Laird TECHNOLOGIES

Innovative **Technology** for a **Connected** World

Tflex™ HR400 Series
Thermal Gap Filler

MID-PERFORMANCE GAP FILLER WITH 1.8 W/MK

Tflex™ HR400 is a cost-effective and compliant gap filler thermal interface material with excellent thermal performance and great handling for mass-production applications.

The low modulus interface pad conforms to component topography, resulting in little stress on the components, mating chassis or parts. The softness relieves mechanical stress from high stack-up tolerance and absorbs shock, resulting in improved device reliability. Tflex™ HR400's recovery properties for applications requiring material rework result in continued mechanical integrity even after device rework and re-assembly.

Tflex™ HR400 is naturally tacky on both sides and requires no additional adhesive coating to inhibit thermal performance. The tack is designed to hold the pad in place during assembly and component transport.

Tflex™ HR400 is electrically insulating, stable from -50°C thru 160°C, and meets UL 94V0 flame rating.

FEATURES AND BENEFITS

- Thermal Conductivity 1.8 W/mK
- Soft and Compliant
- Available in thicknesses from 0.020" thru 0.400" (0.5mm thru 10.2mm)
- Naturally tacky for adhesion during assembly and transport

APPLICATIONS

- Cooling components to chassis, frame, or other mating components
- Memory Modules
- Home and small office network equipment
- Mass storage devices
- Automotive electronics
- Telecommunication hardware
- Radios
- LED solid state lighting
- Power electronics
- LCD and PDP flat panel TV
- Set top boxes
- Audio and video components
- IT infrastructure
- GPS navigation and other portable devices

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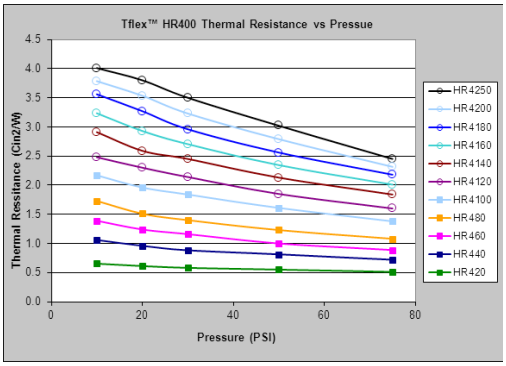
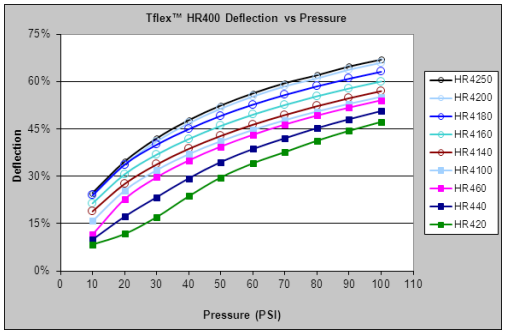
Tflex™ HR400 TYPICAL PROPERTIES

	Tflex HR400™	TEST METHOD
Construction	Ceramic filled silicone elastomer	NA
Color	Dark Grey	Visual
Thermal Conductivity	1.8 W/mK	ASTM D5470
Hardness (Shore 00)	60	ASTM D2240
Specific Gravity	1.93	Helium Pyncometer
Thickness Range	0.020" - .400" (0.5 - 10.2mm)	
Thickness Tolerance	±10%	
UL Flammability Rating	94 V0	File E180840
Temperature Range	-50°C to 160°C	See reliability report
Outgassing TML	0.32%	ASTM E595
Outgassing CVCM	0.09%	ASTM E595
Coefficient Thermal Expansion (CTE)	651 ppm/°C 35°C-108°C	IPC-TM-650 2.4.24



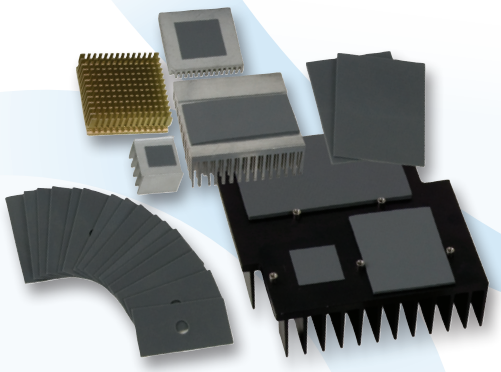


STANDARD THICKNESSES

Standard thickness is 0.020-inch (0.5 mm) through 0.400-inch (10.2 mm) and available in 0.010-inch increments. Please contact Laird Technologies for availability of thicknesses above 0.200-inch.

OPTIONS

Fiberglass is standard in 0.020-inch and 0.030-inch thicknesses to aid in handling and is designated by the suffix "-FG". Material is standard with both sides tacky; the -DC1 suffix indicates only one side is tacky.



MATERIAL NAME AND THICKNESS

Tflex™ indicates Laird Technologies' elastomeric thermal gap filler product line. HR4XXX indicates Tflex HR400 product line with thickness in mils (0.001-inches); -DC1 indicates only one side tacky; -FG indicates fiberglass reinforcement.

Data for design engineer guidance only. Observed performance varies in application. Engineers are reminded to test the material in application.

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