

Arlon Thermabond® 51A50X020 0.020" (0.508 mm) Uncured Silicone Rubber with Fiberglass Substrate

Category : Polymer , Thermoset , Silicone , Silicone Rubber , Silicone, Molded, Glass Fiber Filled

Material Notes:

Description: Thermabond® - Electrically insulating, thermally conductive, thermal interface material (TIM) Design/Construction: Liner: Polyethylene Side 1: Uncured Silicone Rubber Substrate: Style 7628 Fiberglass This data represents typical values for the production material. The data should not be used to write, or in place of, material specifications. Information provided by Arlon, Silicone Technologies Division

Order this product through the following link:

http://www.lookpolymers.com/polymer_Arlon-Thermabond-51A50X020-0020-0508-mm-Uncured-Silicone-Rubber-with-Fiberglass-Substrate.php

Physical Properties	Metric	English	Comments
Density	2.80 g/cc	0.101 lb/in ³	Silicone Property; ASTM D2240
Thickness	63.5 microns	2.50 mil	Liner
	203 microns	8.00 mil	Substrate; Arlon SQA-TMS-003
	305 microns	12.0 mil	Side 1; Arlon SQA-TMS-003
	508 microns	20.0 mil	Overall; Arlon SQA-TMS-003

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	77	77	Silicone Property; ASTM D2240
Tensile Strength	4.72 MPa	685 psi	Silicone Property; ASTM D412
Tensile Strength, Yield	24.5 MPa @Strain <=1.00 %	3550 psi @Strain <=1.00 %	Arlon SQA-TMS-008
Elongation at Break	125 %	125 %	Silicone Property; ASTM D412
Poissons Ratio	0.50	0.50	Approximately, Silicone Property
Peel Strength	0.403 kN/m	2.30 pli	(S2 to S2), Bond Strength; Arlon SQA-TMS-011
	0.473 kN/m	2.70 pli	(S1 to S2), Bond Strength; Arlon SQA-TMS-011

Thermal Properties	Metric	English	Comments
CTE, linear	105 µm/m-°C	58.3 µin/in-°F	Silicone Property; ASTM E 831
	@Temperature 20.0 - 160 °C	@Temperature 68.0 - 320 °F	

Thermal Properties	Metric	English	Comments
Specific Heat Capacity	0.820 J/g-°C	0.195 BTU/lb-°F	Property; Arlon SQA-TMS-002
	@Temperature 100 °C	@Temperature 212 °F	
Thermal Conductivity	1.40 W/m-K	9.72 BTU-in/hr-ft ² -°F	Silicone Property; ASTM E 1530
	@Temperature 100 °C	@Temperature 212 °F	
	1.60 W/m-K	11.1 BTU-in/hr-ft ² -°F	(Apparent), Product Property; ASTM D5470
	@Temperature 50.0 °C	@Temperature 122 °F	
Maximum Service Temperature, Air	204.0 °C	399.2 °F	
Minimum Service Temperature, Air	-100 °C	-148 °F	
Glass Transition Temp, Tg	-118 °C	-180 °F	ASTM D3418

Electrical Properties	Metric	English	Comments
Volume Resistivity	1.00e+14 ohm-cm	1.00e+14 ohm-cm	ASTM D257
Dielectric Constant	6.91	6.91	Silicone Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	26.7 kV/mm	677 kV/in	ASTM D149
Dissipation Factor	0.0044	0.0044	Silicone Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Arc Resistance	193 sec	193 sec	ASTM D495-99

Processing Properties	Metric	English	Comments
Shelf Life	6.00 Month	6.00 Month	From date of manufacture
	@Temperature 4.200 - 10.20 °C	@Temperature 39.56 - 50.36 °F	

Descriptive Properties	Value	Comments
Color	Gray	
	Red	Substrate
Plasticity	2.3 mm	Arlon SQA-TMS-005
Total Product Weight (g/m2)	1201	Arlon SQA-TMS-025

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