

## PRODUCT DATA SHEET

# Sikagard<sup>®</sup>-831

Interior and exterior intumescent coating for commercial vehicles

**TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)**

<b>Chemical base</b>		2-component epoxy
<b>Color</b>		Light grey
<b>Cure mechanism</b>		Polyaddition
<b>Density</b>	mixed	1.4 kg/l
<b>Solid content (CQP002-2)</b>		100 %
<b>Mixing ratio</b>	by weight	100 : 12
	by volume	100 : 18.4
<b>Application temperature</b>		10 – 40 °C
<b>Pot-life</b>	at 20 °C	30 minutes
	at 35 °C	15 minutes
<b>Curing time</b>	touch dry	8 hours <sup>A</sup>
	hard dry (ready for handling and transport)	25 hours <sup>A</sup>
<b>Compressive strength (ISO 604)</b>		45 MPa
<b>Tensile adhesion strength (ISO 4624)</b>		10 MPa
<b>Tensile strength (CQP036-1 / 580-5,-6 / ISO 527-2)</b>		10 MPa
<b>Abrasion resistance (ISO 5470-1)</b>	1000 g; disc: CS 10	65 mg/1000 R
<b>Shelf life (CQP016-1)</b>		24 months <sup>B</sup>

CQP = Corporate Quality Procedure

<sup>A</sup>) 23 °C / 50 % r. h.<sup>B</sup>) storage below 25 °C
**DESCRIPTION**

Sikagard<sup>®</sup>-831 is a solvent-free 2-pack modified epoxy-based intumescent fire-protection coating for internally or externally exposed aluminum or steel surfaces. It provides very high durability and combined corrosion and fire protection (EN45545 / NFPA 130).

It is easily applied with standard airless spray equipment, requires no reinforcement, cures rapidly to a very tough and resistant finish ready for handling and transportation after 24 hours.

**PRODUCT BENEFITS**

- Highly resistant to mechanical impact and damage in service
- Passes EN 45545-3 R45 / EN 45545-2 R1 / R7
- Can be applied in one coat for up to 4 mm dry-film thickness
- Application directly on blast-cleaned steel surfaces
- Rapid cure – handling and transport ready in 24 h
- No primer or top coat needed
- Meets the NFPA 130 standard

**AREAS OF APPLICATION**

Sikagard<sup>®</sup>-831 is designed primarily for in-shop applications. It is typically used in the Transportation and Marine industry where it can be applied on internal and external aluminum, steel and GRP surfaces.

This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

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## METHOD OF APPLICATION

Application by airless spray will give the best results and is recommended to achieve uniform thickness and appearance. 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, color shade etc.

It is recommended, to perform prior to application a trial on site to ensure the selected application method will provide the requested results.

Sikagard®-831 is commonly applied by airless spray equipment i.e. single pump equipment with a flow heater, or plural pump equipment.

A suitable standard airless spraying equipment setup looks as follows:

Pressure ratio:  $\geq 66 : 1$ , air flow rate:  $\geq 24$  l/min, pressure rate: at the spray gun  $\geq 200$  bar, nozzle size: 0.019 – 0.025" (0.48 – 0.64 mm), spraying angle: 20 – 40°

The material temperature can reach up to 35 °C at the nozzle outlet.

Note: Remove the filter mesh (not required). Use direct material feed (without suction hose). At lower temperatures it is recommended to use insulated spray hoses (length of spray hose max. 25 m).

## Surface preparation

For steel, blast cleaning Sa 2.5 according to ISO 8501-1 is required. In case of manual de-rusting use wire brushing or power tool cleaning according to ISO 8501-1 St. 3. For galvanized steel the surface must be free of dirt, oil, grease and corrosion.

In case of permanent submersion or exposure to condensation, surfaces need to be sweep blasted according to ISO12944-4.

For other surfaces tests must be carried out on the specific surfaces. For contaminated and weathered surfaces of galvanized steel or primed areas, an appropriate cleaning is mandatory.

## Mixing process

Prior to mixing both components, stir part A with a proper mixing paddle. Add part B and mix continuously for 3 minutes until a uniform mix has been achieved. To ensure an homogenous mixture pour material into another container and mix again for at least 1 minute.

Mix with mixing paddles not higher than 300 rpm's to minimize air entrapment.

Never dilute or mix Sikagard®-831 with any other substances.

## Application

Application conditions need to be as follows: Substrate surface and ambient have to be between 10 °C and 40 °C. Optimum results are achieved at temperatures above 15 °C. Relative humidity has not to exceed 80 % and the ambient temperature has to be  $\geq 3$  K above dew point.

If overcoating is required, the minimum waiting time at 20 °C is 8 hours, whereas the maximum is 7 days for interior and 2 days for external applications.

Note: The previously applied coating must be dry and free from any dirt, moisture or contaminants that could prevent or reduce adhesion.

For repairs it is required to abrade adjacent areas to a matt finish and clean off dust. Mask if necessary and then apply the Sikagard®-831.

## Removal

Thoroughly clean tools and equipment with Sika® Remover-208 immediately after completion or interruption of the application process.

## FURTHER INFORMATION

The information herein is offered for general guidance only. Advice on specific applications is available on request from the Technical Department of Sika Industry.

Copies of the following publications are available on request:

- Safety Data Sheets

## PACKAGING INFORMATION

Sikagard®-831 (A)

Pail	15 kg
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Sikagard®-831 (B)

Can	1.8 kg
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## BASIS OF PRODUCT DATA

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

## HEALTH AND SAFETY INFORMATION

For information and advice regarding transportation, handling, storage and disposal of chemical products, users shall refer to the actual Safety Data Sheets containing physical, ecological, toxicological and other safety-related data.

## DISCLAIMER

The information, and in particular, the recommendations relating to the application and enduse 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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