



NORYL™ Resin FP6130

Americas: COMMERCIAL

NORYL FP6130 is an unfilled, injection moldable modified polyphenylene ether resin. Designed for good dimensional stability and high flow , this resin also uses non-chlorinated, non-brominated FR additives to achieve a V1 UL94 rating at 1.5 mm with a specific density of 1.1 g/cm³. NORYL FP6130 may be an excellent material candidate for Flat Panel TV enclosure applications requiring good rheological properties, heat resistance, hydrolysis resistance, low density and thin wall flame resistance.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	530	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	490	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.6	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	7.3	%	ASTM D 638
Tensile Modulus, 50 mm/min	32000	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	990	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	28200	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	61	MPa	ISO 527
Tensile Stress, break, 50 mm/min	53	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	8	%	ISO 527
Tensile Modulus, 1 mm/min	2510	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	89	MPa	ISO 178
Flexural Modulus, 2 mm/min	2420	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	3	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	2	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	na	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	6	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	6	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	110	°C	ASTM D 1525



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THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	90	°C	ASTM D 648
CTE, -40°C to 40°C, flow	7.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	7.4E-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	111	°C	ISO 306
Vicat Softening Temp, Rate B/120	114	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	92	°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	1.1	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 200°C/3.8 kgf	na	g/10 min	ASTM D 1238
Density	1.1	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.13	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.02	%	ISO 62
Melt Volume Rate, MVR at 280°C/1.2 kg	15	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	4.E+16 - 4.5E+16	Ohm-cm	ASTM D 257
Surface Resistivity	1.E+14 - 1.5E+14	Ohm	ASTM D 257
Relative Permittivity, 1 MHz	2.7	-	ASTM D 150
Dissipation Factor, 1 MHz	0.02	-	ASTM D 150



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
ELECTRICAL			
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
Volume Resistivity	4.E+16 - 4.5E+16	Ohm-cm	IEC 60093
Surface Resistivity, ROA	1.E+14 - 1.5E+14	Ohm	IEC 60093
Dielectric Strength, in oil, 1.6 mm	28.6	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.7	-	IEC 60250
Dissipation Factor, 1 MHz	0.02	-	IEC 60250
Comparative Tracking Index	250	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-1 Flame Class Rating (3)	1.5	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3	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
Oxygen Index (LOI)	30	%	ISO 4589