

Thin thermal interface material

- **Alumina-filled reinforced thermal gel**
- **High compressibility**
- **Soft, tacky, and conformable**
- **UL 94 HB-VO**

HeatPath thermal interface material is designed to cost-effectively maximize heat transfer from power components. Combining high thermal conductivity with softness and conformability, the material bridges the heat source and heat sink to provide low thermal resistance, less than half that of typical thermally conductive elastomers. This low thermal resistance is achieved at pressures less than one-fifth the pressure of typical thermally conductive elastomers, enabling robust and flexible designs. Unlike grease, HeatPath thermal interface material is not messy to apply and does not flow away from the interface with thermal cycling.

HeatPath GTQ-1500 products incorporate a fiberglass carrier, which provides physical reinforcement for tear resistance and tacky on one side only, for better handling. Installed parts resist dirt and dust pick up. The carrier also resists poke-through from metal burrs. In addition, HeatPath thermal interface offers significant electrical insulation.

Variety

HeatPath GTQ 1500 series material have a high thermal conductivity and are available in three different versions to meet the most demanding applications:

- GTQ 1500 for general applications
- GTQ 1502 with flame-retardant for UL 94 VO applications
- GTQ 1540 with one side tacky for improved handling

Proven performance

Extensive laboratory testing, including thermal aging and thermal cycling, demonstrates HeatPath thermal interface material's excellent stability in thermal resistance.

Easy installation

HeatPath thermal interface material is cold-applied and requires no heating or curing. With the tacky surface on just one side, the material can be installed and removed easily and cleanly, with no special tools, for access and rework.



Typical product properties

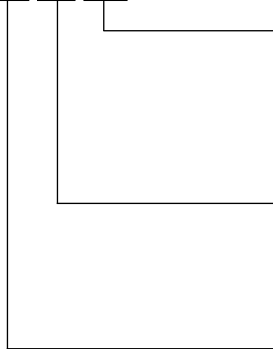
Test condition	Unit	1500	1502	1540	Test method	
Thermal conductivity	W/m ^{°K}	1.1	0.9	1.1	ASTM E 1530	
Color		Gray	Gray	Gray		
Thermal resistance (T0.25 mm) at 20 psi	°C–in ² /w	0.45	0.6	0.75	Analysis Tech-Tip 31 Device	
Compression deflection (T0.25 mm) at 20 psi	%	12	12	12	Analysis Tech-Tip 31 Device	
Specific gravity	g/cm ³	2.0	2.0	2.0	ASTM D 792	
Use temperature range	°C	–40 to 150	–40 to 150	–40 to 150		
Tear strength (45°)	lb/in	75	75	75	ASTM D 624, C-Die	
Weight loss at 150°C, 336 hr	%	0.5	0.5	0.5		
Volume resistivity	ohm-cm	1 x 10 ¹²	1 x 10 ¹²	1 x 10 ¹²	ASTM D 257	
Dielectric constant		4.35	4.35	4.35	ASTM D 150	
Loss factor		0.0034	0.0034	0.0034	ASTM D 150	
Dielectric breakdown voltage	T0.25 mm	kVac	2.5 min.	2.5 min.	2 min.	ASTM D 149
	T0.50 mm	kVac	6 min.	5 min.	6 min.	
	T1.00 mm	KVac	8 min.	8 min.	8 min.	
Specific heat at 100°C	J/g–°C	1	1	1	ASTM E 1269	
Coefficient of linear thermal expansion	/°C	5.5 x 10 ⁻⁴	5.5 x 10 ⁻⁴	5.5 x 10 ⁻⁴	ASTM E 831	
Flammability		HB	V0	HB	UL94, File E177248	

Nominal performance for .25-mm sample. Complete performance specifications are available in Raychem HeatPath Material SCD.

Ordering Information

Part numbering system for stamped and strip products

GTQ-1500-TX.X-XXXX



Product drawing number (e.g., 0001)

0XXX = Stamped on sheets
 1XXX = Stamped on rolls
 2XXX = Unstamped sheets
 5XXX = Unstamped rolls

Product thickness

0.25 mm (.010 in.)
 0.50 mm (.020 in.)
 0.75 mm (.030 in.)
 1.00 mm (.040 in.)

Gel type

1500 = Fiberglass-reinforced gel
 1502 = Fiberglass-reinforced, flame-retardant thermal gel
 1540 = One side tacky, fiberglass-reinforced gel

Standard Packaging

Stamped shapes (3 x 10 inch sheets)

T0.25 mm 200 sheets/box
 T0.50 mm 150 sheets/box
 T0.75 mm 100 sheets/box
 T1.00 mm 75 sheets/box

Stamped shapes (rolls)

T0.25 mm 150 ft/roll
 T0.50 mm 100 ft/roll
 T0.75 mm 75 ft/roll
 T1.00 mm 50 ft/roll

Stamped shapes (6 x 12 inch sheets)

T0.25 mm 125 sheets/box
 T0.50 mm 100 sheets/box
 T0.75 mm 75 sheets/box
 T1.00 mm 50 sheets/box

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