

NORYL™ PX9406K resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Asia Pacific

Message:

NORYL PX9406K resin may be suitable for consumer electronics applications. Flame retardant used is non-halogenated. UL94 V0 at 1.5 mm, 5VB at 2 mm, and 5VA at 2.5 mm. RTI (impact) = 105 C

General Information			
UL YellowCard	E207780-101401128		
Features	Flame Retardant		
	Halogen Free		
Uses	Electrical/Electronic Applications		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.10	g/cm ³	ASTM D792, ISO 1183
Melt Volume-Flow Rate (MVR)			ISO 1133
250°C/10.0 kg	7.00	cm ³ /10min	
280°C/5.0 kg	11.0	cm ³ /10min	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2700	MPa	ASTM D638
--	2550	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	66.0	MPa	ASTM D638
Yield	67.0	MPa	ISO 527-2/50
Break ³	50.0	MPa	ASTM D638
Break	52.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	5.7	%	ASTM D638
Yield	5.0	%	ISO 527-2/50
Break ⁵	45	%	ASTM D638
Break	55	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2650	MPa	ASTM D790
6.40 mm	2650	MPa	ASTM D790
-- ⁷	2420	MPa	ISO 178
Flexural Stress			
--	104	MPa	ISO 178
Yield, 50.0 mm Span ⁸	100	MPa	ASTM D790

Yield, 6.40 mm	101	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹			ISO 179/1eA
-30°C	5.0	kJ/m ²	
23°C	13	kJ/m ²	
Notched Izod Impact			
-30°C	100	J/m	ASTM D256
23°C	170	J/m	ASTM D256
-30°C ¹⁰	5.0	kJ/m ²	ISO 180/1A
23°C ¹¹	13	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	55.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
0.45 MPa, Unannealed, 3.20 mm	128	°C	ASTM D648
0.45 MPa, Unannealed, 6.40 mm	130	°C	ASTM D648
0.45 MPa, Unannealed, 64.0 mm Span ¹²	126	°C	ISO 75-2/Bf
1.8 MPa, Unannealed, 3.20 mm	113	°C	ASTM D648
1.8 MPa, Unannealed, 6.40 mm	121	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹³	112	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	144	°C	ISO 306/A120
--	134	°C	ISO 306/B120
Ball Pressure Test (125°C)	Pass		IEC 60695-10-2
RTI Elec	110	°C	UL 746
RTI Imp	105	°C	UL 746
RTI Str	110	°C	UL 746
Electrical	Nominal Value	Unit	Test Method
Volume Resistivity	1.4E+17	ohms · cm	ASTM D257
Dielectric Strength (3.20 mm, in Air)	49	kV/mm	ASTM D149
Comparative Tracking Index	250	V	IEC 60112
High Voltage Arc Tracking Rate (HVTR)	PLC 3		UL 746
Flammability	Nominal Value	Unit	Test Method
Flame Rating			UL 94
1.50 mm, Testing by SABIC	V-0		
2.00 mm, Testing by SABIC	5VB		
2.50 mm, Testing by SABIC	5VA		
Glow Wire Flammability Index (1.50 mm)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature			IEC 60695-2-13
1.50 mm	800	°C	
2.00 mm	800	°C	
3.00 mm	800	°C	

Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity			ISO 11443
250°C, 1500 sec ⁻¹	525	Pa·s	
260°C, 1500 sec ⁻¹	390	Pa·s	
280°C, 1500 sec ⁻¹	250	Pa·s	

Injection	Nominal Value	Unit
Drying Temperature	104 to 110	°C
Drying Time	3.0 to 4.0	hr
Drying Time, Maximum	8.0	hr
Suggested Max Moisture	0.020	%
Suggested Shot Size	30 to 70	%
Rear Temperature	243 to 293	°C
Middle Temperature	254 to 299	°C
Front Temperature	266 to 304	°C
Nozzle Temperature	277 to 304	°C
Processing (Melt) Temp	277 to 304	°C
Mold Temperature	71.1 to 98.9	°C
Back Pressure	0.345 to 0.689	MPa
Screw Speed	20 to 100	rpm
Vent Depth	0.038 to 0.051	mm

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.	80*10*4 mm

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