

Ryton® R-4-270NA

polyphenylene sulfide

Ryton® R-4-270NA and R-4-270BL, 40% glass fiber reinforced polyphenylene sulfide compounds provide enhanced mechanical strength after constant or repeated exposure to high temperature water.

Its faster crystallization of the melt can result in shorter cycle times.

General

Material Status	• Commercial: Active	
Availability	• Asia Pacific • Europe	• Latin America • North America
Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight	
Features	• Chemical Resistant • Good Processability	• High Strength
RoHS Compliance	• RoHS Compliant	
Appearance	• Natural Color	
Forms	• Pellets	

Physical

	Typical Value	Unit	Test method
Density / Specific Gravity ¹	1.67		ISO 1183
Molding Shrinkage ²			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, 23°C	0.020	%	ISO 62
Saturation, 23°C	0.090	%	Internal Method
Equilibrium, 23°C, 50% RH	0.060	%	Internal Method

Mechanical

	Typical Value	Unit	Test method
Tensile Modulus	15300	MPa	ISO 527-1
Tensile Stress			ISO 527-2
Break	200	MPa	
Break ³	197	MPa	
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	13500	MPa	ISO 178
Flexural Stress	290	MPa	ISO 178
Compressive Strength	285	MPa	ASTM D695

Ryton® R-4-270NA

polyphenylene sulfide

Impact	Typical Value	Unit	Test method
Charpy Notched Impact Strength	9.3	kJ/m ²	ISO 179
Charpy Unnotched Impact Strength	57	kJ/m ²	ISO 179
Notched Izod Impact Strength	10	kJ/m ²	ISO 180/A
Unnotched Izod Impact Strength	50	kJ/m ²	ISO 180

Thermal	Typical Value	Unit	Test method
Deflection Temperature Under Load 1.8 MPa, Unannealed	265	°C	ASTM D648
Melting Temperature	280	°C	ISO 11357-3
CLTE			ISO 11359-2
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	4.5E-5	cm/cm/°C	
Transverse : 100 to 200°C	8.5E-5	cm/cm/°C	
Thermal Conductivity	0.32	W/m/K	ASTM E1530

Electrical	Typical Value	Unit	Test method
Volume Resistivity	1.0E+16	ohms·cm	ASTM D257
Dielectric Strength	20	kV/mm	ASTM D149
Dielectric Constant			ASTM D150
25°C, 1 kHz	4.00		
25°C, 1 MHz	4.00		
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

Flammability	Typical Value	Unit	Test method
Flame Rating (1.5 mm)	• •	V-0 5VA	UL 94

Additional Information	Typical Value	Unit
Hydrolytic Stability ⁴		
Tensile Strength Retained	> 75	%
Weight Gain	< 0.50	%

Ryton® R-4-270NA

polyphenylene sulfide

Injection	Typical Value	Unit
Drying Temperature	135 to 150	°C
Drying Time	2.0 to 4.0	hr
Rear Temperature	295 to 315	°C
Middle Temperature	305 to 325	°C
Front Temperature	315 to 345	°C
Nozzle Temperature	305 to 325	°C
Processing (Melt) Temp	320 to 330	°C
Mold Temperature	135 to 150	°C

Notes

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

¹ Method A

² Measured on 102 mm x 102 mm x 3.2 mm plaques, edge gated.

³ 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.

⁴ Test specimens aged 1000 hours in water at 140°C (248°F).

www.syensqo.com

Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Syensqo nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Syensqo's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Syensqo's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Syensqo or their respective owners.

© 2024 2023 Syensqo. All rights reserved.

