NORYL™ RESIN RN0612

REGION EUROPE

DESCRIPTION

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/cm^3. 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.

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	43	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	43	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	1	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	15	%	ASTM D 638
Tensile Modulus, 50 mm/min	2100	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	2100	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	60	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	42	MPa	ISO 527
Tensile Stress, break, 50 mm/min	42	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	1	%	ISO 527
Tensile Strain, break, 50 mm/min	17	%	ISO 527
Tensile Modulus, 1 mm/min	2100	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	64	MPa	ISO 178
Flexural Modulus, 2 mm/min	2100	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	52	J/m	ASTM D 256
Izod Impact, notched, -30°C	41	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	3	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	95	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	90	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	78	°C	ASTM D 648
CTE, -40°C to 40°C, flow	9.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.6E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	9.4E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.6E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	95	°C	ISO 306
Vicat Softening Temp, Rate B/120	98	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	74	°C	ISO 75/Af

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Elec [1]	65	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	65	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	65	°C	UL 746B
PHYSICAL			
Specific Gravity	1.11	-	ASTM D 792
Density	1.11	g/cm³	ISO 1183
Melt Volume Rate, MVR at 280°C/1.2 kg	13	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	34	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	3.E+16	Ohm-cm	ASTM D 257
Surface Resistivity	1.E+16	Ohm	ASTM D 257
Relative Permittivity, 1 MHz	2.76	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0035	-	ASTM D 150
Hot-Wire Ignition (HWI), PLC 3	≥1.5	mm	UL 746A
Volume Resistivity	3.E+16	Ohm-cm	IEC 60093
Surface Resistivity, ROA	1.E+16	Ohm	IEC 60093
Relative Permittivity, 1 MHz	2.8	-	IEC 60250
Dissipation Factor, 1 MHz	0.0035	-	IEC 60250
Comparative Tracking Index [2]	250	V	IEC 60112
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E45329-101621023	-	-
UL Recognized, 94V-1 Flame Class Rating	≥1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at [2]	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm [2]	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm [2]	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm [2]	725	°C	IEC 60695-2-13
INJECTION MOLDING			
Drying Temperature	70 – 80	°C	
Drying Time	2 – 3	hrs	
Melt Temperature	260 – 295	°C	
Nozzle Temperature	250 – 280	°C	
Front - Zone 3 Temperature	260 – 295	°C	
Middle - Zone 2 Temperature	240 – 270	°C	
Rear - Zone 1 Temperature	210 – 230	°C	
Hopper Temperature	65 – 85	°C	
Mold Temperature	45 – 70	°C	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(2) Value shown here is based on internal measurement.

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