

DELO-KATIOBOND® 4557

Light-activated adhesive, medium viscous

Base

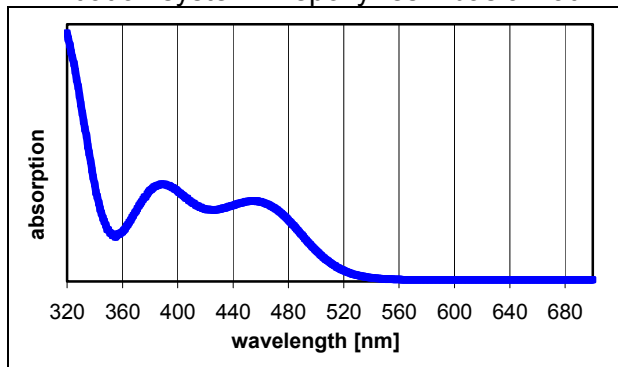
- modified epoxy resin
- one-part, solvent-free, light-activated

Curing

- curing or activation with visible light in a recommended wavelength range of 400 - 550 nm
- in the case of sufficient pre-activation, the cationic curing mechanism allows for adhesive curing after assembling components holding off radiation
- further curing until final strength 24 h at room temperature
- heating accelerates, lower temperatures decrease reaction speed

Absorption spectrum

- initiation system in epoxy resin basic matrix



Curing parameters

- depending on thickness and absorption of material involved, thickness of adhesive layer, type of lamp and distance between lamp and adhesive layer

Use

- used for bonding metal, glass, plastic and other materials as well as for coating, securing or sealing electronic components
- especially for stress equalizing bonds and coatings
- positive tested according to UL 94 HB

Application

- supplied ready to use, best applied from original container or DELO dispensing units
- surfaces to be bonded must be dry, free of dust, grease and other contaminants
- DELOTHEN cleaners are recommended for cleaning surfaces

Technical data

colour cured in approx. 0.1 mm thickness of layer	brown clear
colour cured in approx. 1 mm thickness of layer	brown clear
density [g/cm³] standard DELO 13 at room temperature (approx. 23 °C)	1.1
viscosity [mPas] at 23 °C, brookfield sp/rpm 3/10	3500
preactivation time [s] standard DELO 19 at room temperature (approx. 23 °C), UVA-intensity: 55 - 60 mW/cm ² DELOLUXcontrol	5
open time after preactivation [s] standard DELO 19 at room temperature (approx. 23 °C) and normal room illumination	17
minimum light exposure time until initial strength [s] UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol	60
curing time until final strength [h] at room temperature (approx. 23 °C) after illumination	24
compression/shear strength glass/glass [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (approx. 23 °C)	10
compression/shear strength glass/Al [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (approx. 23 °C)	9
compression/shear strength glass/FR4 [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (approx. 23 °C)	14
compression/shear strength PC/Al [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (ca. 23 °C)	7
compression/shear strength PC/PC [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (ca. 23 °C)	18
compression/shear strength PMMA/PMMA [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² , DELOLUXcontrol, illumination time: 60 s curing time: 24 h at room temperature (ca. 23 °C)	8
compression/shear strength PBT/PBT [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² DELOLUXcontrol, at optimum activation time curing time: 24 h at room temperature (approx. 23 °C)	9
compression/shear strength PETP/PETP [MPa] standard DELO 5 UVA-intensity: 55 - 60 mW/cm ² DELOLUXcontrol, at optimum activation time curing time: 24 h at room temperature (approx. 23 °C)	10
tensile strength [MPa] DIN EN ISO 527	6

elongation at tear [%] DIN EN ISO 527	10
Young modulus [MPa] DIN EN ISO 527	100
shore hardness D DIN EN ISO 868	29
glass transition temperature [°C] rheometer	50
coefficient of elongation [ppm/K] TMA, in a temperature range of +30 to +150 °C	185
shrinkage [vol. %] standard DELO 13	2.5
water absorption [weight %] DIN EN ISO 62, 24 h at room temperature (approx. 23 °C)	1.2
chemical stability	good
recommended long-time temperature range of use [°C]	-40 to +150
short-time temperature of use [°C]	+180
thermal conductivity [W/m·K]	0.2
specific volume resistance [Ω cm] VDE 0303, part 3	> 1xE10
surface resistance [Ω] VDE 0303, part 3	> 1xE10
breakdown voltage [kV/mm] VDE 0303, part 2	16.2
dielectric constant RF-IV method, 1 MHz, at 25 °C +/- 3 °C	4.8
dielectric constant RF-IV method, 10 MHz, at 25 °C +/- 3 °C	4.7
dielectric constant RF-IV method, 100 MHz, at 25 °C +/- 3 °C	4.3
dielectric constant RF-IV method, 1 GHz, at 25 °C +/- 3 °C	3.5
creep resistance CTI VDE 0303, part 1, IEC 112	> 600 M
storage life at room temperature (approx. 23 °C) in unopened original container	6 months

Recommendations

General

The data and information provided are based on tests performed under laboratory conditions. Reliable information about the behaviour of the product under practical conditions and its suitability for a specific purpose cannot be concluded from this.

It is the user's responsibility to test the suitability of the product for the intended purpose by considering all specific requirements. Type and 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 behaviour of the product compared to its behaviour 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.

Instruction for use

The instruction for use is available under following address: www.DELO.de. If requested we will also be pleased to send it to you.

Industrial health and safety standards

see material safety data sheet

Specification

see quality assurance certificate