

# DELOMONOPOX®

## Epoxy resins

Product code number		6093	6095	MG063	AD066	1196	1197	AD295	AD288
Color cured product		black	black	black	beige	silver gray	silver gray	light beige	light beige
Filler		unfilled	unfilled	unfilled	unfilled	aluminum	aluminum	minerals	minerals
Density [g/cm <sup>3</sup> ] at room temperature		1.2	1.2	1.2	1.2	1.4	1.4	1.6	1.38
Viscosity [mPas] at +23 °C (± +73 °F)		40,000 (± cP)	50,000 (± cP)	180,000 (± cP)	20,000 (± cP)	290,000 (± cP)	pasty	230,000 (± cP)	85,000 (± cP)
Curing time	final strength T [°C] / time	130 (± 266 °F) / 30 min	130 (± 266 °F) / 30 min	150 (± 302 °F) / 30 min	130 (± 266 °F) / 20 min	150 (± 302 °F) / 40 min	150 (± 302 °F) / 40 min	150 (± 302 °F) / 40 min	140 (± 284 °F) / 40 min
Tensile shear strength [MPa] <small>Al/Al sand-blasted</small>	DIN EN 1465 1.6 mm	14 (± 2,030 psi)	18 (± 2,610 psi)	21 (± 3,045 psi)	–	29 (± 4,205 psi)	26 (± 3,770 psi)	30 (± 4,350 psi)	8 (± 1,160 psi)
	DIN 54451 6 mm	–	–	–	35 (± 5,075 psi)	57 (± 8,265 psi)	55 (± 7,975 psi)	–	–
Floating roller peel resistance [N/mm] <small>St/St sand-blasted</small>	DIN 53289 1.5 mm	–	–	–	–	12	12	10	–
Temperature stability [MPa] <small>at +100 °C (± +212 °F)</small>	DIN 53286	–	–	–	–	25 (± 3,625 psi)	22 (± 3,190 psi)	26 (± 3,770 psi)	–
Tensile strength [MPa]	DIN EN ISO 527	41 (± 5,945 psi)	45 (± 6,525 psi)	35 (± 5,075 psi)	50 (± 7,250 psi)	46 (± 6,670 psi)	40 (± 5,800 psi)	50 (± 7,250 psi)	2.5 (± 363 psi)
Elongation at tear [%]	DIN EN ISO 527	1.6	1.2	1.0	2.5	1.4	1.4	1.4	200
Young's modulus [MPa]	DIN EN ISO 527	2,900 (± 420.5 ksi)	3,800 (± 551 ksi)	3,000 (± 435 ksi)	2,900 (± 420.5 ksi)	4,000 (± 580 ksi)	3,300 (± 478.5 ksi)	5,500 (± 797.5 ksi)	–
Shore hardness D	according to DIN EN ISO 868	74	83	80	83	68	67	84	–
Coefficient of expansion [ppm/K] <small>in temperature range [°C] (in temperature range [°F])</small>	DELO Standard 26	59 +30 to +70 (± +86 to +158)	65 +30 to +70 (± +86 to +158)	71 +30 to +80 (± +86 to +176)	62 +30 to +70 (± +86 to +158)	55 +30 to +90 (± +86 to +194)	65 +30 to +90 (± +86 to +194)	42 +30 to +90 (± +86 to +194)	190 +30 to +90 (± +86 to +194)
Shrinkage [vol. %]	DELO Standard 13	1.1	2.0	–	2.5	3.6	3.0	2.5	–
Water absorption [weight %] <small>24 h at room temperature</small>	DIN EN ISO 62	0.1	0.1	0.2	0.2	0.1	0.1	0.12	–
Specific volume resistance [Ωcm]	VDE 0303, part 3	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>13</sup>	–	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>13</sup>	–
Surface resistance [Ω]	VDE 0303, part 3	> 1 x 10 <sup>12</sup>	> 1 x 10 <sup>12</sup>	> 1 x 10 <sup>12</sup>	–	> 1 x 10 <sup>13</sup>	> 1 x 10 <sup>12</sup>	> 1 x 10 <sup>13</sup>	–
Dielectric strength [kV/mm]	VDE 0303, part 2	18.1	n. d.	21	–	1	2	10	6.3
Dielectric constant	VDE 0303, part 4	3.9	n. d.	4.3	–	3.7	3.6	–	4.4
Creep resistance	VDE 0303, part 1 IEC 112	100 M	100 M	200 M	–	175 M	125 M	–	–
Special features of product		good flow behavior	low chloride ion content < 0.02 % for the use in electronics	for tough-hard connections	fast curing	good flow behavior high strength	high run resistance high strength	high strength	high elongation at tear high impact resistance

n. d. = not determinable

### Product description

DELOMONOPOX® are one-component, heat-curing epoxy resins.

### Standard temperature range

The DELOMONOPOX® epoxies are normally used in a temperature range of –55 °C to +200 °C (± –67 °F to +392 °F). Many product properties depend on the temperature and can permanently change, especially at high temperatures. Therefore, the suitability of the respective adhesive for the intended temperature range of use must be tested according to the application before use. You can find details on the behavior of the products under the influence of elevated temperatures in the respective technical data sheet.

### Processing

DELOMONOPOX® products are supplied ready for use.

They are processed by means of equipment, e. g., with DELOMAT dispensing units. Manual processing directly from the cartridge is also possible.

### Curing

DELOMONOPOX® products require temperatures > +100 °C (± +212 °F) for curing. The heating time of the components must be added to the curing time. Heating can be done, e. g., in air convection ovens, with IR radiators or using inductive systems.

### Surface pretreatment

For optimal adhesion, the surfaces to be bonded must be free of oil, grease, separating agents and other contaminations. We recommend our DELOTHEN cleaners. After cleaning, adhesion can be further improved by sand blasting, grinding or pickling.

### Storage life

After delivery in unopened containers:  
see technical data sheet of the respective product.

### Use

DELOMONOPOX® products are used for high-strength bonding of components which are extremely stressed to some extent. These products are constructional elements. The adhesive selection is supposed to be optimized regarding component material, stresses, construction and processing technology. Application areas are mainly found in automotive and automotive supplier industry, mechanical and electrical engineering, electronics, plant construction, construction technology, energy and environmental technology.

### Further information

You can find more details on type-specific properties in the technical data sheets and material safety data sheets.

Our Engineering Department will be pleased to support you in technical application tests and questions resulting from processing DELO® products.

## Application examples

- **High-strength bonding, alternative to soldering**

e. g., bonding of carbide or steel, structural bondings in vehicle and steel construction  
→ DELOMONOPOX® 1196, 1197, AD295

- **High run resistance**

→ DELOMONOPOX® 1197

- **Sealing and casting of electronic components**

→ DELOMONOPOX® 6093  
→ DELOMONOPOX® 6095  
low chloride ion content, does not lead to corrosion  
→ DELOMONOPOX® AD066

- **For fast curing**

→ DELOMONOPOX® AD066

- **For flexible bonding**

→ DELOMONOPOX® AD288

DELO®-PHOTOBOND®	1-component acrylates UV-curing · light-curing
DELO®-KATIOBOND®	1-component epoxies UV-curing · light-activated
DELO®-DUALBOND	1-component epoxies light-curing · heat-curing
<b>DELOMONOPOX®</b>	<b>1-component epoxies heat-curing</b>
DELO®-DUOPOX	2-component epoxies cold-curing
DELO®-ML	1-component methacrylates anaerobic-curing
DELO®-CA	1-component cyanoacrylates fast-curing
DELO®-GUM	1-component silicones highly flexible
DELO®-PUR	2-component polyurethanes cold-curing · tough-elastic
DELOTHEN	Cleaners CFC-free
DELOMAT	Dispensing units precise
DELOLUX®	Curing lamps intensive

Our selection charts are a technical selection aid giving an overview of various product variants. We will be pleased to provide you with sales details, such as available container sizes, stock availability and minimum order quantities, on request.

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. Many product properties are dependent on the temperature and can permanently change especially at increased temperatures. It is the user's responsibility to test the suitability of the product for the intended purpose and temperature range 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 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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## Selection Chart

# DELO

Epoxy resins  
one-component · heat-curing · tough-hard

DELOMONOPOX®

