

### **DELO-MONOPOX® 1196**

#### **Base**

- epoxy resin, structural adhesive
- one-part, heat-curing, filled

#### **Use**

- for bonding all metals, temperature-resistant plastic, ferrites, ceramics
- especially for high-strength, tough-hard bonds which have to withstand very high static as well as dynamic stress, also at high temperatures
- good flow properties

#### **Processing**

- to heat components, higher temperatures can also be used
- the heating time for components has to be added to the actual curing time
- for curing, the inside of the adhesive layer has to have the required temperature
- development of an exothermal reaction heat depends on the adhesive quantity used thus, overheating may occur, in this case the curing temperature has to be reduced accordingly
- the resin is supplied ready-to-use and best applied from the original container or with DELO dispensing units
- surfaces to be bonded should be dry, free from dust, grease and other contaminants
- DELOTHEN cleaners are recommended for cleaning
- adherence can be improved by sand-blasting, grinding or pickling

#### **Curing**

- at temperatures between +130 and +180 °C
- higher temperatures accelerate, lower temperatures prolong curing process and may change the properties of cured product

#### **Technical data**

Color	silver grey
filler	aluminium
Density [g/cm <sup>3</sup> ] at room temperature (approx. 23 °C)	1.4
Viscosity [mPas] at 23 °C, Brookfield sp/r 7/5	290000 thix
processing time at room temperature (approx. 23 °C)	6 weeks
Curing time until final strength [min] at +130 °C	75

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Curing time until final strength [min]  
at +150 °C 40

Curing time until final strength [min]  
at +180 °C 15

Tensile shear strength Al/Al [MPa] 29  
DIN EN 1465, sand-blasted  
join part thickness: 1.6 mm  
after 40 min at +150 °C

Tensile shear strength Al/Al [MPa] 57  
DIN 54451, sand-blasted  
join part thickness: 6 mm  
after 40 min at +150 °C

floating roller peel resistance St/St [N/mm] 12  
DIN 53289 according to EN 1465, sand-blasted  
join part thickness: 1.5 mm

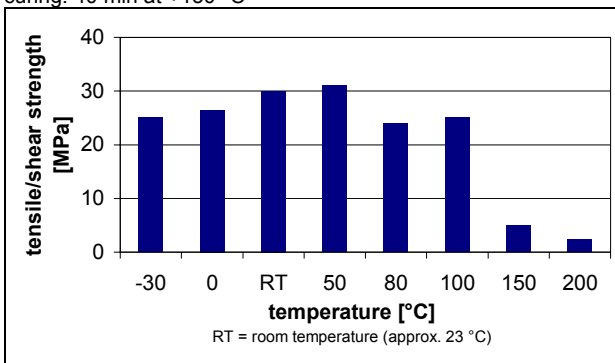
temperature stability Al/Al at +50 °C [MPa] 31  
DIN 53286, sand-blasted  
join part thickness: 1.6 mm

temperature stability Al/Al at +100 °C [MPa] 25  
DIN 53286, sand-blasted  
join part thickness: 1.6 mm

temperature stability Al/Al at +150 °C [MPa] 5  
DIN 53286, sand-blasted  
join part thickness: 1.6 mm

temperature stability Al/Al

DIN EN 1465, sand-blasted  
join part thickness: 1.6 mm  
curing: 40 min at +150 °C



tensile strength [MPa] 46  
DIN EN ISO 527, after 40 min at +150 °C

elongation at tear [%] 1.4  
DIN EN ISO 527, after 40 min at +150 °C

Young modulus [MPa] 4000  
DIN EN ISO 527, after 40 min at +150 °C

shore hardness D 68  
DIN 53505, after 40 min at +150 °C

indentation hardness [MPa] 96  
ISO 2039, part 1

glass transition temperature [°C] 138  
rheometer

coefficient of elongation [ppm/K] 85  
TMA, in a temperature range of +25 to +140 °C

coefficient of elongation [ppm/K] TMA, in a temperature range of +30 to +90 °C	55
coefficient of elongation [ppm/K] TMA, in a temperature range of +130 to +150 °C	170
shrinkage [vol. %] standard DELO 13	3.6
water absorption [weight %] DIN EN ISO 62, after 40 min at +150 °C	0.1
chemical stability	good
Recommended long-term temperature range of use [°C]	-55 to +200
temperature resistance [°C]	+250
Specific volume resistance [Ωcm] VDE 0303, part 3, after 40 min at +150 °C	>1xE15
surface resistance [Ω] VDE 0303, part 3, after 40 min at +150 °C	3.6xE13
Dielectric strength [kV/mm] VDE 0303, part 2, after 40 min at +150 °C	1
Dielectric constant VDE 0303, part 4, after 40 min at +150 °C	3.7
creep resistance CTI VDE 0303, part 1, IEC 112, after 40 min at +150 °C	175 M
Storage life at approx. +5 °C in unopened original container	6 months

## **Instructions and advice**

### **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.

### **Instructions for use**

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

### **Occupational health and safety**

see material safety data sheet

### **Specification**

see quality assurance test report