DESCRIPTION

Sika® Unitherm® Concrete S is a solvent based fire protection coating system for concrete, masonry and brickwork located in interior situations, i.e. not exposed to weathering. Sika® Unitherm® Concrete S forms an insulating carbon char foam under the effect of heat or fire and protects the concrete substrate against heat and fire.

USES

Sika® Unitherm® Concrete S may only be used by experienced professionals. For interior use on concrete, masonry and brickwork to improve the fire resistance.

CHARACTERISTICS / ADVANTAGES

- Protection of concrete, masonry and brickwork against fire or heat
- Delays heat transfer through walls in case of fire
- Low material consumption
- Simple application
- Individual coloration possible with corresponding topcoat, various colour shades in RAL, DB, others available
- VOC < 350 g/l

APPROVALS / CERTIFICATES

- Tested according to EN 13381-3
- Approval guidelines for building materials, DIBt, Z-19.11-1918

PRODUCT INFORMATION

<table>
<thead>
<tr>
<th>Packaging</th>
<th>25 kg net. weight</th>
</tr>
</thead>
<tbody>
<tr>
<td>Appearance / Colour</td>
<td>White</td>
</tr>
<tr>
<td>Shelf life</td>
<td>18 months</td>
</tr>
<tr>
<td>Storage conditions</td>
<td>In originally sealed containers in a cool and dry environment.</td>
</tr>
<tr>
<td>Density</td>
<td>~1.31 g/cm³</td>
</tr>
<tr>
<td>Flash Point</td>
<td>+ 30°C</td>
</tr>
<tr>
<td>Solid content</td>
<td>~71 % ± 3 % by volume (according BCF-Guidance Method)</td>
</tr>
</tbody>
</table>
SYSTEM INFORMATION

System
Fire protection coating for concrete:
Sika® Unitherm® Concrete S

Topcoat:
Sika® Unitherm® Top S / Sika® Unitherm® Top S EG

For decorative reasons we recommend the Sika® Unitherm® Top S topcoat produced in RAL colour shades or on request for other colour shades (see separate product data sheet for topcoat).

APPLICATION INFORMATION

<table>
<thead>
<tr>
<th>Consumption</th>
<th>Concrete structure</th>
<th>140 mm</th>
</tr>
</thead>
<tbody>
<tr>
<td>Coverage</td>
<td></td>
<td>1.10 kg/m²</td>
</tr>
<tr>
<td>Standard exposure</td>
<td>R 60</td>
<td>R 90</td>
</tr>
<tr>
<td>Equivalent concrete thickness*</td>
<td>30 mm</td>
<td>14 mm</td>
</tr>
</tbody>
</table>

* Equivalent concrete thickness = thickness of concrete to be substituted by the intumescent coating.

Table is based on test results according EN 13381-3 and EN 1992-1-2. For further information please consult the technical department. Furthermore, proper ventilation is recommended.

Relative Air 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 special protection measures must be taken against weathering.

Surface Temperature
Object temperature not below +5°C, to max. +40°C
* If higher temperatures occur, please consult the technical department for further assistance.

Waiting Time / Overcoating
Sika® Unitherm® Concrete S requires a minimum of 24 hours drying prior to application of topcoat Sika® Unitherm® Top S. A complete drying of the fire protection coating prior topcoat application is highly recommended. Through-drying of Sika® Unitherm® Concrete S can be checked by ‘fingernailtest’. Prior to further applications possible contaminations must be removed.

Drying time
Drying/Curing
Average drying time at +23°C
Overcoatable ~6 h

Different temperature, different relative humidity's and different fire protection coating thickness have an influence on drying time.

APPLICATION INSTRUCTIONS

SUBSTRATE PREPARATION

Surfaces to be coated must be swept off and vacuum cleaned afterwards. The areas have to comply with building standards. They have to be solid, adherent, free of sludge, dirt, oil, grease, wax, water-repellent agents and other contamination preventing proper adhesion. Residual humidity in the concrete must be below 4 % according to CM-humidity measuring instrument.

A compatibility test on existent coatings with the fire protection system is recommended. Any damage (impact, corrosion, etc.) should be repaired prior the coating.

MIXING

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

APPLICATION

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 ≥ 45 : 1
• Screens and filters must be removed
• Hose diameter not below ⅜ “
• Whip 1.5 - 2 m, NW 6 may be used
• Nozzle size 0.53 - 0.66 mm (0.019 - 0.027 inch)
• Hoses must be solvent resistant!

Brushing/rolling:
• Material shall be applied undiluted
• Brush or roller must be solvent resistant

CLEANING OF TOOLS
Immediately after use with Sika® Unitherm® Thinner.

BASIS OF PRODUCT DATA
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
For information and advice on the safe handling, storage and disposal of chemical products, users shall refer to the most recent Safety Data Sheet (SDS) containing physical, ecological, toxicological and other safety-related data. Further notes and information data sheets on product safety and disposal can be found on the Internet at www.sika.de.

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® Concrete S is < 500 g/l VOC for the ready to use product.