

NORYL™ RN0612 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Europe

Message:

NORYL RN0612 is an unfilled Post Consumer recycle (PCR) based injection moldable modified polyphenylene ether resin comprising at least 30% PCR styrenic series resin content. Designed for good dimensional stability and high flow, this resin also uses non-chlorinated, non-brominated FR additives with a specific density of 1.1 g/cm³. NORYL RN0612 may be an excellent material candidate for flat panel TV enclosure applications requiring good rheological properties, heat resistance, hydrolysis resistance and low density.

General Information			
Recycled Content	Yes,30%		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Dimensional Stability		
	High Flow		
	High Heat Resistance		
	Hydrolysis Resistant		
	Low Density		
Uses	Television Housings		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.11	g/cm³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
280°C/1.2 kg	13.0	cm³/10min	
280°C/2.16 kg	34.0	cm³/10min	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2100	MPa	ASTM D638
--	2100	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	43.0	MPa	ASTM D638
Yield	42.0	MPa	ISO 527-2/50
Break ³	43.0	MPa	ASTM D638
Break	42.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	1.0	%	ASTM D638
Yield	2.0	%	ISO 527-2/50
Break ⁵	15	%	ASTM D638

Break	18	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	65.0	MPa	ASTM D790
-- ⁷	2100	MPa	ISO 178
Flexural Stress			
--	64.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	2100	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	3.0	kJ/m ²	
23°C	4.0	kJ/m ²	
Notched Izod Impact			
-30°C	41	J/m	ASTM D256
23°C	52	J/m	ASTM D256
-30°C ¹⁰	4.0	kJ/m ²	ISO 180/1A
23°C ¹¹	5.0	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	90.0	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹²	88.0	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	78.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹³	74.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	95.0	°C	ASTM D1525, ISO 306/B50 ¹⁴
--	98.0	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	9.4E-5	cm/cm/°C	
Transverse : -40 to 40°C	9.6E-5	cm/cm/°C	
RTI Elec	65.0	°C	UL 746
RTI Imp	65.0	°C	UL 746
RTI Str	65.0	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Surface Resistivity	1.0E+16	ohms	ASTM D257, IEC 60093
Volume Resistivity	3.0E+16	ohms · cm	ASTM D257, IEC 60093
Dielectric Constant			
1 MHz	2.76		ASTM D150
1 MHz	2.80		IEC 60250
Dissipation Factor (1 MHz)	3.5E-3		ASTM D150, IEC 60250
Comparative Tracking Index (CTI)	PLC 2		UL 746
Comparative Tracking Index	250	V	IEC 60112
Hot-wire Ignition (HWI)	PLC 3		UL 746

Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm	V-1		
3.00 mm	V-0		
Glow Wire Flammability Index (1.00 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.00 mm	725	°C	
2.00 mm	725	°C	
3.00 mm	725	°C	

Injection	Nominal Value	Unit
Drying Temperature	70.0 to 80.0	°C
Drying Time	2.0 to 3.0	hr
Hopper Temperature	65.0 to 85.0	°C
Rear Temperature	210 to 230	°C
Middle Temperature	240 to 270	°C
Front Temperature	260 to 295	°C
Nozzle Temperature	250 to 280	°C
Processing (Melt) Temp	260 to 295	°C
Mold Temperature	45.0 to 70.0	°C

NOTE	
1.	50 mm/min
2.	Type I, 50 mm/min
3.	Type I, 50 mm/min
4.	Type I, 50 mm/min
5.	Type I, 50 mm/min
6.	1.3 mm/min
7.	2.0 mm/min
8.	1.3 mm/min
9.	80*10*4 sp=62mm
10.	80*10*4
11.	80*10*4
12.	80*10*4 mm
13.	80*10*4 mm
14.	Rate B (120°C/h), Loading 2 (50 N)

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