

PRODUCT DATA SHEET

Sikagard®-831

Interior and exterior intumescent coating for commercial vehicles

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base		2-component epoxy
Colour		Light grey
Cure mechanism		Polyaddition
Density	mixed	1.3 kg/l
Solid content (CQP002-2)		100 %
Mixing ratio	by weight	100 : 12
	by volume	100 : 18.4
Application temperature		10 – 40 °C
Pot-life	at 20 °C	30 minutes
	at 35 °C	15 minutes
Curing time	touch dry	8 hours ^A
	hard dry (ready for handling and transport)	25 hours ^A
Compressive strength (ISO 604)		45 MPa
Tensile adhesion strength (ISO 4624)		10 MPa
Tensile strength (CQP036-1 / 580-5,-6 / ISO 527-2)		10 MPa
Abrasion resistance (ISO 5470-1)	1000 g; disc: CS 10	65 mg/1000 R
Shelf life (CQP016-1)		24 months ^B

CQP = Corporate Quality Procedure

^A) 23 °C / 50 % r. h.^B) storage below 25 °C
DESCRIPTION

Sikagard®-831 is a solvent-free, 100 % solids, 2-pack, modified epoxy-based intumescent fire-protection coating for internally or externally exposed aluminium or steel surfaces. It provides very high durability and combined corrosion and fire protection (EN45545 / NFPA 130).

It can be applied with pneumatic 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
- Can be applied in one coat for up to 4 mm dry-film thickness
- Application directly onto 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®-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 aluminium, steel and GRP surfaces. This product is suitable for experienced professional users only. Tests with actual substrates and conditions have to be performed to ensure 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, colour shade etc. Prior to application a trial on site may be useful to ensure the selected application method will provide the requested results. Never dilute or mix Sikagard®-831 with any other substances.

Sikagard®-831 is commonly applied by airless spray equipment i.e. single pump equipment with a flow heater, or plural pump equipment. It could also be applied by brush or roller but these methods are only feasible for smaller areas and with compromise in application and appearance.

A suitable standard airless spraying equipment setup is as follows:

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

The material temperature approx. 35 °C at the nozzle outlet.

Practical hints: 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). 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.

Surface Preparation

For steel, blast cleaning is required to Sa 2.5 according to ISO 8501-1. In case of manual de-rusting use wire brushing or power tool cleaning according to ISO 8501-1 St. 3. For galvanised 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 chemical and/or mechanical cleaning is mandatory.

Application

Stir component A very thoroughly using an electric mixer (start slowly, then increase up to approx. 300 rpm). Add component B carefully and mix both components very thoroughly (including sides and bottom of the container). Mix for at least 3 minutes until a homogeneous mixture is achieved. pour the mixed material into a clean container and mix again for a short period as described above.

Application conditions need to be as follows: Substrate surface and ambient has 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 at least ≥ 3 K above dew point.

If overcoating is required, the waiting time is as follows at 20 °C.

The minimum waiting time 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 (clean if necessary). If waiting times are longer than stated, the coatings have to be reactivated by suitable mechanical and / or chemical means.

Removal

Thoroughly clean tools and equipment with Sika® Remover-208 immediately after completion or interruption of the Sikagard®-831 application process. Hands and exposed skin have to be washed immediately using hand wipes such as Sika® Cleaner-350H or a suitable industrial hand cleaner and water. Do not use solvents on skin!

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

User must read the most recent corresponding Safety Data Sheets (SDS) before using any products. The SDS provides information and advice on the safe handling, storage and disposal of chemical products and contains physical, ecological, toxicological and other safety-related data.

DISCLAIMER

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.

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SIKA LIMITED

Watchmead
Welwyn Garden City
Hertfordshire, AL7 1BQ
Tel: 01707 394444
Web: www.sika.co.uk
Twitter: @SikaLimited

