

PRODUCT DATA SHEET

SikaBiresin® TC-455

2-component compressible gap filler for heat transfer

TYPICAL PRODUCT DATA

Properties	SikaBiresin® TC-455 (A)	SikaBiresin® TC-455 (B)
Chemical base	2-component silane terminated polymer (STP)	
Color (CQP001-1)	Blue	White
Consistency	Paste	Paste
Density (uncured)	2.0 kg/l	2.0 kg/l
	mixed	2.0 kg/l
Mixing ratio	A : B by volume 1 : 1	
Viscosity (CQP029-4)	70 Pa·s ^A	60 Pa·s ^A
	mixed	60 Pa·s
Application temperature	20 – 40 °C	
Open time (CQP046-11 / ISO 4587)	60 minutes	
Shore A hardness (CQP023-1 / ISO 48-4)	35	
Thermal conductivity (ASTM D5470)	2.2 W/(mK) ^B	
Flammability (UL 94-2013 Rev.7-2017 s.8)	V0	
Tensile strength (CQP036-2 / ISO527-2)	0.5 MPa ^C	
Elongation at break (CQP036-2 / ISO 527-2)	20 %	
Service temperature (CQP509-1 / CQP513-1)	-40 – 90 °C	
Shelf life	6 months	

CQP = Corporate Quality Procedure

^{A)} with PP 25 mm at 10 s⁻¹, thickness: 0.5 mm^{B)} at 25 °C, thickness: 2 mm^{C)} cured for 7 days at 23 °C / 50 % r.h.

DESCRIPTION

SikaBiresin® TC-455 is a 2-component compressible gap filler with high thermal conductivity based on silane-terminated polymers (STP). It is silicone free and cures at room temperature.

PRODUCT BENEFITS

- High thermal conductivity
- Easy compressible to thin layers
- Flame retardant and self extinguishing
- Easy to remove for repair work
- Silicone free

AREAS OF APPLICATION

SikaBiresin® TC-455 is suitable for gap filler applications between two surfaces to ensure a proper thermal management of the bonded parts, e.g. for EV battery boxes.

This product is suitable for professional experienced users only.

Tests with actual substrates and conditions have to be performed ensuring adhesion and material compatibility.

CURE MECHANISM

The curing of SikaBiresin® TC-455 takes place by a chemical reaction of the two components. Higher temperatures speed up the curing process and lower slow it down.

METHOD OF APPLICATION

Surface preparation

Surfaces must be clean, dry and free from grease, oil, dust and contaminants.

All pre-treatment steps must be confirmed by preliminary tests on original substrates considering specific process conditions.

Application

SikaBiresin® TC-455 can be dispensed from dual cartridges with a suitable pneumatic or electrical dispenser or with an adequate 2-component equipment.

Cartridge: Extrude adhesive without mixer to equalized the filling levels. Attach the mixer and dispose of the first few centimeters of the bead before the application. The specified mixer must be used to ensure good mixing quality. Other static mixers may be suitable but have to be thoroughly tested beforehand.

Bulk: If SikaBiresin® TC-455 is dispensed from pails or drums with an 2-component equipment, the mixer must be defined by preliminary tests under production conditions.

For advice on selecting and setting up a suitable pump system, contact the System Engineering Department of Sika Industry.

Removal

Uncured SikaBiresin® TC-455 may be removed from tools and equipment with Sika® Remover-208. Once cured, the material can only be removed mechanically.

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.

STORAGE CONDITIONS

SikaBiresin® TC-455 has to be kept between 5 °C and 25 °C in a dry place. Do not expose it to direct sunlight or frost.

After opening of the packaging, the content has to be protected against humidity.

Consider, that the cartridges must be stored horizontally.

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
- Application Manual SikaBiresin® TC-455

PACKAGING INFORMATION

SikaBiresin® TC-455 A+B

Dual cartridge	400 ml
Mixer: Nordson TAH 7701816	

SikaBiresin® TC-455 (A)

Pail	23 l
Drum	180 l

SikaBiresin® TC-455 (B)

Pail	23 l
Drum	180 l

Please contact our customer service, for information of what packaging sizes are sold in Denmark.

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

Any information or suggestions for use concerning Sika's products, which we either in writing or orally have given buyers or end-users of the product, have been given in good faith based on our own experiences and based on approved praxis and the technological and scientific knowledge on the time of giving such suggestions and information, which are given without any type of guarantees, and which do not lead to any further responsibility from Sika Danmark A/S, besides what is stated in the sales agreement in question. The buyer or end-user should themselves investigate or otherwise make sure, that our products are suitable for the use in question and further make sure that the products are kept and used correct and in agreement with the published rules and considering the actual conditions in order to avoid damages or less satisfactory results. Any order is accepted and any deliverance is affected according to the general terms of sales and delivery from Sika Danmark A/S, which are considered known and accepted, and which could be handed out when asked for. Our catalogues are not up-dated automatically. The present product data sheet is only for use in Denmark. Values stated in the present product data sheet should be seen as recommended, unless stated otherwise.

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