



ELECTRICALLY INSULATING, THERMALLY CONDUCTIVE MATERIAL

Tgard™ 400 is a medium thermal performance insulator pad consisting of a ceramic high temperature silicone rubber coated on electrical fiberglass.

Tgard™ 400 is specifically designed for high pressure mounting applications. The unique formulation offers high resistance to cut-through and ideal material for screw mounting applications with high torque force.

Tgard™ 400 offers excellent thermal and electrical properties due to the unique coating formulation.

FEATURES AND BENEFITS

- Excellent breakdown voltage of >5,500 volts AC(avg)
- Excellent cut-through resistance of 900lbs
- Thermal resistance of 0.63°C-in²/watt at 50 psi

APPLICATIONS

- Switching Mode Power Supplies
- Automotive Electronics
- Telecommunication

PROPERTIES	TEST METHOD	METRIC VALUES	IMPERIAL VALUES
ELECTRICAL PROPERTIES			
Dielectric Withstand Voltage 50mm probe for 30 sec	ASTM D149	4,500 volts DC	4,500 volts DC
Dielectric Breakdown Voltage 50mm probe	ASTM D149	Avg. >5,500 volts AC	Avg. >5,500 volts AC
Volume Resistivity	ASTN D257	10 ¹² ohm-cm	10 ¹² ohm-in
Dielectric Constant @ 1MHz	ASTN D257	3.3	3.3
Electrical RTI Temperature rating	UL 746D	150°C	302°F
MECHANICAL PROPERTIES			
Thickness		0.229mm	0.009 inch
Hardness	ASTM D2240	90 Shore A	90 Shore A
Tensile Strength	ASTM D412	17.2 Mpa	2500psi
Cut Through Resistance	ASTM D412	410Kg	900lbs
Tear Strength	ASTM D624	23.6kN/m	135PPI
Torque Resistance	ASTM D2064	1.6 N.M	1.6 N.M
Elongation @ 45° to Warp/Fill	ASTM D412	20%	20%
Elongation along width or length	ASTM D412	5%	5%
Operating Temperature Range		-60 to 180 C	-76 to 359 F
Color		Gray	Gray
UL Flammability Rating	UL 94	V-0	V-0

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Tgard™ 400

Thermally Conductive Insulators

Preliminary

PRESSURE, PSI (KPA)	UNITS	10 (69)	25 (172)	50 (345)	100 (689)	200 (1379)	400 (2758)
TOTAL THERMAL RESISTANCE							
Modified ASTM D5470	°C-in ² /watt	0.92	0.71	0.63	0.59	0.59	0.57
Modified ASTM D5470	°C-cm ² /watt	5.95	4.59	4.09	3.82	3.79	3.67
T0-220	°C/watt	3.39	2.79	2.32	1.83	1.80	1.77

Standard thicknesses:	9 mils (0.229mm) Please contact Laird Technologies for alternate thicknesses.
Standard sheet sizes:	<ul style="list-style-type: none"> • Sheet form, roll form and die-cut parts • Single side pressure sensitive adhesive upon request
Pressure sensitive adhesive:	<ul style="list-style-type: none"> • Without adhesive (A0): 12" X 18" sheets, 12" x 65M, 12" x 30M roll or custom configuration • With adhesive (A1): 11.75" X 18" sheets, 11.75" x 30M roll or custom configuration
Reinforcement:	Tgard™ 200 sheets are fiberglass reinforced.

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

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