

PRODUCT DATA SHEET

Sikagard[®]-839 eBF

MODIFIED EPOXY BASED INTUMESCENT coating for fire protection in battery systems

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Chemical base		2-component epoxy
Color		Light grey
Cure mechanism		Polyaddition
Density	mixed	1.4 kg/l
Solid content (CQP002-2)		100 %
Mixing ratio	by weight	100 : 12
	by volume	100 : 18.4
Application temperature		10 – 35 °C
Pot-life		25 minutes ^A
Curing time	touch dry	8 hours ^A
	hard dry (ready for handling and transport)	24 hours ^A
Compressive strength (ISO 604)		42 MPa
Tensile adhesion strength (ISO 4624)		9 MPa
Tensile strength (CQP036-1 / 580-5,-6 / ISO 527-2)		9 MPa
Abrasion resistance (ISO 5470)	1000 g; disc: CS 10	65 mg / 1000 R
Shelf life		24 months ^B

CQP = Corporate Quality Procedure

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

Sikagard[®]-839 eBF is a solvent-free, 2-component epoxy based intumescent for fire protection coating. It provides high durability and combined corrosion and fire protection in battery systems.

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 transport after 24 hours.

PRODUCT BENEFITS

- Low odor and zero flash risk
- Halogen-free
- Can be applied in 1-coat for up to 4 mm dry film thickness
- Handling and transport ready in 24 hours
- Highly resistant to mechanical impact and damage in service
- No primer and top coat needed

AREAS OF APPLICATION

Sikagard[®]-839 eBF is designed for inhouse applications. It is typically used within the Automotive industry for fire protection in battery systems.

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

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. 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®-839 eBF with any other substances.

Sikagard®-839 eBF 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 looks as follows:

Pressure ratio: $\geq 66 : 1$, air 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 can reach up to 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 using 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 Sikagard®-839 eBF.

Surface preparation

For steel blast cleaning is required to Sa 2.5 according to ISO 8501-1. In case of manual derusting 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. Fill mixed material into clean container and mix again shortly as described above.

Application condition need to be as follows:

Substrate surface and ambient have to be between 10 °C and 35 °C. Optimum results are achieved at temperatures above 15 °C. Relative humidity has not to exceed 80 % and the ambient temperature has to be ≥ 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®-839 eBF 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®-839 eBF (A)

Pail	15 kg
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Sikagard®-839 eBF (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.

PRODUCT DATA SHEET

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