

NORYL™ FP6130 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

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.

General Information			
Additive	Flame Retardant		
Features	Bromine Free		
	Chlorine Free		
	Flame Retardant		
	Good Dimensional Stability		
	High Flow		
	High Heat Resistance		
	Hydrolysis Resistant		
	Low Density		
Uses	Television Housings		
	Thin-walled Parts		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.10	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
280°C/1.2 kg	15.0	cm ³ /10min	
280°C/2.16 kg	34.0	cm ³ /10min	
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.13	%	
Equilibrium, 23°C, 50% RH	0.020	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	3140	MPa	ASTM D638
--	2510	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	52.0	MPa	ASTM D638
Yield	61.0	MPa	ISO 527-2/50
Break ³	49.0	MPa	ASTM D638
Break	53.0	MPa	ISO 527-2/50

Tensile Elongation			
Yield ⁴	3.6	%	ASTM D638
Yield	3.5	%	ISO 527-2/50
Break ⁵	7.3	%	ASTM D638
Break	8.0	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2770	MPa	ASTM D790
-- ⁷	2420	MPa	ISO 178
Flexural Stress			
--	89.0	MPa	ISO 178
Yield, 50.0 mm Span ⁸	98.0	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	6.0	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	27	J/m	ASTM D256
23°C	38	J/m	ASTM D256
-30°C ¹⁰	4.0	kJ/m ²	ISO 180/1A
23°C ¹¹	6.0	kJ/m ²	ISO 180/1A
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	90.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	92.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	110	°C	ASTM D1525 ¹³
--	111	°C	ISO 306/B50
--	114	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	7.4E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.4E-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+14 to 1.5E+14	ohms	ASTM D257, IEC 60093
Volume Resistivity	4.0E+16 to 4.5E+16	ohms·cm	ASTM D257, IEC 60093
Electric Strength (1.60 mm, in Oil)	29	kV/mm	IEC 60243-1
Dielectric Constant (1 MHz)	2.70		ASTM D150, IEC 60250
Dissipation Factor (1 MHz)	0.020		ASTM D150, IEC 60250
Comparative Tracking Index (CTI)	PLC 3		UL 746
Comparative Tracking Index	250	V	IEC 60112
High Amp Arc Ignition (HAI)	PLC 0		UL 746
Hot-wire Ignition (HWI)	PLC 3		UL 746

Flammability	Nominal Value	Unit	Test Method
Flame Rating (1.50 mm)	V-1		UL 94
Glow Wire Flammability Index (3.00 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	
Oxygen Index	30	%	ISO 4589-2

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. Rate B (120°C/h), Loading 2 (50 N)

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