

Technical Information



CALIBRE™ EV20

Advanced Resin

Overview

CALIBRE™ EV20 is a specially designed ignition-resistant polycarbonate alloy. It combines high flow, high heat and high strength together. It is especially suited for thin-wall applications and has excellent high gloss aesthetics. CALIBRE™ EV20 has a UL94 V-0 rating at 1.0 mm. This material does not contain chlorinated or brominated flame retardant additives.

Applications:

- Battery module top cover
- Wire harness isolation plate

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (260°C/2.16 kg)	15 g/10 min	15 g/10 min	ASTM D1238
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ASTM D955
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹	334000 psi	2300 MPa	ASTM D638
Tensile Strength ²			ASTM D638
Yield	8700 psi	60.0 MPa	
Break	7980 psi	55.0 MPa	
Tensile Elongation ²			ASTM D638
Yield	6.0 %	6.0 %	
Break	100 %	100 %	
Flexural Modulus ³	363000 psi	2500 MPa	ASTM D790
Flexural Strength ³	14000 psi	96.5 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	2.8 ft·lb/in	150 J/m	ASTM D256
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi (1.8 MPa), Unannealed	194 °F	90.0 °C	
Vicat Softening Temperature	241 °F	116 °C	ASTM D1525 ⁴
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.6E-5 in/in/°F	6.5E-5 cm/cm/°C	ASTM D696
Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	1.0E+15 ohms·cm	1.0E+15 ohms·cm	ASTM D257
Dielectric Strength	790 V/mil	31 kV/mm	ASTM D149
Arc Resistance	PLC 7	PLC 7	ASTM D495
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁵			UL 94
0.020 in (0.50 mm)	V-2	V-2	
0.031 in (0.8 mm)	V-1	V-1	
0.04 in (1.0 mm)	V-0	V-0	
0.08 in (2.0 mm)	5VB	5VB	
Glow Wire Flammability Index ⁵			IEC 60695-2-12
0.06 in (1.5 mm)	1760 °F	960 °C	
Glow Wire Ignition Temperature ⁵			IEC 60695-2-13
0.06 in (1.5 mm)	1380 °F	750 °C	

Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	212 °F	100 °C
Drying Time	3.0 to 4.0 hr	3.0 to 4.0 hr
Processing (Melt) Temp	428 to 500 °F	220 to 260 °C
Mold Temperature	158 to 230 °F	70 to 110 °C

Notes

These are typical properties only and are not to be construed as specifications. Users should confirm results by their own tests.

¹ 0.039 in/min (1.0 mm/min)

² 2.0 in/min (50 mm/min)

³ 0.051 in/min (1.3 mm/min)

⁴ Rate B (120°C/h), Loading 1 (10 N)

⁵ This rating not intended to reflect hazards presented by this or any other material under actual fire conditions.

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