

Sumitomo Bakelite North America 51-01 CAFR-P Mineral Filled Diallyl Phthalate

Category : Polymer , Thermoset , Diallyl Phthalate (DAP) , Diallyl Phthalate (DAP), Cast, Mineral Filler , Filled/Reinforced Thermoset

Material Notes:

Ortho Resin Isomer (DAP). Used for critical, high-performance military and commercial electrical components where long-term reliability is demanded. Information provided by Sumitomo Bakelite North America, Inc.

Order this product through the following link:

http://www.lookpolymers.com/polymer_Sumitomo-Bakelite-North-America-51-01-CAFR-P-Mineral-Filled-Diallyl-Phthalate.php

Physical Properties	Metric	English	Comments
Density	1.75 g/cc	0.0632 lb/in ³	ASTM D792
Apparent Bulk Density	0.760 g/cc	0.0275 lb/in ³	
Water Absorption	0.55 %	0.55 %	48 hours, 50 ^o C. ASTM D570
Linear Mold Shrinkage	0.0040 - 0.0060 cm/cm	0.0040 - 0.0060 in/in	Compression Molding. ASTM D955

Mechanical Properties	Metric	English	Comments
Tensile Strength, Ultimate	55.0 MPa	7980 psi	ASTM D638
Flexural Yield Strength	90.0 MPa	13100 psi	ASTM D790
Flexural Modulus	8.30 GPa	1200 ksi	ASTM D790
Compressive Yield Strength	145 MPa	21000 psi	ASTM D695
Izod Impact, Notched	0.210 J/cm	0.393 ft-lb/in	ASTM D256A

Thermal Properties	Metric	English	Comments
CTE, linear, Parallel to Flow	34.0 $\mu\text{m}/\text{m}\cdot\text{C}^{\circ}$	18.9 $\mu\text{in}/\text{in}\cdot\text{F}^{\circ}$	ASTM D696
	@Temperature 20.0 C°	@Temperature 68.0 F°	
Maximum Service Temperature, Air	130 C°	266 F°	UL temperature Index, UL 746B
Deflection Temperature at 1.8 MPa (264 psi)	163 C°	325 F°	ASTM D648A
UL RTI, Electrical	130 C°	266 F°	UL temperature Index, UL 746B
UL RTI, Mechanical with Impact	130 C°	266 F°	UL temperature Index, UL 746B
UL RTI, Mechanical without Impact	130 C°	266 F°	UL temperature Index, UL 746B
	V-0	V-0	

Thermal Properties	Metric	English	Comments
	V-0	V-0	
	@Thickness 1.60 mm	@Thickness 0.0630 in	
	@Thickness 3.20 mm	@Thickness 0.126 in	
Oxygen Index	30 %	30 %	ASTM D2863

Electrical Properties	Metric	English	Comments
Dielectric Constant	4.3	4.3	Wet
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
	4.5	4.5	Wet
	@Frequency 1000 Hz	@Frequency 1000 Hz	
Dielectric Strength	15.0 kV/mm	381 kV/in	Wet, step-by-step. ASTM D149
	16.0 kV/mm	406 kV/in	
Dissipation Factor	0.020	0.020	Wet; ASTM D150
	@Frequency 1000 Hz	@Frequency 1000 Hz	
	0.025	0.025	Wet; ASTM D150
	@Frequency 1e+6 Hz	@Frequency 1e+6 Hz	
Arc Resistance	135 sec	135 sec	ASTM D495
Comparative Tracking Index	>= 600 V	>= 600 V	UL746A, ASTM D3638
Hot Wire Ignition, HWI	30 - 59 sec	30 - 59 sec	UL PLC 2 (30-59 sec)
	@Thickness 1.57 mm	@Thickness 0.0618 in	
High Amp Arc Ignition, HAI	15 - 29 arcs	15 - 29 arcs	UL PLC 3 (15-29 arcs)
	@Thickness 1.57 mm	@Thickness 0.0618 in	
High Voltage Arc-Tracking Rate, HVTR	0.000 - 10.0 mm/min	0.000 - 0.394 in/min	UL PLC 0 (0-10 mm/min)
	@Thickness 1.57 mm	@Thickness 0.0618 in	

Processing Properties	Metric	English	Comments
Processing Temperature	160 - 180 Â°C	320 - 356 Â°F	Mold temperature

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