

Ryton® R-4-300BL

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-4-300BL 40% glass fiber reinforced polyphenylene sulfide compound provides enhanced mechanical strength after constant or repeated exposure to high temperature water.

General

Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight
Features	• Chemical Resistant • Good Processability • High Strength
RoHS Compliance	• RoHS Compliant
Appearance	• Black
Forms	• Pellets
Processing Method	• Injection Molding

Properties¹

Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.68		ISO 1183
Molding Shrinkage - Flow	2.0E-3	in/in	ISO 294
Molding Shrinkage - Across Flow	8.0E-3	in/in	ISO 294
Water Absorption (24 hr, 73°F)	0.020	%	ASTM D570
Water Absorption (24 hr, 73°F)	0.030	%	ISO 62
Water Absorption (Saturation, 73°F)	0.060	%	Internal Method
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			ISO 527-1
--	2.16E+6	psi	
-- ²	2.28E+6	psi	
Tensile Stress			ISO 527-2
--	27600	psi	
-- ²	27300	psi	
Tensile Elongation			ISO 527-2
Break	1.8	%	
Break ²	2.2	%	
Flexural Modulus	2.03E+6	psi	ISO 178
Flexural Stress	39200	psi	ISO 178
Compressive Strength	41300	psi	ASTM D695
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength			ISO 179
--	3.9	ft·lb/in ²	
-- ²	4.0	ft·lb/in ²	
Charpy Unnotched Impact Strength			ISO 179
--	21	ft·lb/in ²	
-- ²	23	ft·lb/in ²	
Notched Izod Impact Strength	4.3	ft·lb/in ²	ISO 180/A
Unnotched Izod Impact Strength	19	ft·lb/in ²	ISO 180

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Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load 264 psi, Unannealed	509	°F	ASTM D648
CLTE - Flow -58 to 122°F 212 to 392°F	8.3E-6 5.6E-6	in/in/°F in/in/°F	ISO 11359-2
CLTE - Transverse -58 to 122°F 212 to 392°F	2.5E-5 6.7E-5	in/in/°F in/in/°F	ISO 11359-2
Thermal Conductivity	1.9	Btu·in/hr/ft²/°F	ASTM E1530
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	510	V/mil	ASTM D149
Dielectric Constant 77°F, 1 kHz 77°F, 1 MHz	4.00 4.00		ASTM D150
Dissipation Factor 77°F, 1 kHz 77°F, 1 MHz	3.0E-3 3.0E-3		ASTM D150
Arc Resistance	125	sec	ASTM D495
Comparative Tracking Index (CTI)	PLC 3		UL 746A
Comparative Tracking Index	150	V	IEC 60112
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.030 in)	V-0		UL 94
Additional Information	Nominal Value	Unit	
Hydrolytic Stability ³ Tensile Strength Retained Weight Gain	> 75 < 0.50	% %	

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 Test specimens aged 1000 hours in water at 140°C (284°F).