

PRODUCT DATA SHEET

Sika® Unitherm® Steel S Interior

SOLVENT BASED FIRE PROTECTION COATING FOR INDOOR STEEL COMPONENTS

PRODUCT DESCRIPTION

1-component, solvent-based fire protection coating for steel components in the interior of buildings. Forms a heat insulating layer under the influence of fire and improves the fire resistance of steel parts like columns or girders.

USES

Sika® Unitherm® Steel S Interior installation works to be carried out only by Sika Approved Contractors. Please observe information given by Product Data Sheets.

- Increasing the fire resistance of steel beams, columns and trusses indoors (including open halls). Excluded are lightweight steel construction and components that are constantly exposed to constant moisture, frequent and prolonged periods of very high humidity or highly aggressive gases. For critical loads, e.g. if frequent condensate formation or heating of surfaces (> +45 °C), special measures must be taken if necessary.
- Quick drying and therefore also suitable for the factory application.
- Coatings can be dispensed with in permanently dry rooms.

CHARACTERISTICS / ADVANTAGES

- Quick-drying fire protection system
- Profile-following coating with low coating
- Excellent also for highly articulated components
- No static load
- Easy to process
- Flexible color design possible with coating varnish, color shades in RAL, DB, others available

APPROVALS / STANDARDS

- Declaration of Performance (DoP) No. 020604000030000013: CE marking in accordance with the requirements of standard EN 13381-8: 2010 by the certified third-party supervisor 1121
- EN 13381-8 (ETA 11/0324)

PRODUCT INFORMATION

Packaging	25 kg
Appearance / Colour	White
Shelf Life	In unopened original container: 18 months from date of production
Storage Conditions	Storage temperature between +5 °C and +30 °C. Store cool and dry.
Density	~ 1.31 kg/l
Flash Point	+32 °C

SYSTEM INFORMATION

Systems

Steel

Base coat (min 50 µm):	SikaCor® EG-1 SikaCor® EG Phosphat SikaCor® EG Phosphat Rapid SikaCor® PUR Color Neu Sika® Permacor®-1705 Sika® Permacor®-2706 EG
Fire protection coating:	Sika® Unitherm® Steel S Interior
Topcoats (min. 60 µm):	Sika® Unitherm® Top S (solvent-based) Sika® Unitherm® Top W (water-based)
Indoor use (decorative):	1 * 160 g/m ²

Steel, hand rusting

Base coat (min 50 µm):	Sika Poxicolor® Primer HE NEU
Fire protection coating:	Sika® Unitherm® Steel S Interior
Topcoats (min. 60 µm):	Sika® Unitherm® Top S (solvent-based) Sika® Unitherm® Top W (water-based)
Indoor use (decorative):	1 * 160 g/m ²

Hot-dip galvanizing

Haftvermittler (min. 50 µm):	SikaCor® EG-1 Sika® Permacor®-2706 EG
Fire protection coating:	Sika® Unitherm® Steel S Interior
Topcoats (min. 60 µm):	Sika® Unitherm® Top S (solvent-based) Sika® Unitherm® Top W (water-based)
Indoor use (decorative):	1 * 160 g/m ²

APPLICATION INFORMATION

Consumption

Fire resistance class F30

Compon- ents	Profile	Profile coef-	Dry film	Theoretical	Wet layer
		efficient U/A	thickness	material re- quirement ¹ .	thickness ¹ .
		m ⁻¹	µm	g/m ²	µm
Beams	Open	< 80	200	380	285
Columns		< 100	250	470	355
Trusses		< 130	300	560	425
		< 160	350	660	495
		< 180	400	750	565
		< 200	450	840	635
		< 300	500	930	710
Columns	Closed	< 60	300	570	435
Trusses		< 80	400	760	580
		< 100	500	940	720
		< 120	600	1 120	850
		< 140	700	1 310	1 000
		< 160	800	1 490	1 140
		< 180	900	1 670	1 280
		< 200	1 000	1 860	1 420
		< 220	1 100	2 040	1 570
		< 240	1 200	2 220	1 710
		< 265	1 300	2 410	1 850
	< 300	1 450	2 690	2 060	

1. Determined reference values

Fire resistance class F60

Compon- ents	Profile	Profile coef- ficient U/A	Dry film thickness	Theoretical material re- quirement ¹⁾	Wet layer thickness ¹⁾
		m ⁻¹	µm	g/m ²	µm
Beams	Open	< 100	1 100	2 050	1 570
Columns		< 110	1 200	2 230	1 710
Trusses		< 120	1 300	2 420	1 850
		< 130	1 400	2 600	1 990
		< 140	1 500	2 780	2 130
		< 150	1 600	2 970	2 270
		< 160	1 700	3 150	2 410
		< 167	1 800	3 340	2 550
		< 174	1 900	3 520	2 680
		< 180	2 000	3 710	2 830
		< 186	2 100	3 890	2 980
		< 193	2 200	4 080	3 120
		< 200	2 300	4 260	3 260
		< 220	2 400	4 440	3 400
		< 240	2 500	4 720	3 610
< 260	2 600	4 815	3 680		
< 280	2 700	5 000	3 820		
< 300	2 800	5 180	3 960		
Columns	Closed	< 100	1 900	3 520	2 680
Trusses					

1. Determined reference values

Example

1 000 µm dry correspond to approx. 1 400 µm wet

Reference

The ratio of dry film thickness to wet film thickness depends, among other things, on the respective application method.

The above consumption data correspond to minimum application quantities without bulk and spray loss.

Relative Air Humidity	Max. 80 %
Dew Point	No condensation! The substrate temperature during application and curing must be at least 3 °C above the dew point.
Surface Temperature	Min. +5 ° C, max. +40 ° C For higher temperatures please contact the technical sales adviser.
Waiting Time / Overcoating	Sika® Unitherm® Steel S Interior requires a minimum drying time of 24 hours before the Sika® Unitherm® Top S or Sika® Unitherm® Top W top coat can be applied. The through-drying of Sika® Unitherm® Steel S Interior can be checked by "fingernail test". Prior to further applications possible contaminations must be removed.
Drying time	Touch-dry: < 1 hour (+23 °C, 60 % r.h.) Overcoatable: ~ 4 hours with itself (+23 °C, 60 % r.h.)
	Depending on the total layer thickness of Sika® Unitherm® Steel S Interior. Deviating temperatures, relative humidities and dry film thicknesses have an influence on the drying time.

APPLICATION INSTRUCTIONS

SURFACE PREPARATION

Steel

Blasting in preparation grade Sa 2½ according to EN ISO 12944-4.

Free of dirt, oil, grease and corrosion products.

Steel, hand rusting

Manual derusting (steel brush or suitable tool) in surface preparation degree St 3, EN ISO 12944-4.

Galvanized steel

Free of dirt, oil, grease and corrosion products.

For continuous underwater and condensation water exposure, lightly blast surfaces with a ferrite-free abrasive (sweep blasting according to EN ISO 12944-4).

Existing coating, old coating

Please contact the Technical Department.

MIXING

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

APPLICATION

The specified dry film thickness is achieved with the airless spraying process. The attainment of a uniform coating thickness and uniform appearance depends on the application method. In general, the spraying process leads to the best result. Depending on the design, the required coating thickness can be achieved by brushing or roller application, further work processes must be planned for local conditions. Before starting the coating work, it is advisable to check by means of a test area on site whether the selected application method with the agreed product corresponds to the requirements in the result.

Painting, rolling

- Lambskin rollers, medium pile, solvent resistant
- Paint brushes, solvent-resistant

Airless spraying

Material:	Process undiluted
Pump:	Powerful piston pump
Gear transmission ratio:	45:1
Sieves and filters:	Remove
Hose diameter:	≥ NW 10
Whip:	1.5 - 2.0 m, NW 6, possible
Recommended nozzle diameter:	0.53 - 0.66 mm or 0.021 - 0.027 inches
Hoses:	Use only for dispersion!

Protect the coating from the effects of the weather until the entire coating has been completed and fully cured. Ensure adequate ventilation.

Note: Sika® Unitherm® Steel S Interior must be applied in several coats to the final dry film thickness.

The wet layer thickness of the first coat directly onto the primer should be max. 400 µm. A wet coat thickness of approx. 750 µm is recommended for each subsequent coat.

CLEANING OF TOOLS

SikaCor® Cleaner

VALUE BASE

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

LOCAL RESTRICTIONS

Note that as a result of specific local regulations the declared data and recommended uses for this product may vary from country to country. Consult the local Product Data Sheet for the exact product data and uses.

ECOLOGY, HEALTH AND SAFETY

Local safety regulations must be observed and it advisable to wear PPI when working with this product with particular attention paid to cutting and handling. Transportation Class: The product is not classified as hazardous good for transport. Disposal: The material is recyclable. Disposal must be according to local regulations. Please contact your local Sika sales organisation for more information.

DIRECTIVE 2004/42/CE - LIMITATION OF EMISSIONS OF VOC

According to the EU Directive 2004/42/CE, the maximum allowed content of VOC (product category IIA / j type Sb) is 500 g/l (Limits 2010) for the ready to use product.

The maximum content of Sika® Unitherm® Steel S Interior is < 500 g/l VOC for the ready to use product.

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. Users must always

refer to the most recent issue of the local Product Data Sheet for the product concerned, copies of which will be supplied on request.

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