

ThermaCool®

Thermal Interface Materials

ThermaCool® R-10404 Gap Filler

ThermaCool® R-10404 is a closed-cell thermally conductive silicone rubber sponge. This material offers thermal conductivity along with electrical isolation. R-10404 is the superior choice for gasketing and cushioning applications requiring critical thermal transfer and sealing.

Features/Benefits

- Excellent conformability to irregular surfaces
- Clean release from most materials
- Repositionable
- Die-cuttable
- Multiple thicknesses to fill various air gap heights
- Foam structure provides extremely compliant gap filler
- Cost effective thermal gap filler

Typical Properties

Property	R-10404	Test Method	
Colour	Light Green	—	
Available Thicknesses mm (in.)	0.79, 1.59, 2.38, 3.18, 4.76, 6.35 (1/32, 1/16, 3/32, 1/8, 3/16, 1/4)	ASTM D374	
Thermal Conductivity W/m ⁻¹ K ⁻¹	see below	ASTM E1530	
Thermal Impedance °C in. ² /W	see below	ASTM E1530	
Break Strength MPa (psi)	0.62 (90)	ASTM D412	
Elongation %	150	ASTM D412	
Hardness Shore A	13	ASTM D2240	
Dielectric Strength volts/mil	100	ASTM D149	
Compression Deflection @25% MPa (psi)	0.10 (15)	ASTM D1056	
Compression Set MPa (psi)	0.10 (15)	ASTM D1056	
Density g/cm ³ (lbs./in. ³)	0.97 (0.035)	ASTM D297	
Operating Temperature °C	-29 to +149	—	
UL Listing Recognition	V-1 ≥3.18mm thick	UL94	
% Compressed (psi)	Pressure kPa (psi)	Thermal Conductivity W/m⁻¹K⁻¹	Thermal Resistance °C/W
Contact	<7 (<1)	0.30	6.0
10	34 (5)	0.40	4.5
25	83 (12)	0.45	2.5
50	234 (34)	0.65	1.0

Applications—R-10404 is used as an unsupported thermal transfer material in applications requiring clean release, enhanced thermal performance by filling air gaps and electrical isolation, for example:

- Electronic modules for power devices or power supplies
- Computers, telecommunications, automotive electronics
- Electrical insulation
- Heat pipe assemblies
- CD-ROM cooling
- Vibration mounts
- Press pads
- Decal transfer

Availability—R-10404 is available in both 914x 914mm sheets and by-the-metre goods 914mm wide. Material can be supplied with an aggressive acrylic pressure sensitive adhesive or high temperature silicone adhesive on one side. Non-standard thicknesses are available.

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