

DELO DUALBOND® GE7065

modified epoxy resin | 1C | light-fixable / heat-curing

free of solvents | heat curing mandatory, light-fixable, thixotropic, filled, low CTE

Special features of product

- compliant with RoHS Directive 2015/863/EU

Function

- glob top

Typical area of use

- -65 - 220 °C

Curing

Suitable lamp types	LED 400 nm	
Typical light fixation time		
<i>intensity 1,000 mW/cm² LED 400 nm</i>	5	s
Typical curing time		
<i>at +130 °C in air convection oven</i>	60	min
<i>at +150 °C in air convection oven</i>	20	min

Processing

Conditioning time (typical)		
<i>when stored in cold conditions in containers up to 10 ml</i>	0.5	h
Processing time		
<i>in standard climate +23 °C / 50 % r. h.</i>	48	h
Storage life in unopened original container		
<i>at -45 °C to -35 °C</i>	6	month(s)

Technical properties

Color in cured condition in 1 mm layer thickness	black
Transparency in cured condition in 1 mm layer thickness	opaque
Filler particle type	minerals
Filler particle size	d95 = 7 µm

Parameters

Density <i>by the criteria of DIN 66137-2 liquid</i>	1.71	g/cm ³
Viscosity <i>liquid Rheometer Shear rate: 10 1/s Gap: 500 µm</i>	55000	mPa·s
Thixotropy index <i>liquid Rheometer Gap: 500 µm</i>	4.5	
Compression shear strength <i>DELO Standard 5 AI AI Pretreatment: sand-blasted 150 °C 20 min</i>	35	MPa
Compression shear strength <i>DELO Standard 5 AI AI Pretreatment: sand-blasted 150 °C 20 min Measuring temperature: 150 °C</i>	14	MPa
Compression shear strength <i>DELO Standard 5 AI AI Pretreatment: sand-blasted 150 °C 20 min Measuring temperature: 200 °C</i>	11	MPa
Compression shear strength <i>DELO Standard 5 AI AI Pretreatment: sand-blasted 150 °C 20 min Measuring temperature: 220 °C</i>	10	MPa
Compression shear strength <i>DELO Standard 5 FR4 FR4 Pretreatment: Annealing 150 °C 20 min</i>	50	MPa
Compression shear strength <i>DELO Standard 5 PPS PPS 150 °C 20 min</i>	22	MPa
Tensile strength <i>by the criteria of DIN EN ISO 527 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	84	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	1	%
Young's modulus <i>DMTA 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	13000	MPa

Shore hardness D <i>by the criteria of DIN EN ISO 868 150 °C 20 min</i>	>90	
Glass transition temperature <i>DMTA 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	218	°C
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: -40 °C - 140 °C 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	19	ppm/K
Coefficient of linear expansion <i>DELO Standard 26 TMA Evaluation T: 210 °C - 240 °C 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	76	ppm/K
Shrinkage <i>DELO Standard 13 400 nm 1000 mW/cm² 5 s Plus 150 °C 20 min</i>	1.6	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62 Layer thickness: 4 mm 150 °C 20 min Type of storage: Media Medium: Distilled water Duration: 24 h</i>	0.09	wt. %
Extractable ions <i>Ion: Chloride</i>	< 10	ppm
Extractable ions <i>Ion: Fluoride</i>	< 10	ppm
Extractable ions <i>Ion: Potassium</i>	< 10	ppm
Extractable ions <i>Ion: Sodium</i>	< 10	ppm
Volume resistivity <i>by the criteria of DIN EN 62631-3-1 150 °C 20 min</i>	>1E15	Ohm·cm
Surface resistance <i>by the criteria of DIN EN 62631-3-2 150 °C 20 min</i>	>1E12	Ohm
Dielectric strength <i>by the criteria of DIN EN 60243-1 150 °C 20 min</i>	38	kV/mm
Relative permittivity <i>by the criteria of DIN 53483-2 150 °C 20 min 1 kHz</i>	3.4	
Relative permittivity <i>by the criteria of DIN 53483-2 150 °C 20 min 1 MHz</i>	3.3	
Relative permittivity <i>by the criteria of DIN 53483-2 150 °C 20 min 100 kHz</i>	3.3	

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. The heating time of the components must be added to the actual curing time. It depends on component size and type of heat input. The specified curing temperature must be reached directly at the adhesive. 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. Depending on the adhesive quantity used, exothermic reaction heat is generated which can lead to overheating. In this case, a lower curing temperature is to be selected. All curing or light fixation parameters depend on material thickness and absorption, adhesive layer thickness, lamp type and distance between lamp and adhesive layer. Optional pre-fixation is performed with light. Heat curing is mandatory. 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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ADHESIVES

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CURING

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