

DELO[®] KATIOBOND[®] DF698

modified epoxy resin | 1C | UV-curing

free of solvents | high ion purity, thixotropic, electrically insulating

Special features of product

- compliant with RoHS Directive 2015/863/EU
- halogen-free according to IEC 61249-2-21
- compliant with limits of VOC content in adhesive acc. to GB33372-2020

Function

- Dam for Dam&Fill

Typical area of use

- smart card applications
- encapsulation of chip modules

Curing

Suitable lamp types LED 365 nm, UVA

Typical irradiation time

<i>intensity 55 - 60 mW/cm²</i> <i>UVA</i>	60	s
<i>intensity 150 mW/cm²</i> <i>LED 365 nm</i>	30	s
<i>at +70 °C</i>		

Processing

Typical adhesive application needle dispensing

Conditioning time (typical)

<i>in containers up to 600 ml</i>	5	h
<i>in containers up to 900 ml</i>	7	h

Processing time

<i>at rt approx. +23 °C</i>	10	d
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Storage life in unopened original container

<i>at 0 °C to +10 °C</i>	6	month(s)
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Technical properties

Color in cured condition in 0.1 mm layer thickness	gray
Transparency in cured condition in 0.1 mm layer thickness	transparent
Filler information	quartz
Filler particle size d95	20 μm

Parameters

Viscosity <i>by the criteria of DIN 53019 liquid Rheometer Shear rate: 2 1/s Gap: 500 μm</i>	160000	mPa·s
Thixotropy index <i>liquid</i>	5	
Compression shear strength <i>DELO Standard 5 Glass AI 60 mW/cm² 60 s Plus at approx. +23 °C 24 h</i>	12	MPa
Compression shear strength <i>DELO Standard 5 Glass FR4 60 mW/cm² 60 s Plus at approx. +23 °C 24 h</i>	> 20	MPa
Compression shear strength <i>DELO Standard 5 Glass Glass 60 mW/cm² 60 s Plus at approx. +23 °C 24 h</i>	> 20	MPa
Compression shear strength <i>DELO Standard 5 Glass PC 60 mW/cm² 60 s Plus at approx. +23 °C 24 h</i>	12	MPa
Tensile strength <i>by the criteria of DIN EN ISO 527 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	22	MPa
Elongation at tear <i>by the criteria of DIN EN ISO 527 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	20	%
Young's modulus <i>by the criteria of DIN EN ISO 527 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	160	MPa
Shore hardness D <i>by the criteria of DIN EN ISO 868 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	61	
Glass transition temperature <i>DMTA 365 nm 150 mW/cm² 30 s 70 °C Plus at approx. +23 °C 24 h</i>	35	°C
Coefficient of linear expansion <i>TMA Evaluation T: 30 °C - 150 °C 365 nm 150 mW/cm² 30 s 70 °C Plus at approx. +23 °C 24 h</i>	147	ppm/K

Shrinkage <i>DELO Standard 13 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	2.9	vol. %
Water absorption <i>by the criteria of DIN EN ISO 62 Layer thickness: 2 mm 60 mW/cm² 120 s Plus at approx. +23 °C 24 h Type of storage: Media Medium: Distilled water Duration: 24 h</i>	0.4	wt. %
Decomposition temperature <i>DELO Standard 36</i>	298	°C
Extractable ions <i>Chloride</i>	< 10	ppm
Extractable ions <i>Fluoride</i>	< 100	ppm
Extractable ions <i>Potassium</i>	< 10	ppm
Extractable ions <i>Sodium</i>	< 10	ppm
Apparent thermal conductivity <i>60 mW/cm² 60 s</i>	0.38	W/(m·K)
Specific heat capacity <i>60 mW/cm² 60 s</i>	1.35	J/g·K
Volume resistivity <i>by the criteria of VDE 0303-3 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	>1E13	Ohm·cm
Surface resistance <i>by the criteria of VDE 0303-3 60 mW/cm² 120 s Plus at approx. +23 °C 24 h</i>	>1E12	Ohm
Relative permittivity <i>by the criteria of RF-IV 60 mW/cm² 120 s Plus at approx. +23 °C 24 h 1 MHz</i>	3.6	
Relative permittivity <i>by the criteria of RF-IV 60 mW/cm² 120 s Plus at approx. +23 °C 24 h 1 GHz</i>	3.3	
Relative permittivity <i>by the criteria of RF-IV 60 mW/cm² 120 s Plus at approx. +23 °C 24 h 10 MHz</i>	3.6	
Relative permittivity <i>by the criteria of RF-IV 60 mW/cm² 120 s Plus at approx. +23 °C 24 h 100 MHz</i>	3.4	

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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