

Keratherm KL 90 & KL 91

Ceramic filled double sided adhesive film – with or without fiberglass
good thermal conductivity / good electrical isolation

| Property | Unit | KL 90 | KL 91 |
|---|---------------------------------|-----------------------|-----------------------|
| Color | | black | black |
| Adhesive | | acrylic | acrylic |
| Reinforcement (fiberglass) | | without | with |
| Thermal Properties | | | |
| Thermal Resistance* R_{th} | K/W | 0.52 | 0.52 |
| Thermal Impedance* R_{ti} | $^{\circ}\text{Cmm}^2/\text{W}$ | 208 | 220 |
| | Kin^2/W | 0.32 | 0.34 |
| Thermal Conductivity* | W/mK | 1.4 | 1.35 |
| Electrical Properties | | | |
| Dielectric Breakdown $E_{d, ac}$ | kV/mm | 10.0 | 10.0 |
| Volume Resistivity | Ωcm | 2.6×10^4 | 2.6×10^4 |
| Dielectric Loss Factor $\tan \delta$ | 1 | 30.5×10^{-2} | 30.5×10^{-2} |
| Dielectric Constant ϵ_r | 1 | 18.5 | 18.5 |
| Mechanical Properties | | | |
| Hardness | Shore A | 45 | 59 |
| Tensile Strength (single adhesive film) | MPa | 0.25 | 0.25 |

| Specific Film Characteristics | Unit | KL 90 (without fiberglass) | KL 91 (with fiberglass) |
|--|------------------------------------|-------------------------------|----------------------------|
| Application (pressure/time) | N/cm ² /sec | 10/10 | 10/15 |
| Tensile Shear Strength [25mmx25mm-adhesive area-180° aluminum – adhesive film – aluminum] | N/cm ² [DIN EN 1645] | >30 | >25 |
| Tensile Shear Strength temperature-depending** [25mmx25mm-adhesive area-180° aluminum – adhesive film – aluminum] | -20°C | 157.2 | 146.8 |
| | +20°C | 51.7 | 50.3 |
| | +60°C | 14.1 | 13.6 |
| | +70°C | 12.0 | 10.7 |
| | +80°C | 10.7 | 9.5 |
| Adhesion* (bonding strength) | Nmm | >1.2 | >1.0 |
| Tack* (surface adhesiveness) | mm | >1.5 | >1.2 |
| Peel Strength (90° on aluminum) | N/25mm | 3 [adhesive] | 9 [adhesive] |
| Application Temperature (continuous) | °C | -40 to +125 | -40 to +125 |
| Overall Thickness ($\pm 10\%$) | mm | .300 | .300 |
| Shelf Life | months | 12 | 12 |

*-used measurement - Texture Analyser (TA.XT-plus)

**-according to test standard DIN EN 1645; test speed 0,5 inch/min; adhesion area of 25x25 mm² (1inch²); glued on an AlCuMg1-substrate, stored at room temperature for 62 hours.