

Technical Information



CALIBRE™ EV40 GF20 Advanced Resin

Overview

CALIBRE™ EV40 GF20 Advanced Resin is a 20% glass fiber reinforced high flow ignition resistant polycarbonate resin. This grade provides flame rating UL 94 V0 at 1.6 mm without the use of brominated or chlorinated flame retardant additives. It has superior processability and is ideal for structural frame components which are moving towards thinner wall sections.

Applications:

- Pouch cell frame.

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.33 g/cm ³	1.33 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	25 g/10 min	25 g/10 min	ASTM D1238
Molding Shrinkage			ASTM D955
Flow	1.0E-3 to 5.0E-3 in/in	0.10 to 0.50 %	
Across Flow	4.0E-3 to 6.0E-3 in/in	0.40 to 0.60 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus ¹	986000 psi	6800 MPa	ASTM D638
Tensile Strength			ASTM D638
Yield ²	13100 psi	90.0 MPa	
Break ³	14500 psi	100 MPa	
Tensile Elongation ² (Break)	4.0 %	4.0 %	ASTM D638
Flexural Modulus ⁴	870000 psi	6000 MPa	ASTM D790
Flexural Strength ⁴	21800 psi	150 MPa	ASTM D790
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Notched Izod Impact (73°F (23°C))	1.5 ft-lb/in	80 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	221 °F	105 °C	
CLTE - Flow (-40 to 176°F (-40 to 80°C))	3.7E-5 in/in/°F	6.6E-5 cm/cm/°C	ASTM D696
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating ⁵ (0.06 in (1.6 mm))	V-0	V-0	UL 94
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	203 to 230 °F	95 to 110 °C	
Drying Time	4.0 to 7.0 hr	4.0 to 7.0 hr	
Rear Temperature	500 to 536 °F	260 to 280 °C	
Middle Temperature	518 to 554 °F	270 to 290 °C	
Front Temperature	518 to 554 °F	270 to 290 °C	
Nozzle Temperature	536 to 572 °F	280 to 300 °C	
Processing (Melt) Temp	518 to 563 °F	270 to 295 °C	
Mold Temperature	176 to 230 °F	80 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 0.20 in/min (5.0 mm/min)

⁴ 0.051 in/min (1.3 mm/min)

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

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