



KoolBond™

Peel and Stick Thermal Interface Material With Very Strong Double-Sided Adhesive



Thermal interface material with double-sided adhesive for thermal performance and strong attachment without the need for mechanical fasteners.

APPLICATIONS

- Low to Medium Power Thermal Solutions
- Controller Boards
- BGA Applications
- Fastener-free Attachment
- RoHS compliant

| Properties | Symbol | unit | 5mil | 10mil |
|------------------------------|--------------|---------------------------------|-----------------------|-----------------------|
| Color | | | gray | gray |
| Thermal Properties | | | | |
| Thermal Conductivity | λ | W/mK | 0.66 | 0.64 |
| Thermal Impedance | R_{ti} | $^{\circ}\text{Cmm}^2/\text{W}$ | 270 | 480 |
| Thermal Resistance | R_{th} | Kin^2/W | 0.42 | 0.74 |
| Electrical Properties | | | | |
| Breakdown Voltage | $U_{d,ac}$ | kV | not insulating | not insulating |
| Volume Resistivity | ϵ_r | $\Omega \text{ cm}$ | 2.42×10^{-3} | 2.42×10^{-3} |
| Mechanical Properties | | | | |
| Lap Shear Strength | | N/cm^2 | 32.3 | 35.5 |
| Thickness | | mm | 0.14 | 0.24 |
| Physical Properties | | | | |
| Application Temperature | | $^{\circ}\text{C}$ | -70 to +125 | -70 to +125 |
| Shelf Life (from D.O.M.) | | months | 12 | 12 |

KoolBond™ thermally conductive interface material attaches heat sinks to hot PCB components. KoolBond™ material consists of a fine-woven, nickel-coated copper fiber matrix with a high-strength pressure sensitive adhesive (PSA) resin on the outside. The woven copper closely conforms to irregular mounting surfaces on components and heat sinks to enhance thermal transfer and cooling performance. The silicone resin is compatible with chip mold release agents for added strength and security. A 10-mil thick KoolBond™ pad provides lap shear strength of 35.5 N/cm². The material's adhesive surfaces are protected by release liners for fast peel and stick application to speed assembly. The material can also be laser cut to any shape.

Options for KoolBond™

Structure: Adhesive impregnated metallized matrix

| Type | Thickness (mm) | Lap Shear Strength (N/cm ²) | Thermal Resistance (Kin ² /W) |
|-------|----------------|---|--|
| 5mil | 0.14 | 32.3 | 0.42 |
| 10mil | 0.24 | 35.5 | 0.74 |

Note: KoolBond™ is available in sheet form (8in. x 10in.) and custom die cut parts

Samples available upon request.



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KoolBond™ Thermal Interface Material

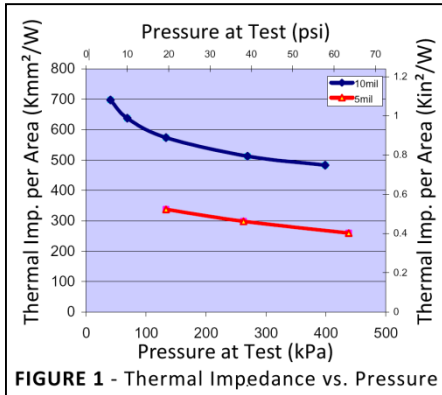
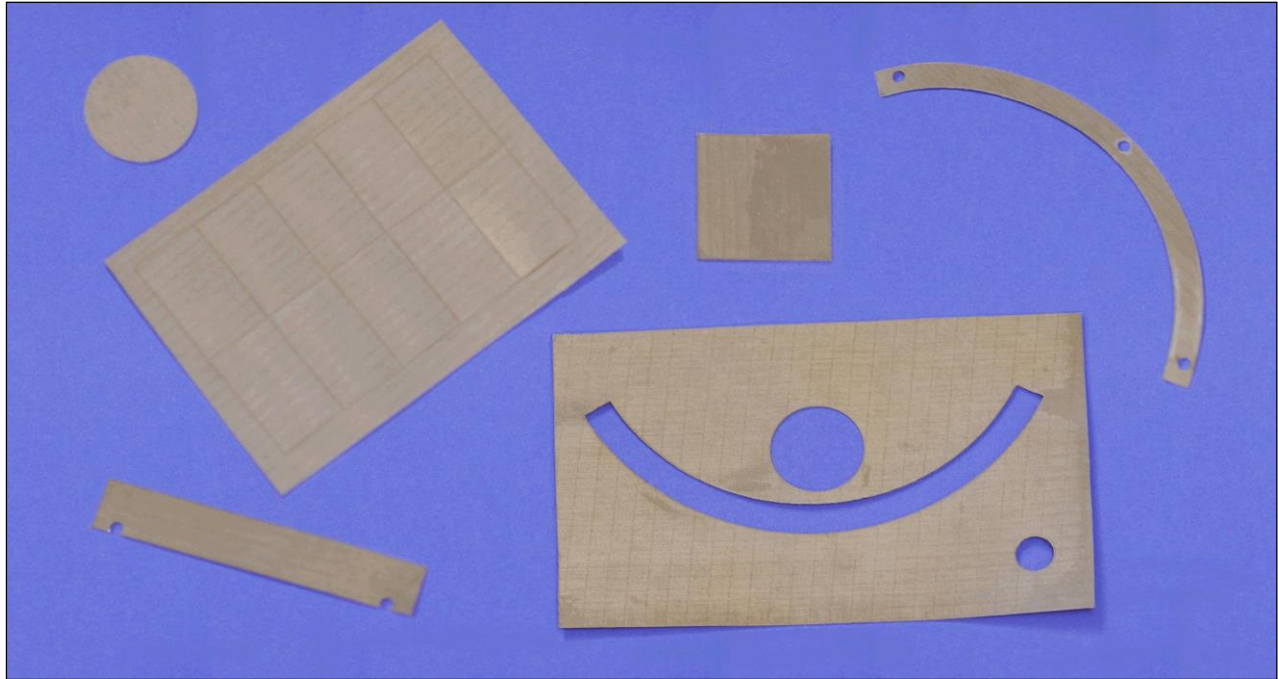


FIGURE 1 - Thermal Impedance vs. Pressure

Figure 1: Thermal Impedance per area as a function of test pressure. Includes both typical metric and English units.

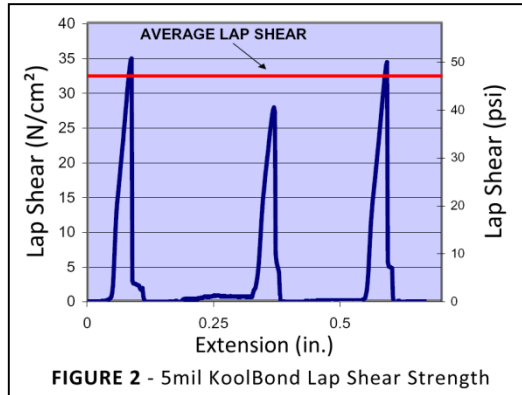


FIGURE 2 - 5mil KoolBond Lap Shear Strength

Figure 2: 3 lap shear test curves for the 5mil KoolBond™ material. The red line indicates the average lap shear strength, 32.3 N/cm² (46.9psi).

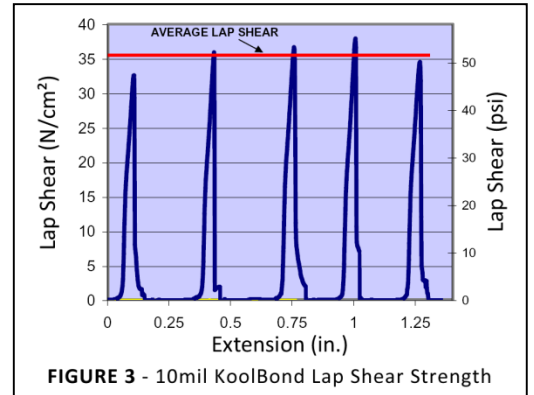


FIGURE 3 - 10mil KoolBond Lap Shear Strength

Figure 3: 5 lap shear test curves for the 10mil KoolBond™ material. The red line indicates the average lap shear strength, 35.5 N/cm² (51.5psi).

| |
|---|
| Part No. |
| Standard 8in.x10in. Sheets |
| 5mil - KB10x8x5 |
| 10mil - KB10x8x10 |
| Custom die cuts and laser cuts available on request |

Other MH&W Thermal Interface Materials include the following:

- Silicone and Silicone Free Films
- Softtherm™ Silicone and Silicone Free Gap Fillers
- Graphite Films
- Flexible Copper PCB Films
- Sealing Compounds
- Thermal Grease
- Phase Change Materials
- SpaceForm™ Molding Compound



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