BUILDING TRUST

PRODUCT DATA SHEET

SikaBiresin® TD160 TD165

Epoxy casting resin with high transparency – quick setting for thin layers and small objects

TYPICAL PRODUCT DATA (FURTHER VALUES SEE SAFETY DATA SHEET)

Properties		Component A SikaBiresin® TD160	Component B SikaBiresin® TD165
Chemical base		Epoxy resin, unfilled	Amine, unfilled
Color		Bluish-transparent	Transparent
	mixed	Transparent	
Mixing ratio	by weight, volume	100 : 50	
Density		1.12 kg/l	1.0 kg/l
Viscosity (CQP029-4)		1900 mPa·s	650 mPa·s
	mixed	1100 mPa·s	
Tack free time	1 – 3 mm at 23 °C	7 hours	
Pot life (CQP021-4)	150 g at 23 °C	40 minutes	
Demolding time	casted parts (< 100 g) in 10 mm thickness	16 hours	
	casted parts (< 100 g) in 5 mm thickness	20 hours	
Casting thickness	plate 350 x 300 mm	up to 5 mm	
	casted parts (< 100 g)	up to 10 mm	
Shore D hardness (CQP023-1 / ISO 868)		84 [A]	
Flexural modulus (CQP027-2 / ISO 178)		2800 MPa [A]	
Elongation at maximum strength (CQP036-2 / ISO 527)		5.3 % [A]	
Glass transition temperature TMA (CQP053-1 / ISO 11359)		56 °C [A] 73 °C [B]	
Shelf life		12 months	

CQP = Corporate Quality Procedure

[A] curing condition: 23 °C for 7 days

[B] curing condition: 23 °C for 24 hours + 80 °C for 16 hours

DESCRIPTION

SikaBiresin® TD160 TD165 is an epoxy casting resin with high transparency for fast curing in thin layers and small molds.

PRODUCT BENEFITS

- High transparency
- Self-degassing behaviour
- Quick setting in thin layers/section
- Good UV resistance
- User-friendly mixing ratio

AREAS OF APPLICATION

SikaBiresin® TD160 TD165 is used in art and decoration applications to make transparent coatings or sealing surfaces in thin layers from 1 to 3 mm (wood, paper, ceramic, etc).

It is well suited for art and decoration applications to make small objects up to 10 mm thick in silicone molds such jewellery, giftware, key chains or souvenirs.

This product is suitable for experienced professional users only. Tests under actual processing conditions and with additional materials such as coatings and release agents must be performed to proof material compatibility.

METHOD OF APPLICATION

Surface preparation

A liquid or pasty wax could be used to prevent adhesion on models and supports.
Wood or other porous surfaces of models must be sealed before casting process. The product itself, quick setting epoxy or a varnish could be used. These sealers must be cured prior to the casting process.

Mixing process

Prior to use check the material for homogeneity and crystallization. After prolonged storage at low temperature, crystallization of components may occur. This process can be easily reversed by heating the affected component to a maximum of 70 °C until the crystals have disappeared. Allow to cool down to requested processing temperature before use.
Mixing can be done by hand or with an electric mixer. Mix carefully to minimize air entrapment.
To secure homogeneous and complete mixing, pour the mixed product into another container and mix again shortly, considering the pot life.
Prior to casting the mix can be left for self-degassing for maximum 10 minutes. Alternatively, can the mix be evacuated in a vacuum chamber.
Note: Both containers must be closed tightly immediately after use to prevent moisture ingress.
Once opened the Product shall be used as soon as possible.

Application

An adequate ambient temperature is the most important parameter to successfully cast SikaBiresin® TD160 TD165. There is a link between ambient temperature, volume and layer thickness. Excessive thickness or higher ambient temperature may induce high exothermic reaction leading to yellowing, cracks or uneven surface once cured.
In thin layers coating (1 to 3 mm) a warm room (23 – 25 °C) is advised to speed up curing and get best properties. Prior to the next casting step, allow the material to reach its tack-free time, typically after 7 hours.

For small cast parts produced using silicone molds, it is recommended not to exceed a thickness of 10 mm in order to prevent excessive exothermic reaction, which may adversely affect the cured surface quality. Alternatively and when possible lower resin and room temperatures to 18 – 20 °C or switch to slower system.
When casting 3 mm and above it will flow and self-level. For thinner and large surface it is possible to spread it out with a flexible spatula or a brush. After casting and some relaxation time the bubbles close to the surface can easily be removed with a hot airstream. Use a hot air gun and sweep the surface at 15 – 20 cm distance avoiding to treat single spots (always sweeping).
To get on flat surfaces best transparent and shiny results, a sanding and polishing process may be necessary. Water sandpaper is recommended. Use appropriate tools to avoid heat on the SikaBiresin® TD160 TD165 while polishing.
Polishing paste on a buffer is giving the best finishing. Do not heat up too much the casting layer when polishing in order to avoid marks.

STORAGE CONDITIONS

Both components must be stored at temperature between 15 °C and 25 °C in original unopened containers.

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

SikaBiresin® TD160 (A)

Canister	5 kg
Drum	220 kg

SikaBiresin® TD165 (B)

Canister	2.5 kg
Drum	200 kg
IBC	950 kg

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 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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