



NORYL™ Resin RN0712

Americas: COMMERCIAL

NORYL RN0712 is an unfilled Post Consumer recycle (PCR) based injection moldable modified polyphenylene ether resin comprising at least 37% 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 RN0712 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	520	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	500	kgf/cm ²	ASTM D 638
Tensile Strain, break	10	%	SABIC - Japan Method
Tensile Strain, yld, Type I, 50 mm/min	3.5	%	ASTM D 638
Tensile Modulus, 50 mm/min	25100	kgf/cm ²	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	830	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	23400	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	47	MPa	ISO 527
Tensile Stress, break, 50 mm/min	49	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	7	%	ISO 527
Tensile Modulus, 1 mm/min	2300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	77	MPa	ISO 178
Flexural Modulus, 2 mm/min	2250	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C, 6.4mm	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	5	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	110	°C	ASTM D 1525
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ASTM E 831



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
THERMAL			
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.2E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	110	°C	ISO 306
Vicat Softening Temp, Rate B/120	112	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	87	°C	ISO 75/Af
PHYSICAL			
Density	1.11	g/cm ³	ISO 1183
Melt Volume Rate, MVR at 280°C/1.2 kg	12	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 280°C/2.16 kg	22	cm ³ /10 min	ISO 1133
Melt Viscosity, 280°C, 1500 sec-1	95	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	1.E+16	Ohm-cm	ASTM D 257
Dielectric Constant, 1 MHz	2.91	-	ASTM D 150
Relative Permittivity, 1 MHz	2.91	-	ASTM D 150
Dissipation Factor, 1 MHz	0.0032	-	ASTM D 150
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Volume Resistivity	1.E+16	Ohm-cm	IEC 60093
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 1 MHz	0.003	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	1.5	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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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
FLAME CHARACTERISTICS Oxygen Index (LOI)	34	%	ISO 4589



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	75 - 85	°C
Drying Time	2 - 4	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	220 - 250	°C
Nozzle Temperature	220 - 240	°C
Front - Zone 3 Temperature	230 - 250	°C
Middle - Zone 2 Temperature	220 - 240	°C
Rear - Zone 1 Temperature	210 - 230	°C
Mold Temperature	40 - 80	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	60	rpm
Shot to Cylinder Size	50 - 70	%
Vent Depth	0.038 - 0.051	mm