

Ryton® R-4XT

polyphenylene sulfide

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

Material Status	• Commercial: Active
Availability	• Asia Pacific • Latin America • Europe • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight
Features	• Good Chemical Resistance • Good Electrical Properties • Good Strength
Uses	• Appliance Components
RoHS Compliance	• RoHS Compliant
Automotive Specifications	• GM GMP.PPS.001
Appearance	• Natural Color
Forms	• Pellets
Processing Method	• Injection Molding

Physical

	Typical Value	Unit	Test method
Specific Gravity	1.69		ASTM D792
Molding Shrinkage			
Flow : 3.20 mm	0.20	%	
Across Flow : 3.20 mm	0.50	%	
Water Absorption (23°C, 24 hr)	0.020	%	ASTM D570

Mechanical

	Typical Value	Unit	Test method
Tensile Strength			
--	200	MPa	ASTM D638
--	195	MPa	ISO 527-2
Tensile Elongation (Break)	1.6	%	ASTM D638 ISO 527-2
Flexural Modulus			
--	14500	MPa	ASTM D790
--	14000	MPa	ISO 178
Flexural Strength			
--	276	MPa	ASTM D790
--	280	MPa	ISO 178
Compressive Strength	285	MPa	ASTM D695
Poisson's Ratio	0.39		

Impact

	Typical Value	Unit	Test method
Notched Izod Impact			
3.18 mm	91	J/m	ASTM D256
--	9.0	kJ/m ²	ISO 180/A

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Impact	Typical Value	Unit	Test method
Unnotched Izod Impact			
3.18 mm	640	J/m	ASTM D4812
--	35	kJ/m ²	ISO 180
Hardness	Typical Value	Unit	Test method
Rockwell Hardness			ASTM D785
M-Scale	102		
R-Scale	120		
Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load			ASTM D648
1.8 MPa, Unannealed	265	°C	
CLTE			ASTM E831
Flow : -50 to 50°C	2.0E-5	cm/cm/°C	
Flow : 100 to 200°C	1.5E-5	cm/cm/°C	
Transverse : -50 to 50°C	4.0E-5	cm/cm/°C	
Transverse : 100 to 200°C	9.0E-5	cm/cm/°C	
Thermal Conductivity	0.30	W/m/K	
UL Temperature Rating	200 to 220	°C	UL 746B
Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	22	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 kHz	3.80		
25°C, 1 MHz	3.90		
Dissipation Factor			ASTM D150
25°C, 1 kHz	2.0E-3		
25°C, 1 MHz	3.0E-3		
Arc Resistance	125	sec	ASTM D495
Comparative Tracking Index (CTI)	130	V	UL 746
Insulation Resistance ¹ (90°C)	1.0E+11	ohms	
Flammability	Typical Value	Unit	Test method
Flame Rating (1.60 mm)	• •	V-0 5VA	UL 94
Oxygen Index ²	53	%	ASTM D2863 ISO 4589-2

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Notes

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

¹ 95%RH, 48 hr

² ASTM D2863 is technically equivalent to ISO 4589-2.

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