

NORYL™ EXNL1117 resin

Polyphenylene Ether + PS

SABIC Innovative Plastics

Message:

high gloss NORYL

General Information			
Features	High Gloss		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity			
--	1.12	g/cm ³	ASTM D792
--	1.11	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (280°C/2.16 kg)	25	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (280°C/2.16 kg)	25.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.50 to 0.70	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.060	%	
Equilibrium, 23°C, 50% RH	9.0E-3	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	2560	MPa	ASTM D638
--	2810	MPa	ISO 527-2/1
Tensile Strength			
Yield ²	67.0	MPa	ASTM D638
Yield	65.0	MPa	ISO 527-2/50
Break ³	55.0	MPa	ASTM D638
Break	60.0	MPa	ISO 527-2/50
Tensile Elongation			
Yield ⁴	3.6	%	ASTM D638
Yield	3.3	%	ISO 527-2/50
Break ⁵	5.2	%	ASTM D638
Break	4.4	%	ISO 527-2/50
Flexural Modulus			
50.0 mm Span ⁶	2730	MPa	ASTM D790
-- ⁷	2650	MPa	ISO 178
Flexural Stress			
--	100	MPa	ISO 178
Yield, 50.0 mm Span ⁸	100	MPa	ASTM D790

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁹ (23°C)	10	kJ/m ²	ISO 179/1eA
Notched Izod Impact			
-30°C	20	J/m	ASTM D256
23°C	85	J/m	ASTM D256
-30°C ¹⁰	4.6	kJ/m ²	ISO 180/1A
23°C ¹¹	9.3	kJ/m ²	ISO 180/1A
Instrumented Dart Impact (23°C, Total Energy)	30.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	75.0	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ¹²	75.0	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	96.0	°C	ASTM D1525, ISO 306/B50 ¹³
--	98.0	°C	ISO 306/B120
CLTE			ASTM E831, ISO 11359-2
Flow : -40 to 40°C	7.7E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.9E-5	cm/cm/°C	
Flammability	Nominal Value		Test Method
Flame Rating			UL 94
1.50 mm, Testing by SABIC	V-1		
2.50 mm, Testing by SABIC	V-0		
Injection	Nominal Value	Unit	
Drying Temperature	76.7 to 82.2	°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	216 to 266	°C	
Middle Temperature	227 to 271	°C	
Front Temperature	238 to 277	°C	
Nozzle Temperature	249 to 277	°C	
Processing (Melt) Temp	249 to 277	°C	
Mold Temperature	54.4 to 76.7	°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.	5.0 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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