

Sika® Unitherm® 38091 exterior

Solvent based fire protection coating for steel, exterior use

Product- description

Sika Unitherm 38091 exterior is a solvent based thin film fire protection coating system which has to be used for structural steelwork which is subject to weathering, high humidity, maritime environment etc. (exterior condition).

Sika Unitherm 38091 exterior can also be used for interior steel constructions

Sika Unitherm 38091 exterior is forming a heat insulating layer under the influence of fire and improves the fire resistance of steel parts like columns, girders and framework.

Application areas:

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

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.

Characteristics:

- **Applicable on steel constructions exposed to weathering**
- **Preserves the appearance of a steel construction**
- **Applicable to filigree steel structures and complex steel building elements**
- **Does not increase static load**
- **Simple application**
- **Individual coloration possible with corresponding topcoat, various colour shades in RAL, others available**

Product data

Colour shades: white

Packaging: 25 kg, net weight

IMDG-Code No: Class 3.3, UN-No.: 1263

Shelf life: 12 months from delivery in cool and dry storage conditions, original unopened containers.

Systems

Coating systems:

Steel:

Primer	Sika Permacor 1705
Intumescent coating	Sika Unitherm 38091 exterior
Topcoat	Sika Unitherm 7854

Galvanised steel:

Interface	Sika Permacor 2706/EG
Intumescent coating	Sika Unitherm 38091 exterior
Topcoat	Sika Unitherm 7854



Surface pre-treatment:Steel:

Blast cleaning to Sa 2½ according to EN ISO 12944, Part 4.

Galvanised steel:

Free from dirt, oil, grease and corrosion products.

Existent anticorrosive primer/coatings:

A compatibility test with the fire protection system is recommended.

For testing and surface pre-treatment please see special technical information sheet "Primers and surface testing for Sika Unitherm steel fire protection systems".

Any damage (impact, corrosion, etc.) should be repaired prior the coating.

Technical data

Mass density: Approx. 1.28 g/cm³

Solids by weight: Approx. 70% (according to EN ISO 3251)

Flash point: + 26°C

Consumption: Example: 550 microns dry - 750 to 800 microns wet - 1000 g/m² - 0.780 l/m²
Fire rate Sika Unitherm 38091 interior depends on national standard.
See corresponding separate consumption table/diagram.
Note: Ratio dry film thickness - wet film thickness varies depending on application method.

Application instructions

Preparation of coating material: Stir thoroughly with slowly turning mechanical stirrer, free of lumps.

Application conditions: Object temperature not below + 5°C, to max. + 50°C
Relative humidity max. 80%
Application temperature shall be at least ≥ 3 K above dew point. In case relative humidity exceeds 80% special measures must be taken to prevent the condensation forming while application.
During application and drying of total Sika Unitherm coating system including Sika Unitherm 7854 topcoat as well as transportation special protection measures must be taken against weathering.

Application methods: Airless spraying:
- material shall be applied undiluted
- airless spray equipment with transmission ≥ 45 : 1, flow rate 4 - 5 l/min.
- filters should be removed
- hose diameter not below 3/8 "
- whip 1.5 - 2 m, NW 6 may be used
- recommended nozzle size 0.46 - 0.66 mm or 0.019 - 0.027 "
- solvent resistant hoses must be used!

Brushing/rolling:
- more than one coat may be necessary to give equivalent dry film thickness of a single spray applied coat.

Note: The Sika Unitherm basecoat shall be applied in several coats up to the final dry film thickness required. Wet film thickness max. 400 µm for 1st application coat on primer. Wet film thickness approx. 500 µm for each subsequent application coat is recommended.

Drying: Approx. 24 hours for each fire protection coat for exterior use at + 20°C object temperature and 65% relative humidity. Lower temperatures, higher relative humidity and different fire protection coating thicknesses may extend drying time.
Sika Unitherm 38091 exterior requires a minimum of 48 hours drying prior to application of topcoat Sika Unitherm 7854. Through-drying of Sika Unitherm 38091 exterior can be checked by "fingernail-test".

Topcoat: Topcoat Sika Unitherm 7854 produced in RAL colour shades or on request for other colour shades.
For exterior use: 2 x 150 g/ m², 2 x 120 ml/m² is necessary for structural steel-work exposed to weathering (see separate technical data sheet for topcoat).

Cleaning of equipment: Immediately after use with Sika Unitherm thinner 11089.

Important notice

EU Regulation 2004/42 (Decopaint Directive): The maximum allowed VOC content acc. To EU Regulation 2004/42 (product class IIA / i, type Sb) in the ready for use material is 500 g/l (limit 2010).
The maximum VOC content of Sika Unitherm 38091 exterior is < 500 g/l VOC.

Notes regarding hazards: Detailed health and safety information as well as relevant precautionary measures - e.g. physical, safety, toxicological and ecological data - may be found in our material safety data sheets.
Please consider all relevant and applicable regulations regarding hazardous substances.

This information and, in particular, the suggestions relating to the application and end-use of our products, are based on our knowledge and experience in normal use, providing the products have been properly stored and applied. In practice, the differences in materials, substrates and actual site conditions are such that no warranty in respect of results achieved or liability arising out of any legal relationship whatsoever, can be inferred either from this information or from any advice offered by spoken word, unless we have been deliberately at fault or guilty of gross negligence. The user shall be required to prove that he has duly and in full extent submitted to Sika in writing all information necessary for Sika to make a fair and proper assessment. The user must test the products suitability for the intended application and purpose. Sika reserves the right to change the product specifications. The proprietary rights of third parties must be observed. Orders are accepted subject to our current terms and conditions of sale and delivery. The most recent edition of the Technical Data Sheet shall apply, copies of which must be requested from us.



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