

Starex GR-4010

Acrylonitrile Butadiene Styrene

SAMSUNG SDI CO., LTD.

Message:

Material with 10% GF reinforcement and the characteristic of high elasticity and high stiffness that can be applied to refrigerator vegetable box

General Information			
UL YellowCard	E115797-219534		
Filler / Reinforcement	Glass Fiber,10% Filler by Weight		
Features	Food Contact Acceptable		
	High Elasticity		
	High Stiffness		

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.15	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (220°C/10.0 kg)	7.8	g/10 min	ASTM D1238, ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.10 to 0.30	%	ASTM D955
Ash Content			
--	9.7	%	ISO 3451
--	9.7	%	ASTM D5630

Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness (R-Scale)	114		ASTM D785, ISO 2039-2

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3500	MPa	ASTM D638
--	3800	MPa	ISO 527-2/50
Tensile Strength			
Yield ²	73.0	MPa	ASTM D638
Yield	78.0	MPa	ISO 527-2/50
Break ³	69.0	MPa	ASTM D638
Break	78.0	MPa	ISO 527-2/50
Tensile Elongation			
Break ⁴	3.4	%	ASTM D638
Break	3.3	%	ISO 527-2/50
Flexural Modulus			
-- ⁵	4000	MPa	ASTM D790
-- ⁶	4100	MPa	ISO 178
Flexural Strength			
-- ⁷	96.0	MPa	ASTM D790

-- ⁸	110	MPa	ISO 178
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	11	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
23°C, 3.18 mm	88	J/m	ASTM D256
23°C, 6.35 mm	85	J/m	ASTM D256
23°C ¹⁰	10	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 6.40 mm	106	°C	ASTM D648
0.45 MPa, Unannealed, 4.00 mm	106	°C	ISO 75-2/B
1.8 MPa, Unannealed, 6.40 mm	100	°C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm	99.0	°C	ISO 75-2/A
Vicat Softening Temperature			
--	106	°C	ISO 306/B50
--	108	°C	ISO 306/B120
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.50 mm	HB		
3.00 mm	HB		
6.00 mm	HB		
Injection	Nominal Value	Unit	
Drying Temperature			
--	80.0	°C	
Desiccant Dryer	80.0	°C	
Drying Time			
--	2.0 to 4.0	hr	
Desiccant Dryer	2.0 to 3.0	hr	
Suggested Max Moisture	< 0.050	%	
Rear Temperature	180 to 190	°C	
Middle Temperature	200 to 210	°C	
Front Temperature	220 to 230	°C	
Nozzle Temperature	240	°C	
Mold Temperature	40.0 to 80.0	°C	
Injection Pressure	49.0 to 245	MPa	
Back Pressure	0.490 to 1.96	MPa	
Screw Speed	50 to 150	rpm	
NOTE			
1.	5.0 mm/min		
2.	5.0 mm/min		
3.	5.0 mm/min		
4.	5.0 mm/min		

5.	2.8 mm/min
6.	2.0 mm/min
7.	2.8 mm/min
8.	2.0 mm/min
9.	Thickness: 4 mm
10.	Thickness: 4 mm

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