

Keratherm[®] - KL 90, KL 91 Ceramic filled double-sided adhesive film - with or without fibre glass

Applications:

Thermal connection of

- CPUs, LEDs
- Flip Chips, DSPs, BGAs, PPGAs
- MOSFETS on heat sinks

For example in:

- power supplies and inverter modules
- computers
- telecommunication electronics
- automotive electronics



Low thermal contact resistances can be achieved with a very reliable adhesive strength on different surfaces.

There are no mechanical fixation with clips, screws or rivets needed.

Due to the soft surface finish tolerances can be compensated very good. Light weight, easy handling and high elasticity are further advantages.

	T		
Properties	Unit	KL 90	KL 91
Color		black	black
Basis		acrylate	acrylate
Reinforcement (fibre glass)		without	with
Thermal properties			
Thermal resistance* R _{th}	K/W	0.52	0.55
Thermal impedance* R _{ti}	°Cmm²/W Kin²/W	208 0.32	220 0.34
The grand conductivity	W/mK	1.40	1.35
Thermal conductivity*	I vv/mr	1.40	1.35
Electrical properties			
Breakdown voltage U _{d; ac}	kV	6.0	6.0
Dielectric breakdown E _{d; ac}	kV/mm	20.0	20.0
Volume resistivity	Ω m	2.6 x 10 ⁴	2.6 x 10 ⁴
Dielectric loss factor tan δ	1	30.5 x 10 ⁻²	30.5 x 10 ⁻²
Dielectric constant ϵ_r	1	18.5	18.5
Mechanical properties			
Measured thickness	mm	0.300	0.300
Density	g/cm³	1.98	1.87
Hardness	Shore A	45	59
Tensile strength (single adhesive film)	МРа	0.25	11.28
TML	Ma.%	0.15	0.15
Flame rating	UL	94V - 0	94V-0***
Possible thickness*	mm	0.15 – 0.5	0.3

***Kerafol test according to UL

Keratherm KL 90 and KL 91 are thermal conducting electrical insulating double sided adhesive films. They have an excellent, permanent adhesive strength with high thermal conductivities and at the same time very good insulation characteristics.

Compressibilities of KL 90 and KL 91 0 29 58 pressure (psi) 116 0,9 0,54 8,0 KL 90 0,48 hermal resistance (K/W) KL 91 0,7 0,42 0,6 0,36 0,5 0,3 0,4 0,24 0,3 0,18 0,2 0,12 0,1 0,06 0 0 12 20 60 80 contact pressure (N/cm²)

The data presented in this leaflet are in accordance with the present state of our knowledge. All statements, technical information and recommendations herein are based on tests we believe to be reliable. The customer is thereby not absolved from carefully checking all supplies immediately on receipt. The recommendations made in this catalogue should be checked by preliminary trials because of conditions during processing over which we have no control, especially where other companies' raw materials are also being used. Before using, user shall determine the suitability of the product for its intended use, and the user assumes all risks and liability whatsoever in connection there with. We reserve the right to alter product constants within the scope of technical process or new developments. The recommendations do not absolve the customer from the obligation of investigating the possibility of infringement third parties right and, if necessary, clarifying the position. Sellers' and manufacturer only obligation shall be to replace such quantity of the product proved to be defective. Neither seller nor manufacturer shall be liable either in tort or contract for any loss or damage, direct or incidental, or consequential, including loss of profitsing out of the use or the inability to use a product. No statement, purchase order or recommendations by seller or purchaser not contained herein shall have any force or effect unless in an agreement signed by the officers of the seller and manufacturer.