

NORYL™ LS6010 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

NORYL LS6010 resin is a high performance modified PPE-PS blend that exhibits an excellent balance of nonhalogenated flame retardance, lower smoke production upon burning and low specific gravity for light weight parts. NORYL LS6010 is available in custom colors and may be an excellent material candidate for applications requiring light weight parts and strong flame, smoke and toxicity performance.

General Information	
UL YellowCard	E121562-644041
Additive	Flame retardancy
Features	Low density
	Low smoke
	Halogen-free
	Flame retardancy
Appearance	Available colors
Processing Method	Sheet extrusion molding
	Profile extrusion molding
	Injection molding

Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.11	g/cm ³	ASTM D792
--	1.12	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/5.0 kg)	5.7	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/5.0 kg)	5.70	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 - 0.80	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.050	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2220	MPa	ASTM D638
--	2440	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	64.0	MPa	ASTM D638
Yield	64.0	MPa	ISO 527-2/50
Fracture ³	53.0	MPa	ASTM D638
Fracture	58.0	MPa	ISO 527-2/50

Tensile Elongation			
Yield ⁴	4.6	%	ASTM D638
Yield	4.7	%	ISO 527-2/50
Fracture ⁵	20	%	ASTM D638
Fracture	8.3	%	ISO 527-2/50
Flexural Modulus			
50.0mm span ⁶	2390	MPa	ASTM D790
-- ⁷	2360	MPa	ISO 178
Flexural Stress			
--	100	MPa	ISO 178
Yield, 50.0mm span ⁸	100	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	20	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	180	J/m	ASTM D256
23°C	300	J/m	ASTM D256
-30°C ¹⁰	15	kJ/m ²	ISO 180/1A
23°C ¹¹	19	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	52.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	122	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm span ¹²	124	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	143	°C	ASTM D1525, ISO 306/B50 ¹³
--	146	°C	ISO 306/B120
Linear thermal expansion coefficient			
Flow: -40 to 40°C	6.7E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Lateral: -40 to 40°C	6.7E-5	cm/cm/°C	ASTM E831, ISO 11359-2
Flammability	Nominal Value	Unit	Test Method
Draeger Tube Toxicity			
Flaming : 1.52 mm	Pass		ASTM E662
Non-Flaming : 1.52 mm	Pass		ASTM E662
Flame Spread Index (1.52 mm)	15.0		ASTM E162
NBS Smoke Density			
Flaming, 4 min : 1.52 mm	30.0		ASTM E662
Non-Flaming, 4 min : 1.52 mm	7.00		ASTM E662
Vertical Burn Test			
Test a (60 s, 1.52 mm), passes at	0.0	hr	FAR 25.853
Test b (12 s, 1.52 mm), passes at	4.00	sec	FAR 25.853
Extrusion instructions			

Profile Extrusion Parameters:

Adapter Temperature: 220 - 260 °C

Barrel - Zone 1 Temperature: 220 - 260 °C

Barrel - Zone 2 Temperature: 220 - 260 °C

Barrel - Zone 3 Temperature: 220 - 260 °C

Barrel - Zone 4 Temperature: 220 - 260 °C

Calibrator Temperature: 30 - 60 °C

Die Temperature: 220 - 260 °C

Drying Temperature: 95 - 105 °C

Drying Time: 2 - 4 hrs

Drying Time (Cumulative): 12 hrs

Hopper Temperature: 80 - 120 °C

Maximum Moisture Content: 0.07 %

Melt Temperature: 220 - 260 °C

Water Bath Temperature: 30 - 50 °C

Sheet Extrusion Parameters:

Drying Time: 2 - 4 hrs

Drying Time (Cumulative): 12 hrs

Maximum Moisture Content: 0.07 %

Melt Temperature: 220 - 260 °C

Roll Stack Temp - Bottom: 90 - 150 °C

Roll Stack Temp - Middle: 90 - 150 °C

Roll Stack Temp - Top: 90 - 150 °C

Adapter Temperature: 220 - 260 °C

Barrel - Zone 1 Temperature: 220 - 260 °C

Barrel - Zone 2 Temperature: 220 - 260 °C

Barrel - Zone 3 Temperature: 220 - 260 °C

Barrel - Zone 4 Temperature: 220 - 260 °C

Die Temperature: 220 - 260 °C

Drying Temperature: 95 - 105 °C

NOTE

1.	5.0 mm/min
2.	Type 1, 50mm/min
3.	Type 1, 50mm/min
4.	Type 1, 50mm/min
5.	Type 1, 50mm/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.	标准 B (120°C/h), 载荷2 (50N)

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