

Technical Data Sheet

QR Resin QR-1220IM

Polycarbonate Alloy
Engineering Plastics

General

Additive	• Impact Modifier
Features	• High Heat Resistance • High Impact Resistance • Impact Modified • Low Temperature Impact Resistance
Appearance	• Black • Colors Available • Natural Color
Forms	• Pellets

Physical

	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity	1.14	1.14 g/cm ³	ASTM D792
Melt Mass-Flow Rate (MFR) (260°C/5.0 kg)	20 g/10 min	20 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (260°C/5.0 kg)	22 cm ³ /10min	22 cm ³ /10min	ASTM D1238
Molding Shrinkage - Flow (0.125 in (3.18 mm))	6.0E-3 in/in	0.60 %	ASTM D955

Mechanical

	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Modulus (73°F (23°C))	339000 psi	2340 MPa	ISO 527-2/1
Tensile Strength			
Yield, 73°F (23°C)	7540 psi	52.0 MPa	ASTM D638
Yield, 73°F (23°C)	7910 psi	54.5 MPa	ISO 527-2/5
Break, 73°F (23°C)	7540 psi	52.0 MPa	ISO 527-2/5
Tensile Elongation			
Yield, 73°F (23°C)	150 %	150 %	ASTM D638
Yield, 73°F (23°C)	3.4 %	3.4 %	ISO 527-2
Break, 73°F (23°C)	100 %	100 %	ISO 527-2/5
Flexural Modulus			
73°F (23°C)	327000 psi	2250 MPa	ASTM D790
Chord : 73°F (23°C), 2.52 in (64.0 mm) Span ¹	371000 psi	2560 MPa	ISO 178
Flexural Stress			
73°F (23°C) ¹	13100 psi	90.0 MPa	ISO 178
Yield, 73°F (23°C)	12300 psi	84.8 MPa	ASTM D790

Impact

	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F (-30°C)	16 ft·lb/in ²	33 kJ/m ²	
73°F (23°C)	22 ft·lb/in ²	46 kJ/m ²	
Notched Izod Impact			
-22°F (-30°C)	8.0 ft·lb/in	430 J/m	ASTM D256
73°F (23°C)	10 ft·lb/in	530 J/m	ASTM D256
-22°F (-30°C)	18 ft·lb/in ²	37 kJ/m ²	ISO 180
73°F (23°C)	22 ft·lb/in ²	47 kJ/m ²	ISO 180

Thermal

	Nominal Value (English)	Nominal Value (SI)	Test Method
Heat Deflection Temperature			
66 psi (0.45 MPa), Unannealed	252 °F	122 °C	ISO 75-2/B
264 psi (1.8 MPa), Unannealed	220 °F	104 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	219 °F	104 °C	ISO 75-2/A
Vicat Softening Temperature	252 °F	122 °C	ISO 306/B50
CLTE			ASTM E228
Flow : -22 to 176°F (-30 to 80°C)	4.2E-5 in/in/°F	7.5E-5 cm/cm/°C	
Transverse : -22 to 176°F (-30 to 80°C)	4.2E-5 in/in/°F	7.6E-5 cm/cm/°C	

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Injection	Nominal Value (English)	Nominal Value (SI)
Drying Temperature	165 °F	74 °C
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr
Drying Time, Maximum	4.0 hr	4.0 hr
Rear Temperature	440 to 490 °F	227 to 254 °C
Middle Temperature	470 to 520 °F	243 to 271 °C
Front Temperature	470 to 520 °F	243 to 271 °C
Nozzle Temperature	470 to 520 °F	243 to 271 °C
Processing (Melt) Temp	480 to 500 °F	249 to 260 °C
Mold Temperature	100 to 160 °F	38 to 71 °C

Notes

¹ 0.079 in/min (2.0 mm/min)

Notes

These are typical property values not to be construed as specification limits.