DELO® KATIOBOND® GE680

modified epoxy resin | 1C | UV-curing

free of solvents | low CTE, filled, thixotropic

Special features of product

- compliant with RoHS Directive 2015/863/EU
- tested for biocompatibility and meets the requirements according to USP 30, NF 25, Class VI
- compliant with limits of VOC content in adhesive acc. to GB33372-2020

Function

- encapsulant / potting compound

Typical area of use

- -40 - 150 °C
- encapsulation of chip modules

Curing

Suitable lamp types	LED 365 nm, UVA	
Minimum irradiation dose		
LED 365 nm	1000	mW·s/cm²
Typical irradiation time		
intensity 200 mW/cm² *LED 365 nm*	5	s
Typical curing time		
at rt approx. + 23 °C *irradiated*	24	h

Processing

Typical adhesive application	needle dispensing	
Conditioning time (typical)		
in containers up to 50 ml	1	h
in containers up to 1,000 ml	6	h

Processing time		
at rt approx. +23 °C *in containers up to 50 ml*	7	d
at rt approx. +23 °C *in containers up to 900 ml*	3	d
Storage life in unopened original container		
at 0 °C to +10 °C	6	month(s)

Technical properties

Color in cured condition in 0.1 mm layer thickness	whitish	
Transparency in cured condition in 1 mm layer thickness	translucent	
Filler particle type	minerals	
Filler particle size	d95 = 72 µm	

Parameters

Density *liquid*	1.8	g/cm³
Viscosity *liquid | Rheometer | Shear rate: 10 1/s | Gap: 500 µm*	70000	mPa·s
Thixotropy index *liquid | Rheometer | Gap: 500 µm*	2	
Maximum curable layer thickness *DELO Standard 20 | **White substrate** | 365 nm | 200 mW/cm² | 5 s | Plus | at approx. +23 °C | 24 h*	3.2	mm
Maximum curable layer thickness *DELO Standard 20 | **White substrate** | 365 nm | 200 mW/cm² | 30 s | Plus | at approx. +23 °C | 24 h*	≥4	mm
Compression shear strength *DELO Standard 5 | **Glass** | **Al** | 365 nm | 200 mW/cm² | 5 s | Plus | at approx. +23 °C | 24 h*	20	MPa
Compression shear strength *DELO Standard 5 | **Glass** | **FR4** | 365 nm | 200 mW/cm² | 5 s | Plus | at approx. +23 °C | 24 h*	16	MPa
Compression shear strength *DELO Standard 5 | **Glass** | **Glass** | 365 nm | 200 mW/cm² | 5 s | Plus | at approx. +23 °C | 24 h*	20	MPa

Compression shear strength *DELO Standard 5	**Glass**	**LCP GF30**	*365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	7	MPa
Compression shear strength *DELO Standard 5	**Glass**	**PBT**	*365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	11	MPa
Tensile strength *by the criteria of DIN EN ISO 527	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	37	MPa
Elongation at tear *by the criteria of DIN EN ISO 527	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	0.7	%
Young's modulus *DMTA	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	16800	MPa
Shore hardness D *by the criteria of DIN EN ISO 868	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	>90	
Glass transition temperature *DMTA	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	160	°C
Coefficient of linear expansion *DELO Standard 26	TMA	Evaluation T: 30 °C - 150 °C	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	33	ppm/K
Shrinkage *DELO Standard 13	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h*	1.7	vol. %
Water absorption *by the criteria of DIN EN ISO 62	Layer thickness: 4 mm	365 nm	200 mW/cm²	5 s	Plus	at approx. +23 °C	24 h	Type of storage: Media	Medium: Distilled water	Duration: 24 h*	0.06	wt. %
Relative permittivity *by the criteria of RF-IV	1 GHz*	3.2	
Relative permittivity *by the criteria of RF-IV	1 MHz*	3.5	
Relative permittivity *by the criteria of RF-IV	10 MHz*	3.5	
Relative permittivity *by the criteria of RF-IV	100 MHz*	3.5	

Converting table

°F	= (°C x 1.8) + 32	1 MPa	= 145.04 psi
1 inch	= 25.4 mm	1 GPa	= 145.04 ksi
1 mil	= 25.4 µm	1 cP	= 1 mPa·s
1 oz	= 28.3495 g	1 N	= 0.225 lb

General curing and processing information

The curing time stated in the technical data was determined in the laboratory. It can vary depending on the adhesive quantity and component geometry and is therefore a reference value.Increasing or decreasing the curing temperature and / or irradiation intensity and / or irradiation time shortens or prolongs the curing time and can lead to changed physical properties.All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer.Curing until final strength proceeds within 24 hours at room temperature.High temperatures during or after curing can lead to post-crosslinking of the adhesive which influences the physical properties of the bond.Values measured after 24 h at approx. 23 °C / 50 % r.h., unless otherwise specified.

General

The data and information provided are based on tests performed under laboratory conditions. Reliable information about the behavior of the product under practical conditions and its suitability for a specific purpose cannot be concluded from this. It is the customer's responsibility to test the suitability of a product for the intended purpose by considering all specific requirements and by applying standards the customer deems suitable (e. g. DIN 2304-1). Type, physical and chemical properties of the materials to be processed with the product, as well as all actual influences occurring during transport, storage, processing and use, may cause deviations in the behavior of the product compared to its behavior under laboratory conditions. All data provided are typical average values or uniquely determined parameters measured under laboratory conditions. The data and information provided are therefore no guarantee for specific product properties or the suitability of the product for a specific purpose.
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Instructions for use

You can find further details in the instructions for use.

The instructions for use are available on www.DELO-adhesives.com.

We will be pleased to send them to you on demand.

Occupational health and safety

See material safety data sheet.

Specification

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