

PRODUCT DATA SHEET

Sika® Unitherm® Steel W-120

Water based fire protective coating system for steel, interior use

PRODUCT DESCRIPTION

Sika Unitherm Steel W-120 is a water borne fire protection coating for interior structural steel work.

Sika Unitherm Steel W-120 is a very fast drying and mechanical tough coating.

Sika Unitherm Steel W-120 is forming a heat insulating layer under the influence of fire and improves the fire resistance of steel parts.

USES

For indoor use on structural steel members like columns, girders and framework with a highly effective protection to delay the steel from reaching critical temperature.

Note: With critical situation i.e. frequent formation of condensation and/or heating up of surfaces above 45°C, possible special measures should be taken.

PROPERTIES

- Ecological and efficient water based fire protection coating
- VOC 0 g/l
- Free of Halogens and aromatic solvents
- Classified according ETAG 018 part2, Sika Unitherm Steel W-120 meets Type Z1 (i.e. internal conditions includes temperatures till +5°C and high humidity) without topcoat
- Comply with the highest Quality requirements (Level 4) of DGNB
- Preserves the appearance of a steel construction
- Applicable to filigree steel structures and complex steel building elements
- Simple application, does not increase static load
- Individual coloration possible with corresponding topcoat, various colour shades in RAL, DB, others available

TESTS

APPROVAL / STANDARDS

Sika Unitherm Steel W-120 is independently fire tested and approved to international test standards including EN 13381: 8-2010 (ETA 14/0310) and CE marking (0761-CPR-0404).

PRODUCT DATA

COLOUR SHADES	White
PACKAGING	25 kg net weight
SHELF LIFE	18 months, in cool and dry storage conditions and original unopened containers. Protect against frost!

SYSTEMS

COATING SYSTEMS

<u>Steel:</u>	
Primers:	
Oil alkyd:	e.g. Sika Permacor-1705
Two component Epoxy:	e.g. Sika Permacor-2706 EG or SikaCor EG-1
Zinc rich epoxy:	e.g. SikaCor Zinc R or SikaCor Zinc W
Zinc Silicate:	e.g. SikaCor Zinc ZS plus tie coat Sika Permacor-2706 EG
Intumescent coating:	Sika Unitherm Steel W-120
Topcoat:	Sika Unitherm Top W (optional) Sika Unitherm Top S (optional)
<u>Galvanised steel:</u>	
Interface:	Sika Permacor-2706 EG
Intumescent coating:	Sika Unitherm Steel W-120
Topcoat:	Sika Unitherm Top W (optional) Sika Unitherm Top S (optional)

SURFACE PREPARATION

<u>Steel:</u>	Blast cleaning to Sa 2 ½ according to EN ISO 12944, Part 4.
<u>Galvanised steel:</u>	Free from dirt, oil, grease and corrosion products.
<u>Existing anticorrosive primer/coatings:</u>	A compatibility test with the fire protection system is recommended. For checking and surface pre-treatment please see special technical information sheet 'Primers for Sika® fire protection coatings'. Any damage (impact, corrosion, etc.) should be repaired prior the coating.

TECHNICAL DATA

MASS DENSITY	Approx. 1.4 g/cm ³ at + 20° C
SOLIDS BY WEIGHT	Approx. 76 % ± 3 (acc. EN ISO 3233-1)
FLASH POINT	Not applicable
MATERIAL CONSUMPTION AND DRY FILM THICKNESS	Example: 500 microns dry - 650 to 700 microns wet - 910 g/m ² - 0.66 l/m ² . Fire rate of Sika Unitherm Steel W-120 depends on national standard. See corresponding separate consumption table/diagram. Note: Ratio dry film thickness - wet film thickness varies depending on application method.

HINTS OF APPLICATION

PREPARATION OF MATERIAL

Stir thoroughly with slowly turning mechanical stirrer, free of lumps.

APPLICATION METHOD

The method of application has a major effect on achieving uniform thickness and appearance. Spray application will give the best results. The indicated dry film thickness is easily achieved by airless spray. In case of application by roller or brush, additional layers may become necessary to achieve the required coating thickness, depending on type of construction, site conditions, colour shade etc. Prior to application a trial on site may be useful to ensure the selected application method will provide the requested results.

Airless spraying:

- Material shall be applied undiluted
- Airless spray equipment with transmission ratio > 45 : 1
- Screens and filters must be removed
- Hose diameter not below 3/8"
- Whip 1,5 - 2 m, diameter 6 may be used
- Recommended nozzle size 0.46 - 0.61 mm or 0.019 - 0.024 Inch
- Hoses must be used for water based products only

Brushing/rolling:

- Load natural fine bristle brushes or short pile lambswool rollers are recommended

APPLICATION CONDITIONS

Object temperature not below + 5°C, to max. + 40°C*

Relative humidity max. 80%

Application temperature shall be at least ≥ 3 K above dew point.

During application and drying of total Sika Unitherm coating system including Sika Unitherm Top S topcoat as well as transportation special protection measures must be taken against weathering.

* If higher temperatures occur, please consult the Technical department for further assistance.

DRYING / CURING

Approx. 24 h for each fire protection coat for interior use at approx. + 20°C object temperature and 60% relative humidity.

Lower temperatures, higher relative humidity and different fire protection coating thicknesses have an influence on drying time.

Drying stage according DIN EN ISO 9117-2 at 20°C, 60% rel. humidity and 1000 µm dry film thickness:

Drying stage 1: approx. 20 min

Drying stage 6: approx. 45 min

Over coating Sika Unitherm Steel W-120 with itself once per day

Sika Unitherm Steel W-120 requires a minimum of 24 hours drying prior to application with itself or topcoat Sika Unitherm Top W/ Sika Unitherm Top S.

A complete drying of the fire protection coating prior topcoat application is highly recommended. Through-drying of Sika Unitherm Steel W-120 can be checked by 'fingernail-test'.

TOPCOAT

For additional protection of the intumescent coating and for decorative options we recommend the Sika Unitherm topcoats:

- Sika Unitherm Top W (water based)
- Sika Unitherm Top S (solvent based)

CLEANING OF EQUIPMENT

Immediately after use with water.

IMPORTANT NOTICE

EU-DIRECTIVE 2004/42/EC (DECOPAINT-DIRECTIVE)

The maximum allowed VOC content acc. to EU-Directive 2004/42/EC (product class IIA / i, type Wb) in the ready for use material is 140 g/l (limit 2010).

The maximum VOC content of Sika Unitherm Steel W-120 is < 140 g/l VOC.

VALUE BASE

All technical data stated in this Product Data Sheet are based on laboratory tests. Actual measured data may vary due to circumstances beyond our control.

LOCAL RESTRICTIONS

Please note that as a result of specific local regulations the performance of this product may vary from country to country. Please consult the local Product Data Sheet for the exact description of the application fields.

HEALTH AND SAFETY INFORMATION

Information on the safe handling of chemical products, as well as the essential physical, safety-related, toxicological and ecological data can be found in the current safety data sheets. Observe all relevant regulations, e.g. the hazardous substances act. Further notes and information data sheets on product safety and disposal can be found on the Internet at www.sika.de.

LEGAL NOTES

The information, and, in particular, the recommendations relating to the application and end-use of Sika products, are given in good faith based on Sika's current knowledge and experience of the products when properly stored, handled and applied under normal conditions in accordance with Sika's recommendations. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of merchantability or of fitness for a particular purpose, nor any liability arising out of any legal relationship whatsoever, can be inferred either from this information, or from any written recommendations, or from any other advice offered. The user of the product must test the product's suitability for the intended application and purpose. Sika reserves the right to change the properties of its products. The proprietary rights of third parties must be observed. All orders are accepted subject to our current terms of sale and delivery. The most recent product data sheet applies. This can be requested from us or is available to download at www.sika.de. Please check availability of local product data sheet at your local website. In cases of doubt the German text is valid.

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