Ryton® R-4-200NA

Polyphenylene Sulfide **Syensqo**



Technical Data

Product Description

 Ryton® R-4-200NA and R-4-200BL 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength and low maintenance molding using conventional molding equipment

 General

 Material Status
 • Commercial: Active

 Literature 1
 • Technical Datasheet

 UL Yellow Card 2
 • E95746-102108309

Search for UL Yellow Card	Ryton®	
Availability	Asia PacificEurope	Latin AmericaNorth America
Filler / Reinforcement	 Glass Fiber, 40% Filler by W 	eight
Features	Good Strength	
Uses	 Automotive Applications 	
RoHS Compliance	RoHS Compliant	
Appearance	 Natural Color 	
Forms	Pellets	
Processing Method	 Injection Molding 	

Density / Specific Gravity 1.68 g/cm³ ASTM D792 Molding Shrinkage 4 Internal Method Internal Method Flow : 3.20 mm 0.20 % Across Flow : 3.20 mm 0.50 % Water Absorption 24 hr 0.020 % ASTM D570 24 hr 0.020 % ASTM D570 24 hr 24 hr 0.020 % ASTM D570 24 hr 23 °C 0.030 % ISO 62 Saturation, 23°C 0.26 % Saturation, 23°C 0.26 % Internal Method Equilibrium, 23°C, 50 % RH 0.25 % Internal Method Mechanical Nominal Value Unit Test Method Test Method Test Method Tensile Modulus 15600 MPa ISO 527-1 Tensile Stress 1.6 % STM D638 5 194 MPa ISO 527-2 Tensile Strain ISO 527-2 Tensile Strain ISO 527-2 Break 1.6 % ASTM D638 ISO 527-2 Iso 527-2 Break 1.6 % ASTM D638 Iso 527-2 Break 1.6 % ASTM D638 Iso 178 <	Physical	Nominal Value Unit	Test Method
Molding Shrinkage 4 Internal Method Flow : 3.20 mm 0.20 % Across Flow : 3.20 mm 0.50 % Water Absorption	Density / Specific Gravity	1.68 g/cm ³	ASTM D792
Flow: 3.20 mm 0.20 % Across Flow: 3.20 mm 0.50 % Water Absorption 24 hr 24 hr, 23°C 0.020 % ASTM D570 24 hr, 23°C 0.030 % ISO 62 Saturation, 23°C 0.26 % Internal Method Equilibrium, 23°C, 50% RH 0.25 % Internal Method Mechanical Nominal Value Unit Test Method Tensile Modulus 15600 MPa ISO 527-1 Tensile Stress - - 200 MPa ISO 527-2 193 MPa ASTM D638 194 MPa ISO 527-2 194 MPa ISO 527-2 194 MPa ISO 527-2 Tensile Strain - - Break 1.7 % ISO 527-2 Break 5 1.8 % ISO 527-2 Flexural Modulus - - - 14500 MPa ASTM D790	Molding Shrinkage ⁴		Internal Method
Across Flow : 3.20 mm 0.50 % Water Absorption 24 hr 0.020 % ASTM D570 24 hr, 23°C 0.030 % ISO 62 Saturation, 23°C 0.26 % Internal Method Equilibrium, 23°C, 50% RH 0.25 % Internal Method Mechanical Nominal Value Unit Test Method Tensile Modulus 15600 MPa ISO 527-1 Tensile Modulus 1500 S27-1 Test Method 200 MPa ISO 527-2 193 MPa ASTM D638 5 194 MPa ISO 527-2 Fensile Strain ISO 527-2 Break 1.7 % ISO 527-2 Break 1.6 % ASTM D638 Break 5 1.8 % ISO 527-2 Flexural Modulus ISO 527-2 ISO 527-2 Flexural Modulus 1.6 % ASTM D638 Break 5 1.8 % ISO 527-2 Flexural Modulus ISO 527-2 ISO 527-2 Flexural Modulus ISO 5178 ISO 178 Flexural Stress	Flow : 3.20 mm	0.20 %	
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Break 5 1.8 % ISO 527-2 Flexural Modulus 14500 MPa ASTM D790 14000 MPa ISO 178 Flexural Stress 285 MPa ISO 178 269 MPa ASTM D790 ASTM D790	Break	1.6 %	ASTM D638
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269 MPa ASTM D790		285 MPa	ISO 178
		269 MPa	ASTM D790

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Ryton® R-4-200NA

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Mechanical	Nominal Value Unit	Test Method
Compressive Strength	275 MPa	ASTM D695
Shear Strength	96.0 MPa	ASTM D732
Poisson's Ratio	0.40	ISO 527
Impact	Nominal Value Unit	Test Method
Charpy Notched Impact Strength		ISO 179
	8.7 kJ/m²	
5	8.8 kJ/m²	
Charpy Unnotched Impact Strength	53 kJ/m²	ISO 179
Notched Izod Impact		
3.18 mm	91 J/m	ASTM D256
	9.0 kJ/m²	ISO 180/A
Unnotched Izod Impact		
3.18 mm	640 J/m	ASTM D4812
	40 kJ/m²	ISO 180
Hardness	Nominal Value Unit	Test Method
Rockwell Hardness		ASTM D785
M-Scale	100	
R-Scale	120	
Thermal	Nominal Value Unit	Test Method
Deflection Temperature Under Load		ASTM D648
1.8 MPa, Unannealed	265 °C	
Melting Temperature	280 °C	ISO 11357-3
CLTE		ASTM E831
Flow : -50 to 50°C	1.5E-5 cm/cm/°C	
Flow : 100 to 200°C	1.0E-5 cm/cm/°C	
Transverse : -50 to 50°C	4.0E-5 cm/cm/°C	
Transverse : 100 to 200°C	8.5E-5 cm/cm/°C	
Thermal Conductivity	0.33 W/m/K	ASTM E1530
UL Temperature Rating	200 to 220 °C	UL 746B
Electrical	Nominal Value Unit	Test Method
Surface Resistivity	1.0E+16 ohms	ASTM D257
Volume Resistivity	1.0E+16 ohms∙cm	ASTM D257
Dielectric Strength	22 kV/mm	ASTM D149
Dielectric Constant		ASTM D150
25°C, 1 kHz	3.90	
25°C, 1 MHz	3.80	
Dissipation Factor		ASTM D150
25°C, 1 kHz	2.0E-3	
25°C, 1 MHz	2.0E-3	
Arc Resistance	125 sec	ASTM D495
Comparative Tracking Index (CTI)	PLC 4	UL 746A
Comparative Tracking Index	175 V	IEC 60112
Insulation Resistance ⁶ (90°C)	1.0E+11 ohms	



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Flammability	Nominal Value Unit	Test Method
Flame Rating (1.5 mm)	V-0	UL 94
Oxygen Index	57 %	ASTM D2863

Notes

¹ These links provide you with access to supplier literature. We work hard to keep them up to date; however you may find the most current literature from the supplier.

² A UL Yellow Card contains UL-verified flammability and electrical characteristics. UL Prospector continually works to link Yellow Cards to individual plastic materials in Prospector, however this list may not include all of the appropriate links. It is important that you verify the association between these Yellow Cards and the plastic material found in Prospector. For a complete listing of Yellow Cards, visit the UL Yellow Card Search.

³ Typical properties: these are not to be construed as specifications.

⁴ Measured on 102 mm x 102 mm x 3.2 mm plaques, edge gated.

⁵ 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.

⁶ 95%RH, 48 hr



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