-45545-2:2016, R1,R7,R17 requirement sets	in-process

## 3. Use

On large surfaces can be applied with pneumatic spray equipment. For small or highly dense surfaces, manual application (brush, roller, smoothing sheet) can be used for repairs. Before application, the material should be carefully mixed, preferably with a machine, for at least 3 minutes. The required film thickness depends on the surface material, heat capacity and time to be protected (e.g. 15, 30 or 45 minutes). Typical application: between 500 µm and 2 mm dry film thickness. **Please, ask for our professional advice!**

### 3.1. Ambient conditions

Min. temperature of use :	+10 °C	Optimal temperature of use:	Between 18-22 °C
Max. relative humidity:	75 %	Optimal relative humidity :	Between 40-60 %
The dew point must be exceeded by 3°C		Optimal air velocity while drying :	0,1-0,4 m/sec

### 3.2. Instruction for use

The CARGOTHERM thick coating is ready for use when delivered, and can be slightly diluted with potable water; However, to achieve a thick layer, it is not recommended to dilute it. For air spray: air pressure: 3.0 - 5.0 bar; nozzle size: 3 - 4 mm depending on the desired dry film thickness and surface texture.

### 3.3. Precautions

The prescribed labour, fire and environmental, as well as hygienic and technical regulations must be kept. Personal protection equipment must be used during the work.

### 3.4. Cleaning the equipment

Due to the short term of drying, the work equipment must be cleaned immediately after finishing the work by water and/or **BAHNFARBE A-Reiniger** or **BAHNFARBE E-Reiniger** cleaning agent.

## 4. PROPOSAL FOR COATING STRUCTURES

The followings are guidelines and samples of application technologies; deviation thereof is possible in specific cases and needs. **Please, ask for our professional advice!**

### 4.1. Base surfaces

- ✓ Steel and stainless steel, primed
- ✓ Light metals, primed
- ✓ porous mineral substrates, primed
- ✓ roughened old coatings

### 4.2. Surface preparation

The base surface must be free of adhesive or loose dirt (e.g.: rust, moisture, dust, sand or oil). Soundblasted and otherwise cleaned surfaces.

### 4.3. Recoatable primers

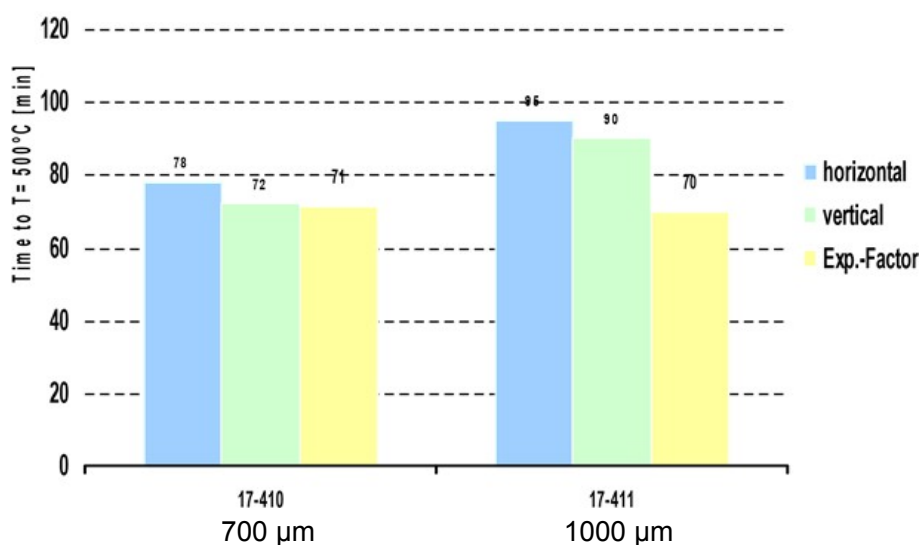
- ✓ **ETOKAT AQUA** primers
- ✓ **BAHNFARBE** primers
- ✓ **ETOKAT AKTIV** primers
- ✓ **ARKOTE** primers

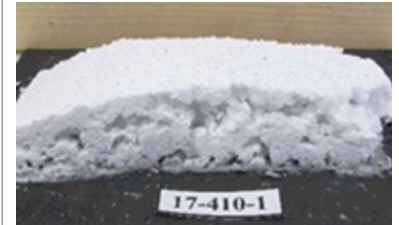
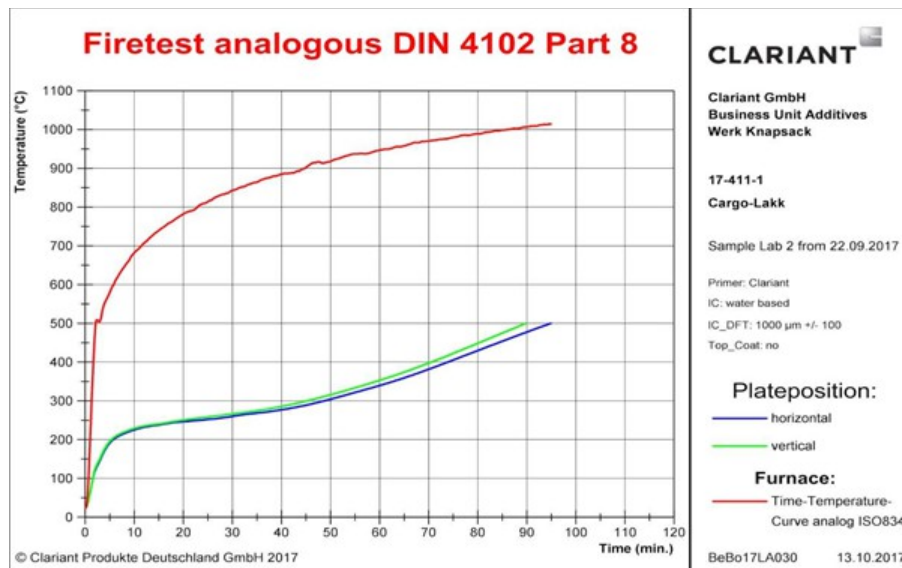
### 4.4. Base coatings

- ✓ **NUVOVERN** base coatings
- ✓ **ARTHANE** base coatings
- ✓ **NUVOVERN AQUA** base coatings
- ✓ **HYDROTHANE** base coatings

## 5. COATING PROPERTIES

The thermal properties of the expanded paint under temperature gradient are the following:





## 6. SAFETY INFORMATION

### 6.1. Transportation and safety markings

**CARGOTHERM** intumescent coating, matte, white

**ADR/RID:** non dangerous

**Hazardous components:** —

**Fire classification:** non flammable

### 6.2. Security notes

Exclusively for industrial use. User must have all knowledge related to the handling and storage of the material, and has to meet all technological and work safety requirements. The local regulations must be met and the data of the Safety Data Sheet must be considered while the product is stored, handled or applied. The data of the Technical Data Sheet are based on the tests we performed in compliance with the current technical standards, as well as on our practical experience. Thus, please consider its date of issue and in your specific case, make an enquiry about any later edition thereof. All data and guidelines therein are intended to be used in normal and traditional conditions, the suitability thereof in specific cases must be determined by your own tests.

**This technical data sheet is valid from the date of issue thereof.**