

Technical Data Sheet

Diamaloy QR-1220IM-NAT

Polycarbonate + ABS

Product Description

Diamaloy QR-1220IM-NAT is a Polycarbonate + ABS material. Features include: High Heat Resistance, High Impact Resistance, Impact Modified, and Low Temperature Impact Resistance.

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

Typical Properties	Nominal Value	Units	Test Method
Physical			
Melt Flow Rate, (260 °C/5.0 kg)	20	g/10 min	ASTM D1238
Melt Volume Flow Rate			
(260 °C/5.0 kg)	22	cm ³ /10 min	ASTM D1238
(260 °C/5.0 kg)	19.9	cm ³ /10 min	ISO 1133
Density	1.12	g/cm ³	ISO 1183-1
Density - Specific Gravity	1.14	g/cm ³	ASTM D792
Mechanical			
Tensile Elongation at Yield, (23 °C)	150	%	ASTM D638
Tensile Strength at Yield, (23 °C)	52.0	MPa	ASTM D638
Flexural Strength at Yield, (23 °C)	84.8	MPa	ASTM D790
Tensile Stress at Yield, (23 °C, 5 mm/min)	54.5	MPa	ISO 527-2
Tensile Strain at Break, (23 °C, 5 mm/min)	100	%	ISO 527-2
Flexural Modulus			
(23 °C)	2250	MPa	ASTM D790
(23 °C, 2.0 mm/min, Chord, 64.0 mm)	2560	MPa	ISO 178
Tensile Strain at Yield, (23 °C)	3.4	%	ISO 527-2
Tensile Stress at Break, (23 °C, 5 mm/min)	52.0	MPa	ISO 527-2
Tensile Modulus, (23 °C, 1 mm/min)	2340	MPa	ISO 527-1
Flexural Stress, (23 °C, 2.0 mm/min)	90.0	MPa	ISO 178
Impact			
Charpy Impact Strength - Notched			
(23 °C)	46	kJ/m ²	ISO 179
(-30 °C)	33	kJ/m ²	ISO 179

Notched Izod Impact Strength			
(23 °C)	47	kJ/m ²	ISO 180
(-30 °C)	37	kJ/m ²	ISO 180
Notched Izod Impact			
(23 °C)	530	J/m	ASTM D256
(-30 °C)	430	J/m	ASTM D256
Thermal			
Vicat Softening Temperature, (B (50N), 50 °C/h)	122	°C	ISO 306
Deflection Temperature Under Load Unannealed (0.45 MPa)	122	°C	ISO 75-2/B
Deflection Temperature Under Load Unannealed (1.80 MPa)	104	°C	ISO 75-2/A
Deflection Temperature Under Load Unannealed (264 psi)	104	°C	ASTM D648
Coefficient of Linear Thermal Expansion (CLTE), Flow, (-30 to 80 °C)	7.5E-5	cm/cm/°C	ASTM E228
Coefficient of Linear Thermal Expansion (CLTE), Perpendicular, (-30 to 80 °C)	7.6E-5	cm/cm/°C	ASTM E228

Injection Parameters	Nominal Value	Units
Drying Time	2.0 to 4.0	hr
Drying Temperature	74	°C
Nozzle Temperature	243 to 271	°C
Processing (Melt) Temp	249 to 260	°C
Front Temperature	243 to 271	°C
Middle Temperature	243 to 271	°C
Rear Temperature	227 to 254	°C
Mold Temperature	38 to 71	°C
Drying Time, Maximum	4	hr