Ryton® R-7-120NA

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-7-120NA and R-7-120BL glass fiber and mineral filled polyphenylene sulfide compounds provide good strength and low maintenance molding using conventional molding equipment.

General

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

Properties [1]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.99		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)	0.018	%	ISO 62
Water Absorption (Saturation, 73°F)	0.13	%	Internal Method

Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-2
--	3.05E+6	psi	
-- [2]	2.89E+6	psi	
Tensile Stress			
--	20300	psi	ISO 527-2
--	19000	psi	ASTM D638
-- [2]	18700	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			
--	2.76E+6	psi	ISO 178
--	2.80E+6	psi	ASTM D790
Flexural Stress			
--	31900	psi	ISO 178
--	30000	psi	ASTM D790
Compressive Strength	38400	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
--	2.7	ft·lb/in²	
-- [2]	2.8	ft·lb/in²	
Charpy Unnotched Impact Strength			ISO 179
--	7.7	ft·lb/in²	
-- [2]	8.9	ft·lb/in²	
Notched Izod Impact (0.125 in)	1.1	ft·lb/in	ASTM D256
Notched Izod Impact Strength	2.9	ft·lb/in²	ISO 180/A
Unnotched Izod Impact (0.125 in)	4.0	ft·lb/in	ASTM D4812
Unnotched Izod Impact Strength	7.1	ft·lb/in²	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	4.1	Btu·in/hr/ft²/°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	400	V/mil	ASTM D149
Dielectric Constant			ASTM D150
77°F, 1 kHz	4.90		
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 • 5VA		UL 94
Oxygen Index	61	%	ASTM D2863

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Processing Information		
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