

CALIBRE™ 301 HMR FC030003

Polycarbonate Resin

Overview

CALIBRE™ 301 HMR FC030003 Polycarbonate resin offers exceptional impact resistance, heat distortion resistance, and optical clarity. CALIBRE 301 HMR also has a mold release package designed to improve processing larger more complex injection molded parts.

Applications:

- Small & large appliances

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density	1.20 g/cm ³	1.20 g/cm ³	ISO 1183/B
Melt Mass-Flow Rate (MFR) (300°C/1.2 kg)	19 g/10 min	19 g/10 min	ISO 1133
Molding Shrinkage - Flow	5.0E-3 to 7.0E-3 in/in	0.50 to 0.70 %	ISO 294-4
Water Absorption			ISO 62
24 hr, 73°F (23°C)	0.15 %	0.15 %	
Equilibrium, 73°F (23°C), 50% RH	0.32 %	0.32 %	
Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus	334000 psi	2300 MPa	ISO 527-2/50
Tensile Stress			ISO 527-2/50
Yield	8700 psi	60.0 MPa	
Break	10300 psi	71.0 MPa	
Tensile Strain			ISO 527-2/50
Yield	6.0 %	6.0 %	
Break	150 %	150 %	
Flexural Modulus ¹	348000 psi	2400 MPa	ISO 178
Flexural Stress ¹	14100 psi	97.0 MPa	ISO 178
Taber Abrasion Resistance	45 %	45 %	ISO 9352
Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179/1eA
-22°F (-30°C)	5.7 ft-lb/in ²	12 kJ/m ²	
73°F (23°C)	12 ft-lb/in ²	25 kJ/m ²	
Notched Izod Impact Strength (73°F (23°C))	39 ft-lb/in ²	83 kJ/m ²	ISO 180/A
Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness			ISO 2039-2
M-Scale	73	73	
R-Scale	118	118	
Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Annealed	289 °F	143 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	255 °F	124 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	284 °F	140 °C	ISO 75-2/A
Vicat Softening Temperature	298 °F	148 °C	ISO 306/B50
Ball Indentation Temperature	> 257 °F	> 125 °C	IEC 60335-1
CLTE - Flow	3.9E-5 in/in/°F	7.0E-5 cm/cm/°C	ISO 11359-2

Electrical	Nominal Value (English)	Nominal Value (SI)	Test Method
Volume Resistivity	> 1.0E+15 ohms·cm	> 1.0E+15 ohms·cm	IEC 60093
Electric Strength	430 V/mil	17 kV/mm	IEC 60243-1
Dielectric Constant			
60 Hz	3.00	3.00	IEC 60250
1 MHz	3.00	3.00	IEC 60250
100 Hz	3.00	3.00	IEC 60250
Dissipation Factor			IEC 60250
50 Hz	1.0E-3	1.0E-3	
1 MHz	2.0E-3	2.0E-3	
Comparative Tracking Index			IEC 60112
0.0787 in (2.00 mm), Solution A	250 V	250 V	
Optical	Nominal Value (English)	Nominal Value (SI)	Test Method
Refractive Index	1.586	1.586	ISO 489
Transmittance	89.0 %	89.0 %	ASTM D1003
Haze	1.00 %	1.00 %	ASTM D1003