Product Data Sheet
Edition 6, 2010
Version No. 01/10

Construction

Sika® Unitherm®-19010

Intumescent coating, water dispersed, for wood

Product Description

Sika® Unitherm®-19010 is water dispersed thin film fire protection coating for interior use. It forms an insulating and flame retardant layer which delays the inflammation of wood.

Uses

- Intumescent coating for interior use
- Reduction of ignitability of soft and hard wood and plywood > 12 mm
- Prevents propagation of fire and diminishes flue-gas density and flue-gas temperature
- Not for surfaces exposed to mechanical stress

Characteristics / Advantages

- Water based coating system
- Transparent, wood appearance is not affected
- Low material consumption
- Easy to apply
- Does not increase static load
- Only for interior use

Test

Approval / Standards

Sika® Unitherm®-19010 improves the fire resistance of wood.

Wood coated with Sika® Unitherm®-19010 reaches class B1 acc. to DIN 4102-1, certificate P-3927/6931-MPA BS.

Product Data

Appearance / Colour

Sika® Unitherm®-19010:	transparent
Sika® Unitherm®-38279:	transparent matt
Sika® Unitherm®-38423:	transparent, silk gloss

Packaging

Sika® Unitherm®-19010:	25.0 kg containers, net weight
Sika® Unitherm®-38279:	10.0 kg containers, net weight
Sika® Unitherm®-38423:	10.0 kg containers, net weight

Storage

Storage Conditions / Shelf-Life

12 months from date of delivery if stored properly in original, unopened and undamaged sealed packaging, in dry conditions at temperatures between +5°C and +30°C. Protect from frost.

Innovation & Consistency | since 1910

Technical Data

Density	Sika® Unitherm®-19010: Sika® Unitherm®-38279: Sika® Unitherm®-38423	Resin liquid: ~ 1.33 kg/l Resin liquid: ~ 1.02 kg/l Resin liquid: ~ 1.02 kg/l
Solid Content	~ 70% (by weight) according: EN ISO 3251	

Resistance

Fire Resistance	Inflammable for a certain time.

System Information

System Structure	Intumescent layer:	1 x Sika® Unitherm®-19010
	Top coat (mandatory): or	1 x Sika® Unitherm®-38279 1 x Sika® Unitherm®-38423

Application Details

Consumption / Dosage	Intumescent layer: Sika® Unitherm®-19010 class 1/ BS 476 class 0/ BS 476	 1 x 200 g/m² (= 150 ml/m²) 2 x 200 g/m² (= 300 ml/m²)
	Top coat Sika® Unitherm®-38279 or Sika® Unitherm®-38423	 1 x 50 - 80 g/m² (= 49 - 78 ml/m²) 1 x 50 - 80 g/m² (= 49 - 78 ml/m²)
Substrate Quality	Prior to application of Sika® Unitherm®-19010 the surface must be clean, dry and free of all contaminants such as dirt, oil, grease, wax, coatings and surface treatments, etc. Greasy resinous surfaces have to be washed down with solvents or brush thoroughly with an aqueous solution containing 5% crud soap and 5% ammonium hydroxide solution, then wash with clear water (saponification of greasy resinous components). After drying sand lightly. Wood substrates with wetting difficulties should be roughened thoroughly with abrasive paper. If necessary an interface primer - Sika® Unitherm®-38031 - has to be used. If in doubt apply a test area first.	

Application Conditions / Limitations

Substrate Temperature	+10°C min. / +50°C max.
Ambient Temperature	+10°C min. / +50°C max.
Relative Air Humidity	80% r.h. max.
Dew Point	Beware of condensation! 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 Instructions

Mixing / Stiring	One pack product, stir thoroughly, free of lumps.
Stiring Tools	Sika® Unitherm®-19010 must be mechanically stirred thoroughly, free of lumps, using an electric stirrer (300 - 400 rpm) or other suitable equipment. According to the required viscosity preheating of the base coat up to max +70°C is possible, i.e. in water bath, heat cabinet or hot spray equipment. Open lid! Sika® Unitherm®-38279: stir thoroughly, free of lumps. Sika® Unitherm®-8423: stir thoroughly, free of lumps.

Application Method / Tools	Sika® Unitherm®-19010 *Airless spraying:* - Material shall be applied undiluted - Airless spray equipment with transmission > 23 : 1 - Hose diameter not below 3/8” - Whip-line ¼” may be used 0.28 - 0.53 mm or 0.011” - 0.021” - Hoses must be used only for water based products The rough film resulting from spray application should be smoothened by brush after spraying. Apply two coats of Sika® Unitherm®-19010 with max. 0.20 kg/m² per coat. In order to obtain a very smooth finish, grinding after the first layer is recommended (i.e. with 150 grade paper). *Brush and roller:* - Material shall be applied undiluted - Apply two coats with max. 0.20 kg/m² per coat Sika® Unitherm®-38279: *Airless spraying* - Material shall be applied undiluted - Airless spray equipment with transmission > 23 : 1 - Hose diameter not below 3/8” - Nozzle size 0.28 - 0.53 mm or 0.011” - 0.021” - Hoses must be used only for water based products *Conventional spraying:* - Material shall be applied undiluted - Air pressure 3 - 5 bar - Hose diameter not below 3/8” - Nozzle size 1.80 - 2.50 mm or 0.07” - 0.10” - Material shall be applied undiluted in supply viscosity Sika® Unitherm®-38423: *Airless spraying* - Material shall be applied undiluted - Airless spray equipment with transmission > 23 : 1 - Hose diameter not below 3/8” - Nozzle size 0.28 - 0.53 mm or 0.011” - 0.021” - Hoses must be used only for water based products *Conventional spraying:* - Material shall be applied undiluted - Air pressure 3 - 5 bar - Hose diameter not below 3/8” - Nozzle size 1.80 - 2.50 mm or 0.07” - 0.10” - Material shall be applied undiluted in supply viscosity
Cleaning of Tools	Sika® Unitherm®-19010: Clean all tools and application equipment with water immediately after use. Hardened and/or cured material can only be removed mechanically. Sika® Unitherm®-38279 / 38423: Clean all tools and application equipment with Sika® Unitherm®- Thinner 11089 immediately after use. Hardened and/or cured material can only be removed mechanically.
Potlife	Not applicable (see shelf life).

Construction

Waiting Time / Overcoating

Before applying Sika® Unitherm®-19010 - on Sika® Unitherm®-19010 - allow:

Substrate temperature	Minimum	Maximum
+10°C	10 - 18 hours	-
+20°C	8 - 18 hours	-
+30°C	8 - 16 hours	-

Before applying Sika® Unitherm®-38279/ 38423 - on Sika® Unitherm®-19010 - allow:

Substrate temperature	Minimum	Maximum
+10°C	10 - 18 hours	-
+20°C	8 - 18 hours	-
+30°C	8 - 16 hours	-

Sika® Unitherm®-38279/ 38423:
touch dry after approx. 1.5 hours, fully dry after approx. 6 days

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 application takes place in a confined space, to ensure drying.

Applied Sika® Unitherm®-19010/ 38279/ 38423 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

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

VOC - Decopaint Directive

According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / I, type Wb) is 140 g/l (limit 2010) for the ready to use product.

The maximum content of **Sika® Unitherm®-19010** is < 140 g/l VOC for the ready to use product.
According to the EU-Directive 2004/42, the maximum allowed content of VOC (Product category IIA / I, type Wb) is 600 g/l (limit 2007) for the ready to use product.

The maximum content of **Sika® Unitherm®-38279 and Sika® Unitherm®-38423** is < 600 g/l VOC for the ready to use product.

Sika®

Innovation & Consistency | since 1910