

Description:

Secure® 1600XF is a structural adhesive film composed of fiberglass reinforced silicone rubber with functional additives formulated to deliver exceptional thermal, physical, and electrical properties.

Developed specifically for Power Electronic applications where long-term reliability and ease of processing are top concerns. Secure® 1600XF adhesives exhibit high tack in the uncured state to facilitate low cost processing techniques. But forms a high strength, fully crosslinked, and chemically bonded structural adhesives when thermally cured. Secure® 1600XF is resistant to heat, humidity, and thermal shock. This eliminates the need for mechanical fasteners and the concerns about pump-out, compression set, and fastener fatigue or loosening. Secure® 1600XF has excellent dielectric strength to isolate power components on both primary and secondary sides of the power supply

Secure® 1600XF is RoHS compliant, Halogen free, free of SVHC, PFOS, and PFOA.

Benefits:

- Eliminates the need for mechanical fasteners.
- Decouples stress induced by mismatched coefficients of thermal expansion.
- Improves consistency of thermal path to heat sink.
- Can be cured without pressure for small bonding areas $\leq 5 \text{ cm}^2$.

Recommended Applications:

- Adhering power transistors to heat sinks.
- Adhering LED light modules to heat sinks.
- Adhering electronic assemblies to heat sinks.

Standard Sizes:

- 36 in. x 125 LY rolls
- Slit widths, cut pads, and die cuts
- Other sizes on request

Secure® 1600XF adhesives are temperature sensitive. Arlon recommends 21 +/- 3C storage. Shelf Life is 6 month from DOM at recommended conditions.

Property	Typical Value		Test Method
	Imperial	Metric	
Color	Slate	Slate	Visual
Thickness	9—20 mils	0.23—0.51 mm	ASTM D374
Construction	Supported	Supported	---
Supporting Material	Fiberglass	Fiberglass	---
Mechanical			
Hardness	Shore A	Shore A	ASTM D2240
Shear Strength	PSI	MPa	ASTM D1002
Torque Adhesion (TO-220/Al)	14 lb-in	16 kg-cm	SQA-TMS
Torque Adhesion (TO-247/Al)	27 lb-in	31 kg-cm	SQA-TMS
Thermal			
Impedance at 40 PSI; 9 mil	0.34 in ² *C/W	2.1e ⁻⁴ m ² *K/W	ASTM D5470
Operating Range	-60 to 400°F	-50 to 204°C	---
Electrical			
Dielectric Strength, kVac	> 500 V/mil	> 19 kV/mm	ASTM D149
Voltage Withstand, 3.0 kV for 60 sec	pass	pass	ASTM D149
UL Certification (QMFZ2.E54153)			
Flammability Rating	V-0	V-0	UL 94
RTI, Mechanical	300°F	150°C	UL 746
RTI, Electrical	300°F	150°C	UL 746