

# Ryton® R-4XT

## Syensqo - Polyphenylene Sulfide

### General Information

#### Product Description

Ryton® R-4XT and R-4-02XT 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength with good electrical properties and outstanding chemical resistance, even at elevated temperatures.

#### General

Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight
Features	• Chemical Resistant • Good Electrical Properties • Good Strength
Uses	• Appliance Components
RoHS Compliance	• RoHS Compliant
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

### Properties <sup>1</sup>

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.69		ASTM D792
Molding Shrinkage - Flow (0.126 in)	2.0E-3	in/in	
Molding Shrinkage - Across Flow (0.126 in)	5.0E-3	in/in	
Water Absorption (24 hr, 73°F)	0.020	%	ASTM D570
Mechanical	Nominal Value	Unit	Test Method
Tensile Strength	29000	psi	ASTM D638
Tensile Stress	28300	psi	ISO 527-2
Tensile Elongation (Break)	1.6	%	ASTM D638
Tensile Strain (Break)	1.6	%	ISO 527-2
Flexural Modulus	2.10E+6	psi	ASTM D790
Flexural Modulus	2.03E+6	psi	ISO 178
Flexural Strength	40000	psi	ASTM D790
Flexural Stress	40600	psi	ISO 178
Compressive Strength	41300	psi	ASTM D695
Poisson's Ratio	0.39		
Impact	Nominal Value	Unit	Test Method
Notched Izod Impact (0.125 in)	1.7	ft·lb/in	ASTM D256
Notched Izod Impact Strength	4.3	ft·lb/in <sup>2</sup>	ISO 180/A
Unnotched Izod Impact (0.125 in)	12	ft·lb/in	ASTM D4812
Unnotched Izod Impact Strength	17	ft·lb/in <sup>2</sup>	ISO 180
Hardness	Nominal Value	Unit	Test Method
Rockwell Hardness			ASTM D785
M-Scale	102		
R-Scale	120		

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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	1.1E-5 8.3E-6	in/in/°F in/in/°F	ASTM E831
CLTE - Transverse -58 to 122°F 212 to 392°F	2.2E-5 5.0E-5	in/in/°F in/in/°F	ASTM E831
Thermal Conductivity	2.1	Btu·in/hr/ft²/°F	
UL Temperature Rating	392 to 428	°F	UL 746B
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	550	V/mil	ASTM D149
Dielectric Constant 77°F, 1 kHz 77°F, 1 MHz	3.80 3.90		ASTM D150
Dissipation Factor 77°F, 1 kHz 77°F, 1 MHz	2.0E-3 3.0E-3		ASTM D150
Arc Resistance	125	sec	ASTM D495
Comparative Tracking Index (CTI)	130	V	UL 746A
Insulation Resistance <sup>2</sup> (194°F)	1.0E+11	ohms	
Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.06 in)	V-0 5VA		UL 94
Oxygen Index <sup>3</sup> -- --	53 53	% %	ASTM D2863 ISO 4589-2

### Notes

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

<sup>2</sup> 95%RH, 48 hr

<sup>3</sup> ASTM D2863 is technically equivalent to ISO 4589-2.