KLEBEN +
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Kisling

## Thermal Conductivity

# Resin 7501 + Hardener 7920

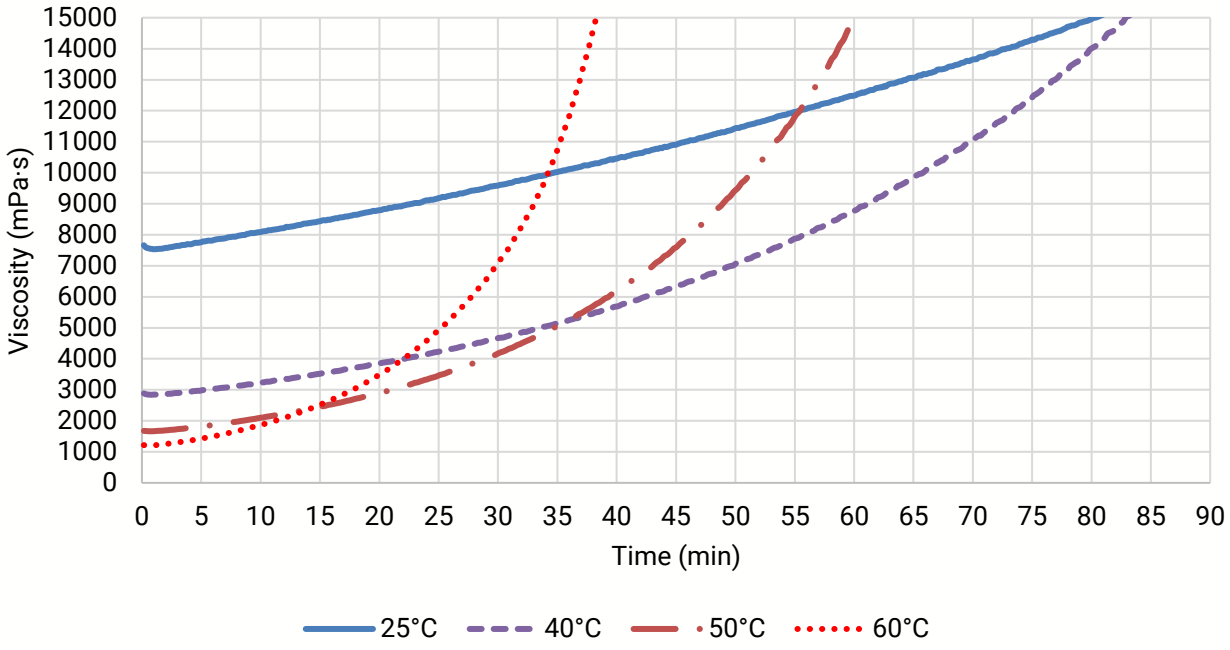
- **2-components epoxy casting resin**
- **solvent-free system**
- **no halogenated flame-retardants**
- **thermal conductivity of 1.2 W/(m•K)**
- **self-extinguishing properties**
- **electrically insulating**
- **high chemical resistance**
- **ideal for potting of electrical motors and power electronics**

## Product specification:

| | | |
|---|---|---|
| Mixing ratio (weight): | Resin 7501<br>Hardener 7920 | 100 parts<br>6.7 parts |
| Density at 25°C:<br>(DIN EN ISO 2811-1) | Resin 7501<br>Hardener 7920<br>Mixture | 1.85 g/cm³<br>0.95 g/cm³<br>1.75 g/cm³ |
| Colour: | | Black |
| Viscosity at 25°C:<br>(Plate/Plate; 10 $s^{-1}$) | Resin 7501<br>Hardener 7920 | 45’000 – 65’000 mPa·s<br>8 – 12 mPa·s |
| Mixing viscosity<br>(Plate/Plate; 10 $s^{-1}$) | 25°C<br>40°C<br>50°C<br>60°C | 7’000 – 8’000 mPa·s<br>2’500 – 3’500 mPa·s<br>1’500 – 2’000 mPa·s<br>1’000 – 1’500 mPa·s |
| Curing time at 23°C: | | 48 hours |

| | | |
|---|---|---|
| Pot life:<br>(doubling of viscosity) | 25°C | ~ 1 hour 20 minutes |
| | 40°C | ~ 40 minutes |
| | 50°C | ~ 25 minutes |
| | 60°C | ~ 15 minutes |
| Pot life:<br>(Time to reach 15'000 mPa·s) | 25°C | ~ 1 hour 20 minutes |
| | 40°C | ~ 1 hour 25 minutes |
| | 50°C | ~ 1 hour |
| | 60°C | ~ 40 minutes |
| Gel time: | 25°C | ~ 7 hours |
| | 40°C | ~ 3 hours 30 minutes |
| | 50°C | ~ 2 hours |
| | 60°C | ~ 1 hour |

Viscosity build-up at various temperatures
(Plate/Plate; 10 $s^{-1}$)



## Physical properties:

| | | |
|---|---|---|
| Shore-Hardness:<br>(DIN EN ISO 868) | | D 86 |
| Thermal conductivity: | | 1.2 W/(m·K) |
| Glass transition temperature:<br>(DMA half Cp storage modulusl) | | 52°C |
| Coefficient of expansion:<br>(DMA) | < Tg<br>> Tg | 26 ppm/K<br>122 ppm/K |
| Tensile strength<br>(based on DIN EN ISO 527-2) | | 26 N/mm² |
| Elongation at break<br>(based on DIN EN ISO 527-2) | | 2.0 % |
| E-modulus<br>(DIN EN ISO 178) | | 5'500 N/mm² |
| Flexural strength<br>(DIN EN ISO 178) | | 61 MPa |
| Shrinkage after curing: | | 2.8 % |
| Operating temperature: | | -40°C up to +180°C |
| Flammability classification: (UL 94) | | V-0 in 4.0 mm |

## Electrical properties:

| | | |
|---|---|---|
| Dielectric strength:<br>(IEC 60243-1) | | 33 kV/mm |
| Volume resistance:<br>(IEC 62631-3-1) | 23°C / 50% r.H. | $7.82 \cdot 10^{13}$ Ω·cm |
| Surface resistance:<br>(IEC 62631-3-1) | 23°C / 50% r.H. | $3.42 \cdot 10^{11}$ Ω |
| Dielectric constant ($\varepsilon_r$) at 23°C:<br>(IEC 62631-2-1) | at 50 Hz | 5.5 |
| Dielectric dissipation factor (tan δ):<br>at 23°C (IEC 60250) | at 50 Hz | 0.0687 |
| Comparative Tracking Index (CTI):<br>(IEC 60112) | | 600 |

| | |
|---|---|
| Shelf life: | 24 months in sealed original containers when stored in dry conditions (15°C to 25°C). |
| Packaging: | Resin and hardener are offered in separate packaging units. |

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