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KERAFOL

Hightech aus der Oberpfalz

Keramische Folien GmbH

# Keratherm® - red
## Standard Films

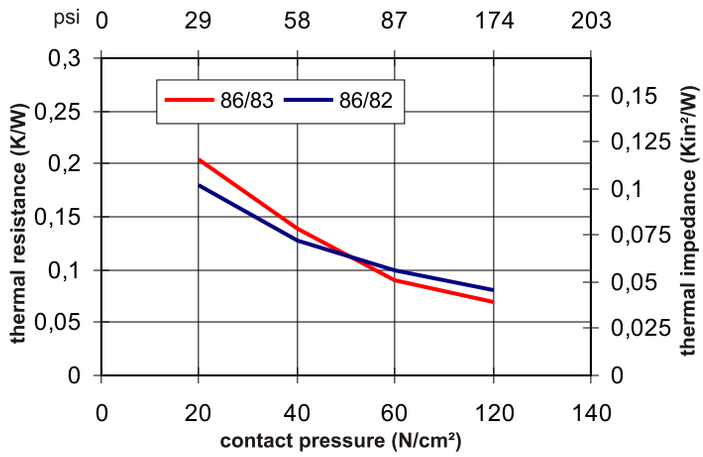
**Applications:**

- "High End" solutions
- Controll boards
- BGA applications
- Hard-disc-drives

| Properties | Unit | 86/81 | 86/82 with fibre glass | 86/83 with fibre glass |
|---|---|---|---|---|
| Colour | | red/brown | red | red |
| **Thermal properties** | | | | |
| Thermal resistance $R_{th}$ | K/W | 0.10 | 0.09 | 0.07 |
| Thermal impedance $R_{ti}$ | °Cmm²/W<br>Kin²/W | 39<br>0.07 | 35<br>0.05 | 31,2<br>0.04 |
| Thermal conductivity λ | W/mK | 5.5 | 6.5 | 8.0 |
| **Electrical properties** | | | | |
| Breakdown voltage $U_{d;ac}$ | kV | 1.0 | 1.0 | 1.0 |
| Dielectric breakdown $E_{d;ac}$ | kV/mm | 4.0 | 4.0 | 4.0 |
| Volume resistivity | Ωm | $2.0 \times 10^{14}$ | $2.0 \times 10^{14}$ | $5.9 \times 10^{15}$ |
| Dielectric loss factor tan δ | 1 | $1.9 \times 10^{-3}$ | $1.4 \times 10^{-3}$ | $3.0 \times 10^{-2}$ |
| Dielectric contant $\varepsilon_r$ | 1 | 2.3 | 2.4 | 1.83 |
| **Mechanical properties** | | | | |
| Measured thickness (+/-10%) | mm | 0.200 | 0.250 | 0.250 |
| Hardness | Shore A | 25 - 35 | 60 - 70 | 50 - 60 |
| Tensile strength | N/mm² | 0.6 | 20 | 10 |
| Elongation | % | 20 | 2 | 2 |
| **Physical properties** | | | | |
| Application temperature | °C | -40 to +200 | | |
| Density | g/cm³ | 1.36 | 1.23 | 1.10 |
| Flame rating | UL | - | 94-V0 | - |
| Possible thickness* | mm | 0,200 | 0.25 – 0.5 | 0.25 – 0.5 |

This film is especially suitable for high-power applications. It has excellent thermal and electrical properties. Thanks to its good performance, the Keratherm red can be used reliably in densely packed electronic applications.

**Compressibilities Keratherm® - red 86/82, 86/83**




**Options for Keratherm® -red**

| Type | Film structure | Overall thickness mm | TML Ma.-% | Tensile strength N/mm² | Thermal resistance K/W | Thermal resistance Kin²/W |
|---|---|---|---|---|---|---|
| **86/82lb** | 86/82 with fibre glass as low bleeding | 0.250 | **< 0.29** | 10 | 0.14 | 0.09 |