

CRL10X1 and CRL12X1

Acrylonitrile Butadiene Styrene



Technical Data

Product Description

CRL10X1 and CRL12X1 are an Acrylonitrile Butadiene Styrene (ABS) product. It is available in Africa & Middle East, Asia Pacific, Europe, Latin America, or North America. Typical application: Automotive.

Characteristics include:

- Flame Rated
- RoHS Compliant
- Impact Resistant

General

Material Status	• Commercial: Active
Availability	• Africa & Middle East • Asia Pacific • Europe • Latin America • North America
Features	• High Impact Resistance
RoHS Compliance	• RoHS Compliant
Resin ID (ISO 1043)	• >ABS<

Physical	Nominal Value (English)	Nominal Value (SI)	Test Method
Density / Specific Gravity			
-- ²	1.03	1.03 g/cm ³	ASTM D792
73°F (23°C)	1.03 g/cm ³	1.03 g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (200°C/5.0 kg)	1.1 g/10 min	1.1 g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (220°C/10.0 kg)	0.793 in ³ /10min	13.0 cm ³ /10min	ISO 1133
Molding Shrinkage	0.40 to 0.70 %	0.40 to 0.70 %	ISO 294-4

Mechanical	Nominal Value (English)	Nominal Value (SI)	Test Method
Tensile Strength			
Yield ³	5470 psi	37.7 MPa	ASTM D638
Yield	5800 psi	40.0 MPa	ISO 527-2/50
Break	4350 psi	30.0 MPa	ISO 527-2/50
Tensile Elongation			
Break ³	30 %	30 %	ASTM D638
Break	35 %	35 %	ISO 527-2/50
Flexural Modulus			
-- ⁴	310000 psi	2140 MPa	ASTM D790
-- ⁵	261000 psi	1800 MPa	ISO 178
Flexural Strength			
-- ⁴	8800 psi	60.7 MPa	ASTM D790
-- ⁵	8410 psi	58.0 MPa	ISO 178

Impact	Nominal Value (English)	Nominal Value (SI)	Test Method
Charpy Notched Impact Strength			ISO 179
-22°F (-30°C)	12 ft·lb/in ²	25 kJ/m ²	
73°F (23°C)	17 ft·lb/in ²	36 kJ/m ²	
Notched Izod Impact			
73°F (23°C), 0.126 in (3.20 mm)	7.5 ft·lb/in	400 J/m	ASTM D256
73°F (23°C), 0.252 in (6.40 mm)	5.9 ft·lb/in	310 J/m	ASTM D256
-22°F (-30°C)	11 ft·lb/in ²	23 kJ/m ²	ISO 180/1A
73°F (23°C)	16 ft·lb/in ²	34 kJ/m ²	ISO 180/1A

Hardness	Nominal Value (English)	Nominal Value (SI)	Test Method
Rockwell Hardness (R-Scale)	108	108	ASTM D785

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Thermal	Nominal Value (English)	Nominal Value (SI)	Test Method
Deflection Temperature Under Load			
264 psi (1.8 MPa), Unannealed	367 °F	186 °C	ASTM D648
264 psi (1.8 MPa), Unannealed	180 °F	82.0 °C	ISO 75-2/A
264 psi (1.8 MPa), Annealed	397 °F	203 °C	ASTM D648
264 psi (1.8 MPa), Annealed	207 °F	97.0 °C	ISO 75-2/A
Vicat Softening Temperature			
--	423 °F	217 °C	ASTM D1525 ⁶
--	219 °F	104 °C	ISO 306/A50
--	205 °F	96.0 °C	ISO 306/B50
CLTE - Flow	5.2E-5 in/in/°F	9.3E-5 cm/cm/°C	ISO 11359-2
Flammability	Nominal Value (English)	Nominal Value (SI)	Test Method
Flame Rating (0.06 in (1.5 mm))	HB	HB	UL 94
Injection	Nominal Value (English)	Nominal Value (SI)	
Drying Temperature	176 to 185 °F	80 to 85 °C	
Drying Time	2.0 to 4.0 hr	2.0 to 4.0 hr	
Rear Temperature	356 to 428 °F	180 to 220 °C	
Middle Temperature	374 to 446 °F	190 to 230 °C	
Front Temperature	374 to 446 °F	190 to 230 °C	
Mold Temperature	86 to 158 °F	30 to 70 °C	

Notes

¹ Typical properties: these are not to be construed as specifications.

² 23°C

³ 0.24 in/min (6.0 mm/min)

⁴ 0.11 in/min (2.8 mm/min)

⁵ 0.079 in/min (2.0 mm/min)

⁶ Rate A (50°C/h), Loading 1 (10 N)