

Sika® Unitherm® K

Intumescent coating, water dispersed, for cable

Product Description Sika® Unitherm® K is a water based thin film fire protection coating for application on cables, cable splitters, cable trays, ladders and bundles. It forms, under the effect of heat or fire, an carbon char foam which is insulating the cable substrate against heat and prevents the propagation of fire.

Uses

- Intumescent coating for interior useater based coating system
- Prevents propagation of fire
- Not for surfaces exposed to mechanical stress

Characteristics / Advantages

- Water based coating system
- Flexible installation and protect adjustment to any given cable construction
- Prevents spread of fire
- Neutralisation of acidic fumes
- Reduction of smoke emission and flammability
- Easy to apply
- Does not increase static load
- Only for interior use

Test

Approval / Standards

Type	Institute	Standard	Certificate/ approval
Construction product approval	DIBT	Approval guidelines for construction materials	Z-19. 11-460
Hardly inflammable B1	Institute for Beustoffe, Mssivbau and Brandschutz	Following DIN 4102 Part 1	3374/ 3469
Fire resisting characters of electric cables, circuit integrity up to 35 min	Warrington Fire Research centre	IEC 331: 1970 New: IEC 60331	14790 14793
Stop flame spread	Warrington fire Research centre	IEC 332-03 A-F; A-FIR (new; IEC 60332-3-21)	L 14508 L 14507
Neutralisation of acid fumes up to 83%	TOV		CH 2174/84

Construction



Product Data

Appearance / Colour	White
Packaging	25.0 kg containers, net weight.

Storage

Storage Condition / Shelf-Life	12 months from date of production if stored properly in original, unopened and undamaged sealed packing. in dry conditions at temperatures between +5° C and +30° C. protected from frost
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Technical Data

Density:	Resin liquid: ~ 1.27 kg/l
Solids Content	~ 64% (by weight) according: EN ISO 3251

Resistance

Fire Resistance	Inflammable for a certain time
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System Information

System Structure	Intumescent layer: 1x Sika Unitherm® K Top Coat (mandatory): 1x Sika Unitherm® 38202
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Application Details

Consumption / Dosage

Approval	Time	Consumption	WFT	DFT
Sika Unitherm® K	Min	Kg/m ²	µm	µm
Circuit integrity IEC 331:1:19760	10	800	675	400
	20	1500	1250	740
	30	2200	1850	1100
Flame Spread acc. IEC 332-03		1000	830	500
Neutralisation of acid fumes up to 83%		> 2000	> 1850	> 1100
Sika Unitherm® K		150	120	50

Calculating the material consumption surface dimension, application on all sides, the curvature factor of the cable laying surfaces and the overspray has to be taken in consideration. Wall mounted ladders shall be coated at one side only and/or as far as possible on the external sides. Supports for cable trays or ladders have also to be coated from one side.

Substrate Quality	Prior to application of Sika Unitherm® K the surface must be clean, dry and free of all Contaminants such as dirt, oil, grease, wax, coatings and surface treatments, etc. If in doubt apply a test area first.
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Application Conditions / Limitations

Substrate Temperature	+10° C min. / +40° C max.
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Ambient Temperature	+10° C min. / +40° C max.
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Relative Air Humidity	80% r.h. max.
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Dew Point	Beware of condensation!
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The substrate and uncured coating must be at least 3° C above dew point to reduce the risk of condensation or blooming on the wall finish.

Application Instruction

Mixing / Stirring Sika Unitherm® K must be mechanically stirred thoroughly, free of lumps, using an electric stirrer (300-400 rpm) or other suitable equipment.

Application Method / Tools

Airless spraying:

- Material shall be applied undiluted
- Airless spray equipment with transmission > 30 : 1
- Hose diameter not below 3/8"
- Recommended nozzle size 0.46 – 0.66 mm or 0.019" - 0.027"
- Fan angle 15 to 25 depending on cable configuration
- Remove all filters
- Hoses must be used only for water based products

Brush or roller:

- More than one coat may be necessary to achieve the equivalent DFT of a single spray coat. Waiting time between each layer must be at least 8 hours.
 - Is only recommended in small areas, where spray application is not possible
- Sika Unitherm® K must be applied in thin layer first, After drying apply specified amount of Sika Unitherm® K to meet the intended specification.

Able trays shall be coated on the surface on all sides. It is not necessary to separate single cables. Ensure that seams, gaps, and surfaces which are difficult to approach receive a sufficient amount of coating (check with a mirror).

In case of small gaps between two cable trays which are located on the top of each other, or for cable surfaces close to walls which have to be coated, the use of nozzles with extended angles is recommended.

Cleaning of Tools Clean all tools and application equipment with water Immediately after use. Hardened and/or cured material can be only be removed mechanically.

Potlife Not applicable (see shelf life)

Waiting Time / Over-coating

Before applying Sika Unitherm® K – on Sika Unitherm® K – allow:

Substrate temperature	Minimum	Maximum
+10° C	18 hours	-
+20° C	12 hours	-
+30° C	12 hours	-

Before applying Sika Unitherm® 38202 – on Sika Unitherm® K – allow:

Substrate temperature	Minimum	Maximum
+10° C	36 hours	-
+20° C	24 hours	-
+30° C	24 hours	-

Times are approximate and will be affected by changing ambient conditions particularly temperature and relative humidity.

Notes on Application / Limitations

With relative air humidity of ≥ 80% the waiting time / overcoat is increased by 24 hours.

Always ensure good ventilation when using Sika Unitherm® K in a confined space, to ensure drying.

Applied Sika Unitherm® K and Sika Unitherm® 38202 should be protected from rain, condensation, water and weathering.

If heating is required do not use gas, oil, paraffin or other fossil fuel heaters, these produce large quantities of both CO2 and H2O water vapour, which may adversely affect the finish. For heating use only electric powered warm air blower systems.

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	Please observe safety instructions on container labels and local regulations. For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent material Safety data Sheet containing physical, ecological, toxicological and other safety-related data.
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.
EU Regulation 2004/42 (Decopaint Directive)	The maximum allowed VOC content acc. To EU regulation 2004/42 (product class IIA / i, type Wb) in the ready for use material is 140g/l (limit 2010). The maximum VOC content of Sika® Unitherm® concrete S is < 140 g/l VOC.

