Ryton® R-4-244NA

Syensqo - Polyphenylene Sulfide

General Information

Product Description

Ryton® R-4-244NA 40% glass fiber reinforced polyphenylene sulfide compound complies with United States Food and Drug Administration (FDA) and European Union food contact regulations. This grade has been approved for use with potable water in the United States, France, Germany, and the United Kingdom.

General

Filler / Reinforcement	• Glass Fiber, 40% Filler by Weight		
Features	• Food Contact Acceptable		
Uses	• Appliance Components		
Agency Ratings	• ACS [1] • DM 174/2004 • DVGW [1]	• EU Food Contact [1] • FDA Food Contact [1] • KTW [1]	• NSF STD-51 • NSF STD-61 • WRAS [1]
RoHS Compliance	• RoHS Compliant		
Appearance	• Natural Color		
Forms	• Pellets		
Processing Method	• Injection Molding		

Properties [2]

Physical	Nominal Value	Unit	Test Method
Density / Specific Gravity	1.65		ASTM D792
Molding Shrinkage - Flow (0.126 in)	2.2E-3	in/in	ASTM D955
Molding Shrinkage - Across Flow (0.126 in)	7.2E-3	in/in	ASTM D955
Water Absorption (24 hr, 73°F)	4.0E-3	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	2.31E+6	psi	ISO 527-1
Tensile Strength	30700	psi	ISO 527-2
Tensile Strain (Break)	1.8	%	ISO 527-2
Flexural Modulus	2.19E+6	psi	ISO 178
Flexural Stress	42400	psi	ISO 178
Compressive Strength	22900	psi	ASTM D695
Poisson's Ratio	0.40		ISO 527
Impact	**Nominal Value**	**Unit**	**Test Method**
Notched Izod Impact Strength	4.8	ft·lb/in²	ISO 180
Unnotched Izod Impact Strength	20	ft·lb/in²	ISO 180
Hardness	**Nominal Value**	**Unit**	**Test Method**
Rockwell Hardness			ASTM D785
M-Scale	104		
R-Scale	123		
Thermal	**Nominal Value**	**Unit**	**Test Method**
Deflection Temperature Under Load			ISO 75-2/A
264 psi, Unannealed	518	°F	
Melting Temperature	545	°F	

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Thermal	Nominal Value	Unit	Test Method
CLTE - Flow			ASTM E831
77 to 122°F	7.5E-6	in/in/°F	
257 to 392°F	6.2E-6	in/in/°F	
CLTE - Transverse			ASTM E831
77 to 167°F	2.9E-5	in/in/°F	
257 to 392°F	6.9E-5	in/in/°F	
Thermal Conductivity	2.0	Btu·in/hr/ft²/°F	ASTM E1530

Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	5.2E+15	ohms	ASTM D257
Volume Resistivity	1.4E+16	ohms·cm	ASTM D257
Dielectric Strength	510	V/mil	ASTM D149
Dielectric Constant			ASTM D150
77°F, 1 kHz	3.83		
77°F, 1 MHz	3.80		
Dissipation Factor			ASTM D150
77°F, 1 kHz	0.0		
77°F, 1 MHz	1.0E-3		
Arc Resistance	140	sec	ASTM D495
Comparative Tracking Index (CTI)	150	V	IEC 60112
Comparative Tracking Index (CTI)	PLC 3		UL 746A

Flammability	Nominal Value	Unit	Test Method
Flame Rating (0.030 in)	V-0		UL 94

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] For specific clearances, please contact your Solvay representative.

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