



NORYL™ Resin RN0612

Europe-Africa-Middle East: COMMERCIAL

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.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	430	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	430	kgf/cm ²	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	21400	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	21410	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	600	kgf/cm ²	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	5	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	3	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	95	°C	ASTM D 1525



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THERMAL			
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+01	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.6E+01	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	9.4E+01	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.6E+01	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
Relative Temp Index, Elec	65	°C	UL 746B
Relative Temp Index, Mech w/impact	65	°C	UL 746B
Relative Temp Index, Mech w/o impact	65	°C	UL 746B
PHYSICAL			
Specific Gravity	1.11	-	ASTM D 792
Density	1.11	g/cm ³	ISO 1183
Melt Volume Rate, MVR at 280°C/1.2 kg	13	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	34	cm ³ /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 {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	3.E+16	Ohm-cm	IEC 60093



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
Surface Resistivity, ROA	1.E+16	Ohm	IEC 60093
Relative Permittivity, 1 MHz	2.8	-	IEC 60250
Dissipation Factor, 1 MHz	0.003	-	IEC 60250
Comparative Tracking Index	250	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating (3)	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	725	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	725	°C	IEC 60695-2-13



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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