

PRODUCT DATA SHEET

SikaBiresin® TD160 / SikaBiresin® TD165

EPOXY CASTING RESIN WITH HIGH TRANSPARENCY – QUICK SETTING THIN LAYER OR SMALL OBJECT

APPLICATIONS

- In art and decoration applications to make transparent coatings or sealing surfaces in thin layers from 1 to 3mm (wood, paper, ceramic etc...)
- In art and decoration applications to make small objects up to 10 mm thick in silicone molds such jewelry, giftware, key chains or souvenirs

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MAIN PROPERTIES

- High transparency
- Easy mixing ratio 2:1
- Self-degassing behaviour
- Quick setting in thin layers/section
- Good UV resistance

DESCRIPTION

Basis	Two component epoxy system
Component A	SikaBiresin® TD160 , epoxy resin, unfilled, bluish-transparent
Component B	SikaBiresin® TD165 , amine, unfilled, transparent

PHYSICAL PROPERTIES

		Resin (A)	Hardener (B)
Components		SikaBiresin® TD160	SikaBiresin® TD165
Viscosity, 25 °C	mPa.s	~ 1900	~ 650
Density, 23 °C	g/cm ³	~ 1.12	~ 1.00
Mixing ratio	in parts by weight	100	50
	in parts by volume	100	50
		Mixture	
Colour		transparent	
Viscosity, 25 °C	mPa.s	~ 1100	
Reactivity on 150 g, 25 °C	min	~ 40	
Tack-free time in thin layer 1-3mm, 23°C	hours	~ 6 - 7	

MECHANICAL AND THERMAL PROPERTIES

approx. values on standard-sized specimen / after curing 7 days at room temperature

Shore hardness	ISO 868	Shore D1	D 84
Elongation at maximum strength	ISO 527	%	5.3
Flexural modulus	ISO 178	MPa	2800
Glass transition temperature (TG)	ISO 11359-2	°C	56
Glass transition temperature (TG) after 24h@23°C + 16h@80°C	ISO 11359-2	°C	73

SPECIFIC PROPERTIES

approx.. values at 23°C room temperature

Maximum casting thickness on plate 350 x 300 mm	mm	5
Maximum casting thickness small casted parts (<100g)	mm	10
Demolding time small casted parts (<100g) in 10mm thickness	hours	< 16
Demolding time small casted parts (<100g) in 5mm thickness	hours	< 20

PACKAGING UNITS

- Resin (A), **SikaBiresin® TD160** 220 kg / 5 kg / 6 x 0.9kg in a box
- Hardener (B), **SikaBiresin® TD165** 950 kg / 200 kg / 2.5 kg / 6 x 0.45kg in a box

PROCESSING DATA

- Room temperature and thickness with volume casted are the most important parameters to be successful in SikaBiresin® TD160/TD165 casting. There is a link in between room temperature (RT), thickness of cast resin and curing speed. Excessive thickness or room temperature may induce high exothermic reaction leading to yellowing, cracks or uneven surface once cured.
- In thin layers when coating or sealing between 1 to 3 mm, a warm room 23-25°C is advised to speed up curing and get best properties.
- In small objects casting from self-releasing silicone mold, it is recommended not to exceed 10mm thickness to avoid exothermic reaction affecting cured aspect. Alternatively and when possible lower resin and room temperatures to 18-20°C or switch to slower system SikaBiresin® TD150/TD165.
- Good adhesion on many substrates, the use of a liquid or pasty wax release would prevent bonding on models and supports. Please consult product data sheets of Sika Release Agents or contact local technical assistance.
- Mixing should be done by hand or with an electric mixer. Be careful not to incorporate too much air while mixing. Emulsion must be avoided.
- After a primary mixing in a bucket pour the product in a second bucket and finish the mixing. Scrap well the walls of the mixing container. Prior to casting the mixing can be left for self-degassing for maximum 10 minutes. Alternatively, the mixing can be evacuated in a vacuum chamber.
- According to pot life and viscosity the casting frame must be perfectly tight. Brown PE packing tape is self-releasing from the resin and could be used in corners of the box and anywhere resin should not bond on support.
- When casting 3mm 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.
- A thin sanding and polishing are almost always needed to get shiny and flat surface. Use appropriate tools in order to avoid heat on the resin when polishing. Water sandpaper is advised.
- 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

Shelf life	<ul style="list-style-type: none">Resin (A), SikaBiresin® TD160Hardener (B), SikaBiresin® TD165	<p>12 months</p> <p>12 months</p>
Storage temperature	<ul style="list-style-type: none">Resin (A), SikaBiresin® TD160Hardener (B), SikaBiresin® TD165	<p>15 – 25 °C</p> <p>15 – 25 °C</p>
Crystallization	<ul style="list-style-type: none">After prolonged storage at low temperature, crystallization of A (RESIN) component may occur.This is easily removed by warming up for a sufficient time to a maximum of 70 °C.Allow to cool to requested processing temperature before use.	
Opened packagings	<ul style="list-style-type: none">Containers must be closed tightly immediately after use to prevent moisture and dust ingress.The residual material needs to be used up as soon as possible.	

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 Advanced Resins. Copies of the following publications are available on request: Safety Data Sheets

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.

LEGAL NOTICE

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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