

Starex GR-4020

Lotte Chemical Corporation - Acrylonitrile Butadiene Styrene

General Information

General

Filler / Reinforcement • Glass Fiber

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity (Natural)	1.18		ASTM D792
Density (Natural)	1.18	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	7.0	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	7.0	g/10 min	ISO 1133
Molding Shrinkage - Flow (0.126 in)	1.0E-3 to 3.0E-3	in/in	ASTM D955
Ash Content			
--	20	%	ASTM D5630
--	20	%	ISO 3451
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus ²	768000	psi	ASTM D638
Tensile Modulus	812000	psi	ISO 527-1/50
Tensile Strength ² (Yield)	11400	psi	ASTM D638
Tensile Stress (Yield)	12300	psi	ISO 527-2/50
Tensile Strength ² (Break)	13500	psi	ASTM D638
Tensile Stress (Break)	14600	psi	ISO 527-2/50
Tensile Elongation ² (Break)	2.9	%	ASTM D638
Tensile Strain (Break)	2.8	%	ISO 527-2/50
Flexural Modulus ³	690000	psi	ASTM D790
Flexural Modulus ⁴	827000	psi	ISO 178
Flexural Strength ³	12800	psi	ASTM D790
Flexural Stress ⁴	16000	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁵ (73°F)	4.3	ft-lb/in ²	ISO 179/1eA
Notched Izod Impact (73°F, 0.125 in)	1.1	ft-lb/in	ASTM D256
Notched Izod Impact Strength ⁵ (73°F)	3.8	ft-lb/in ²	ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	112		ASTM D785
Rockwell Hardness (R-Scale)	114		ISO 2039-2
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed, 0.252 in	214	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed, 0.157 in	214	°F	ISO 75-2/A

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Thermal	Nominal Value	Unit	Test Method
Vicat Softening Temperature			
--	•	232 °F	ISO 306/B120
--	•	234 °F	
--		225 °F	ISO 306/B50

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.06 in		HB	
0.12 in		HB	
0.24 in		HB	

Processing Information

Injection	Nominal Value	Unit
Drying Temperature		
Desiccant Dryer	176	°F
Hot Air Dryer	176	°F
Drying Time		
Desiccant Dryer	2.0 to 3.0	hr
Hot Air Dryer	2.0 to 4.0	hr
Suggested Max Moisture	< 0.050	%
Rear Temperature	356 to 374	°F
Middle Temperature	392 to 410	°F
Front Temperature	428 to 446	°F
Nozzle Temperature	464	°F
Mold Temperature	104 to 176	°F
Injection Pressure	7110 to 35600	psi
Back Pressure	71.1 to 284	psi
Screw Speed	50 to 150	rpm

Injection Notes

Hot Runner Temperature: 235°C