

# Starex GR-5020 T

Lotte Chemical Corporation - Styrene Acrylonitrile

## General Information

### General

Filler / Reinforcement	• Glass Fiber
Uses	• Appliances

## Properties<sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity (Natural)	1.21		ASTM D792
Density (Natural)	1.21	g/cm <sup>3</sup>	ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	14	g/10 min	ASTM D1238
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	14	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 <sup>2</sup>	910000	psi	ASTM D638
Tensile Modulus	1.00E+6	psi	ISO 527-1/50
Tensile Strength <sup>2</sup> (Yield)	15600	psi	ASTM D638
Tensile Stress (Yield)	17300	psi	ISO 527-2/50
Tensile Strength <sup>2</sup> (Break)	15600	psi	ASTM D638
Tensile Stress (Break)	17300	psi	ISO 527-2/50
Tensile Elongation <sup>2</sup> (Break)	2.5	%	ASTM D638
Tensile Strain (Break)	2.4	%	ISO 527-2/50
Flexural Modulus <sup>3</sup>	996000	psi	ASTM D790
Flexural Modulus <sup>4</sup>	1.12E+6	psi	ISO 178
Flexural Strength <sup>3</sup>	15600	psi	ASTM D790
Flexural Stress <sup>4</sup>	22900	psi	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength <sup>5</sup> (73°F)	5.7	ft·lb/in <sup>2</sup>	ISO 179/1eA
Notched Izod Impact			ASTM D256
73°F, 0.125 in	0.96	ft·lb/in	
73°F, 0.250 in	0.94	ft·lb/in	
Notched Izod Impact Strength <sup>5</sup> (73°F)	3.3	ft·lb/in <sup>2</sup>	ISO 180/1A
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	119		ISO 2039-2

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 66 psi, Unannealed, 0.252 in	219	°F	ASTM D648
Deflection Temperature Under Load 66 psi, Unannealed, 0.157 in	221	°F	ISO 75-2/B
Deflection Temperature Under Load 264 psi, Unannealed, 0.252 in	216	°F	ASTM D648
Deflection Temperature Under Load 264 psi, Unannealed, 0.157 in	214	°F	ISO 75-2/A
Vicat Softening Temperature			
--	• •	225 230	°F ISO 306/B120
--	• •	219 223	°F ISO 306/B50

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
0.06 in		HB	
0.12 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 4.0	hr
Hot Air Dryer	4.0 to 6.0	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	446	°F
Mold Temperature	104 to 140	°F
Injection Pressure	13500	psi
Back Pressure	71.1 to 284	psi
Screw Speed	50 to 150	rpm

Injection Notes
Hot Runner Temperature: 220°C

### Notes

<sup>1</sup> Typical properties: these are not to be construed as specifications.

<sup>2</sup> 0.20 in/min

<sup>3</sup> 0.11 in/min

<sup>4</sup> 0.079 in/min

<sup>5</sup> 4mm