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		
intensity 1,000 mW/cm² *LED 400 nm*	5	s
Typical curing time		
at +130 °C *in air convection oven*	60	min
at +150 °C *in air convection oven*	20	min

Processing

Conditioning time (typical)		
when stored in cold conditions *in containers up to 10 ml*	0.5	h
Processing time		
in standard climate +23 °C / 50 % r. h.	48	h
Storage life in unopened original container		
at -45 °C to -35 °C	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 *by the criteria of DIN 66137-2 | liquid*	1.71	g/cm³
Viscosity *liquid | Rheometer | Shear rate: 10 1/s | Gap: 500 µm*	55000	mPa·s
Thixotropy index *liquid | Rheometer | Gap: 500 µm*	4.5	
Compression shear strength *DELO Standard 5 | **Al** | **Al** | Pretreatment: sand-blasted | 150 °C | 20 min*	35	MPa
Compression shear strength *DELO Standard 5 | **Al** | **Al** | Pretreatment: sand-blasted | 150 °C | 20 min | Measuring temperature: 150 °C*	14	MPa
Compression shear strength *DELO Standard 5 | **Al** | **Al** | Pretreatment: sand-blasted | 150 °C | 20 min | Measuring temperature: 200 °C*	11	MPa
Compression shear strength *DELO Standard 5 | **Al** | **Al** | Pretreatment: sand-blasted | 150 °C | 20 min | Measuring temperature: 220 °C*	10	MPa
Compression shear strength *DELO Standard 5 | **FR4** | **FR4** | Pretreatment: Annealing | 150 °C | 20 min*	50	MPa
Compression shear strength *DELO Standard 5 | **PPS** | **PPS** | 150 °C | 20 min*	22	MPa
Tensile strength *by the criteria of DIN EN ISO 527 | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	84	MPa
Elongation at tear *by the criteria of DIN EN ISO 527 | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	1	%
Young's modulus *DMTA | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	13000	MPa

Shore hardness D *by the criteria of DIN EN ISO 868 | 150 °C | 20 min*	>90	
Glass transition temperature *DMTA | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	218	°C
Coefficient of linear expansion *DELO Standard 26 | TMA | Evaluation T: -40 °C - 140 °C | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	19	ppm/K
Coefficient of linear expansion *DELO Standard 26 | TMA | Evaluation T: 210 °C - 240 °C | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	76	ppm/K
Shrinkage *DELO Standard 13 | 400 nm | 1000 mW/cm² | 5 s | Plus | 150 °C | 20 min*	1.6	vol. %
Water absorption *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*	0.09	wt. %
Extractable ions *Ion: Chloride*	<5	ppm
Extractable ions *Ion: Fluoride*	<5	ppm
Extractable ions *Ion: Potassium*	5.2	ppm
Extractable ions *Ion: Sodium*	<5	ppm
Volume resistivity *by the criteria of DIN EN 62631-3-1 | 150 °C | 20 min*	>1E15	Ohm·cm
Surface resistance *by the criteria of DIN EN 62631-3-2 | 150 °C | 20 min*	>1E12	Ohm
Dielectric strength *by the criteria of DIN EN 60243-1 | 150 °C | 20 min*	38	kV/mm
Relative permittivity *by the criteria of DIN 53483-2 | 150 °C | 20 min | 1 kHz*	3.4	
Relative permittivity *by the criteria of DIN 53483-2 | 150 °C | 20 min | 1 MHz*	3.3	
Relative permittivity *by the criteria of DIN 53483-2 | 150 °C | 20 min | 100 kHz*	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 prefixation 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.
Nothing contained herein shall be construed to indicate the non-existence of any relevant patents or to constitute a permission, encouragement or recommendation to practice any development covered by any patents, without permission of the owner of this patent.
All products provided by DELO are subject to DELO's General Terms of Business. Verbal ancillary agreements are deemed not to exist.

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

Nothing contained in this Technical Datasheet shall be interpreted as any express warranty or guarantee. This Technical Datasheet is for reference only and does not constitute a product specification. Please ask our responsible Sales Engineer for the applicable product specification which includes defined ranges. DELO is neither liable for any values and content of this Technical Datasheet nor for oral or written recommendations regarding the use, unless otherwise agreed in writing. This limitation of liability is not applicable for damages resulting from intent, gross negligence or culpable breach of cardinal obligations, nor shall it apply in case of death or personal injury or in case of liability under any applicable compulsory law.