



Ryton® R-7-121BL

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-7-121NA and R-7-121BL glass fiber and mineral filled polyphenylene sulfide compounds provide good mechanical strength with good flow and low maintenance molding using conventional molding equipment.

General

Filler / Reinforcement	• Glass Fiber/Mineral
Features	• Good Flow • Good Strength
Uses	• Automotive Applications
RoHS Compliance	• RoHS Compliant
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding

Properties ¹

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.95		ASTM D792
Molding Shrinkage			ISO 294-4
Across Flow : 0.126 in	0.40	%	
Flow : 0.126 in	0.20	%	
Water Absorption (24 hr, 73°F)	0.016	%	ISO 62
Water Absorption (Saturation, 73°F)	0.13	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-2
--	2.78E+6	psi	
-- ²	2.84E+6	psi	
Tensile Stress			
--	18100	psi	ISO 527-2
--	17000	psi	ASTM D638
-- ²	18600	psi	ISO 527-2
Tensile Strain			
Break	0.90	%	ISO 527-2
Break	0.90	%	ASTM D638
Break ²	1.1	%	ISO 527-2
Flexural Modulus			
--	2.61E+6	psi	ISO 178
--	2.49E+6	psi	ASTM D790
Flexural Stress			
--	28300	psi	ISO 178
--	29000	psi	ASTM D790
Compressive Strength	41300	psi	ASTM D695
Poisson's Ratio	0.36		ISO 527

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Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
--	2.4	ft·lb/in ²	
-- ²	2.9	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179
--	7.9	ft·lb/in ²	
-- ²	8.2	ft·lb/in ²	
Notched Izod Impact (0.125 in)	1.0	ft·lb/in	ASTM D256
Notched Izod Impact Strength	2.9	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact (0.125 in)	4.0	ft·lb/in	ASTM D4812
Unnotched Izod Impact Strength	6.7	ft·lb/in ²	ISO 180
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	101		
R-Scale	118		
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			ASTM D648
264 psi, Unannealed	509	°F	
Melting Temperature	536	°F	ISO 11357-3
CLTE - Flow			ASTM E831
-58 to 122°F	8.3E-6	in/in/°F	
212 to 392°F	8.3E-6	in/in/°F	
CLTE - Transverse			ASTM E831
-58 to 122°F	1.7E-5	in/in/°F	
212 to 392°F	3.9E-5	in/in/°F	
Thermal Conductivity	4.0	Btu·in/hr/ft ² /°F	Internal Method
UL Temperature Rating	428 to 464	°F	UL 746B
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	ASTM D257
Volume Resistivity	1.0E+15	ohms·cm	ASTM D257
Dielectric Strength	450	V/mil	ASTM D149
Dielectric Constant			ASTM D150
77°F, 1 kHz	4.80		
77°F, 1 MHz	4.90		
Dissipation Factor			ASTM D150
77°F, 1 kHz	4.0E-3		
77°F, 1 MHz	2.0E-3		
Arc Resistance	185	sec	ASTM D495
Comparative Tracking Index (CTI)	PLC 2		UL 746A
Insulation Resistance ³ (194°F)	1.0E+11	ohms	Internal Method
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.031 in)		V-0	UL 94
		5VA	
Oxygen Index	61	%	ASTM D2863

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Injection	Nominal Value	Unit
Drying Temperature	275 to 302	°F
Drying Time	2.0 to 4.0	hr
Rear Temperature	563 to 599	°F
Middle Temperature	581 to 617	°F
Front Temperature	599 to 653	°F
Nozzle Temperature	581 to 617	°F
Processing (Melt) Temp	608 to 626	°F
Mold Temperature	275 to 302	°F

Notes

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

² Conditioned data is meant to simulate 23°C 50% RH equilibrium values. Conditioning of specimens was achieved per ISO 1110 by exposing specimens for 11 days, 70°C and 62% RH.

³ 95%RH, 48 hr