Stegenthumbach 4 - 6
92 676 Eschenbach
info@kerafol.com
www.kerafol.com
Tel.: (0 96 45) 88-300
Fax: (0 96 45) 88-390

KERAFOL

Hightech aus der Oberpfalz

Keramische Folien GmbH

Keratherm® - PCE and PCM

PCE 86/114, PCE 86/117, PCM 471

Properties	Unit	86/114	86/117	PCM 471
Colour		grey	grey	grey
Compound		Elastomer	Elastomer	filled hot-setting wax
Thermal properties				
Thermal resistance R_{th}	K/W	0.15	0.06	0.07
Thermal impedance	°Cmm²/W Kin²/W	61 0.089	21.9 0.033	25.6 0.039
Thermal conductivity λ	W/mK	4.0	3.0	4.0
Electrical properties				
Breakdownvoltage $U_{d;\,ac}$	kV	1.2	1.0	1.0
Dielectric breakdown $E_{d;\,ac}$	kV/mm	5.0	4.0	5.0
Volume resistivity	Ωm	0.2×10^{10}	3.2×10^{10}	-
Dielectric loss factor tan δ (1kHz)	1	12×10^{-3}	21×10^{-3}	-
Dielectric constant (1kHz)	1	2.0	3.19	-
Mechanical properties				
Measured thickness (+/-10%)	mm	0.250	0.250	0.200
Hardness	Shore	70 – 90 (00)	55 – 75 (00)	70 – 80 (A)
Softening interval	°C	70 - 95	65 - 85	46
Physical properties				
Density	g/cm³	1.25	1.38	1.82
Application temperature	°C	-40 to +125	-40 to +125	-40 to +125
Flame rating	UL	-	94V-0	-
Possible thickness*	mm	0.250	0.250	0.200

Applications: • Notebooks • Desktop CPU´s • IGBT Units

Advantages of PCE-material:

- Very good compressibility
- Phase-change characteristic without containing wax material
- No melting point but softening interval
- Electrical insulating
- Excellent reworkability
- Can be used for automatic production
- Single-sided adhesive
- RoHS / environmently friendly
- Also suitable for dispensing

Advantages of PCM-material:

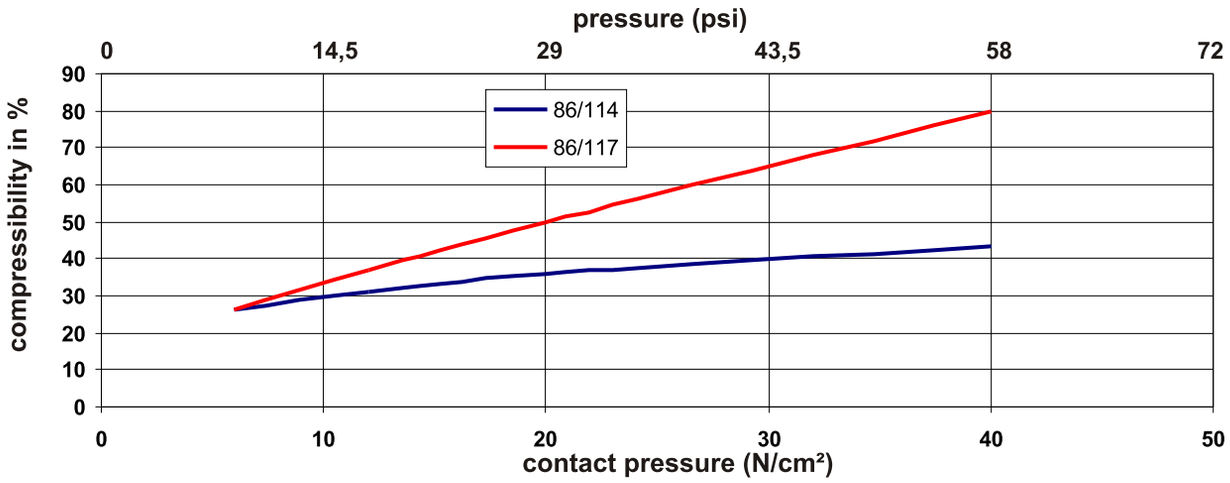
- combination of hot-melt wax with or without support
- filling of smallest irregularities between the power module and heat sink
- melts at various temperatures
- improves the contact between the surfaces and increases the heat transfer
- special design for easy use and storage

Stegenthumbach 4 - 6
92 676 Eschenbach
info@kerafol.com
www.kerafol.com
Tel.: (0 96 45) 88-300
Fax: (0 96 45) 88-390

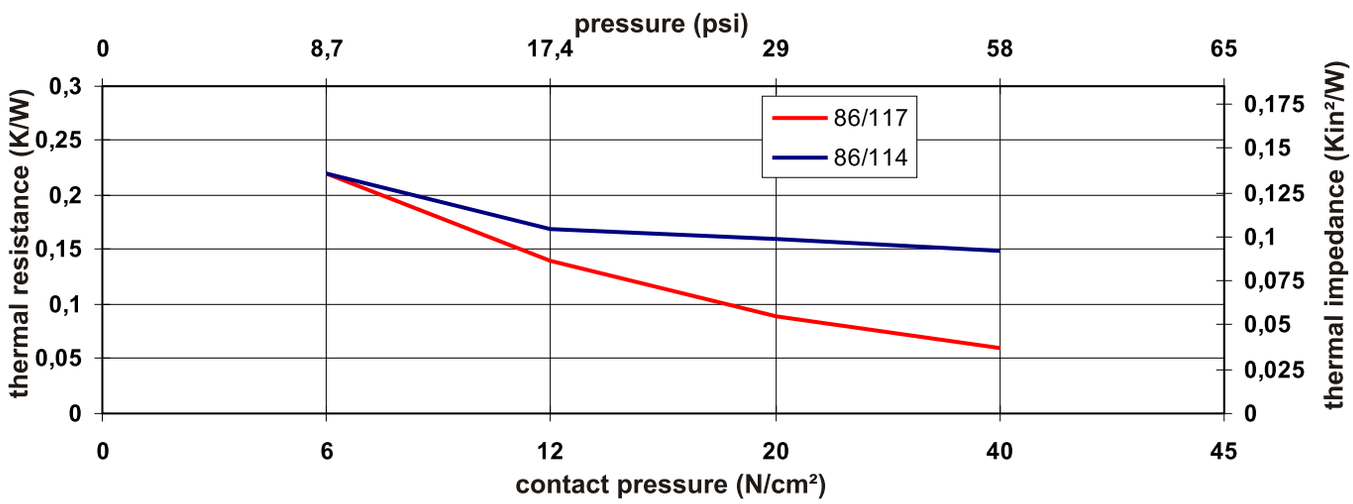
KERAFOL
Keramische Folien GmbH

Hightech aus der Oberpfalz

Compressibility of 86/114 and 86/117 in relation with the contact pressure



Thermal resistance of 86/114 and 86/117 in relation with the contact pressure



Thermal resistance of PCM 471 in relation with the contact pressure