

Arlon Thermabond® 48991A010 0.010" (0.254 mm) Uncured Silicone Rubber with Fiberglass Substrate

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

Material Notes:

Description: Generation IIa Thermabond® NP electrically insulating electronic adhesive. Bonds without primer.Design/Construction: Liner: PolyethyleneSide 1: Uncured Silicone RubberSubstrate: Style 1080 FiberglassSide 2: Uncured Silicone RubberLiner: Polyethylene Product Advantages: Bond Reliability – Bonds securely regardless of substrate type, shape, or texture.Hot Spot Elimination – Thermal conductivity up to 3 W/mK to transport heat away from hot spots.Thermal-Mechanical Stress Decoupling – Low modulus and high shear strength prevent adhesive delamination.Low Temperature Cure Cycle – Thermabond® cure parameters can be as low as 100°C at 100 kPa, so surface mount components can be mounted on the PCB prior to bonding.Uniform Bond Line Thickness – Precision calendaring produces a uniform adhesive film.Proven Performance – Arlon Thermabond® adhesive products are the gold standard for critical, demanding electronic system applications.Product Use: Electrically insulating electronic adhesive. Bonds without primer.Appearance: Light blue colored, high viscosity gum on fiberglass with polyethylene release liners.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-48991A010-0010-0254-mm-Uncured-Silicone-Rubber-with-Fiberglass-Substrate.php

Physical Properties	Metric	English	Comments
Density	1.45 g/cc	0.0524 lb/in ³	Silicone Property; Arlon SQA-TMS-024
Thickness	38.1 microns	1.50 mil	Liner
	38.1 microns	1.50 mil	Liner
	76.2 microns	3.00 mil	Substrate; Arlon SQA-TMS-003
	88.9 microns	3.50 mil	Side 1; Arlon SQA-TMS-003
	88.9 microns	3.50 mil	Side 2; Arlon SQA-TMS-003
	254 microns	10.0 mil	Overall; Arlon SQA-TMS-003

Mechanical Properties	Metric	English	Comments
Hardness, Shore A	55	55	Silicone Property; ASTM D2240
Tensile Strength	5.86 MPa	850 psi	Silicone Property; ASTM D412
Elongation at Break	400 %	400 %	Silicone Property; ASTM D412
Modulus of Elasticity	0.00603 GPa	0.875 ksi	Silicone Property; Arlon SQA-TMS-008
Poissons Ratio	0.50	0.50	Approximately, Silicone Property

Shear Modulus Mechanical Properties	0.000345 GPa Metric	0.0500 ksi English	ASTM D1002 Comments
Shear Strength	4.90 MPa	710 psi	Lap; ASTM 1002

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM E 831
CTE, linear, Transverse to Flow	40.0 $\mu\text{m}/\text{m}\cdot\text{°C}$	22.2 $\mu\text{in}/\text{in}\cdot\text{°F}$	ASTM E 831
Specific Heat Capacity	1.04 J/g- °C	0.249 BTU/lb- °F	Product Property; E1461-01
	1.14 J/g- °C	0.272 BTU/lb- °F	Silicone Property; E1461-01
Thermal Conductivity	0.400 W/m-K	2.78 BTU-in/hr-ft ² - °F	Silicone Property; ASTM E 1530
	0.400 W/m-K	2.78 BTU-in/hr-ft ² - °F	Product Property; ASTM E 1530
Maximum Service Temperature, Air	204 °C	400 °F	
Minimum Service Temperature, Air	-73.3 °C	-100 °F	
Glass Transition Temp, Tg	$\leq -100 \text{°C}$	$\leq -148 \text{°F}$	Silicone Property; ASTM D3418

Electrical Properties	Metric	English	Comments
Dielectric Constant	3.4	3.4	Silicon Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dielectric Strength	3.5	3.5	Product Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dissipation Factor	53.1 kV/mm	1350 kV/in	ASTM D149
Dissipation Factor	0.0050	0.0050	Silicon Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	
Dissipation Factor	0.0050	0.0050	Product Property; IPC TM 650 - 2.5.5.3
	@Frequency 1.00e+6 Hz	@Frequency 1.00e+6 Hz	

Processing Properties	Metric	English	Comments
Cure Time	15.0 min	0.250 hour	Recommended Cure Cycle
	@Pressure 0.0689 - 0.345 MPa, Temperature 121 °C	@Pressure 10.0 - 50.0 psi, Temperature 250 °F	

Processing Properties Shelf Life	6.00 Month Metric	6.00 Month English	Comments From date of manufacture
	@Temperature 4.44 - 10.0 °C	@Temperature 40.0 - 50.0 °F	

Descriptive Properties	Value	Comments
Color	Light Blue	
Total Product Weight (g/m2)	376	Arlon SQA-TMS-025

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