

NORYL™ FE1740PW resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Europe

Message:

NORYL FE1740PW Polyphenylene Oxide (PPO) + Polystyrene (PS) resin is a 40 % Glass Reinforced, injection moldable grade with improved hydrolytic stability and with a Tensile Modulus > 11000 MPa; this grade has been developed for fluid engineering applications where higher static stiffness is required. NORYL FE1740PW has been certified for potable water applications up to 85C in Europe and North America in limited colours.

General Information			
UL YellowCard	E45329-101519384		
Filler / Reinforcement	Glass Fiber,40% Filler by Weight		
Features	Hydrolytically Stable		
Uses	Potable Water Applications		
RoHS Compliance	RoHS Compliant		
Processing Method	Injection Molding		
Physical	Nominal Value	Unit	Test Method
Specific Gravity	1.40	g/cm ³	ASTM D792, ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	10	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/10.0 kg)	20.0	cm ³ /10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.090 to 0.15	%	Internal Method
Water Absorption			ISO 62
Saturation, 23°C	0.20	%	
Equilibrium, 23°C, 50% RH	0.060	%	
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	13800	MPa	ASTM D638
--	11300	MPa	ISO 527-2/1
Tensile Strength			
Break ²	165	MPa	ASTM D638
Break	155	MPa	ISO 527-2/5
Tensile Elongation			
Break ³	1.8	%	ASTM D638
Break	1.8	%	ISO 527-2/5
Flexural Modulus			
50.0 mm Span ⁴	11700	MPa	ASTM D790
-- ⁵	9500	MPa	ISO 178
Flexural Stress			
--	195	MPa	ISO 178
Break, 50.0 mm Span ⁶	225	MPa	ASTM D790
Impact	Nominal Value	Unit	Test Method

Charpy Unnotched Impact Strength ⁷ (23°C)	30	kJ/m ²	ISO 179/1eU
Notched Izod Impact			ASTM D256
-30°C	90	J/m	
23°C	110	J/m	
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-30°C	30	kJ/m ²	
23°C	30	kJ/m ²	
Instrumented Dart Impact (23°C, Total Energy)	18.0	J	ASTM D3763
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, Unannealed, 3.20 mm	148	°C	ASTM D648
1.8 MPa, Unannealed, 64.0 mm Span ⁹	147	°C	ISO 75-2/Af
Vicat Softening Temperature			
--	151	°C	ASTM D1525 ¹⁰
--	152	°C	ISO 306/B50
--	161	°C	ISO 306/B120
CLTE			
Flow : -40 to 40°C	2.0E-5	cm/cm/°C	
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	
Injection	Nominal Value	Unit	
Drying Temperature	100 to 120	°C	
Drying Time	2.0 to 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 to 80.0	°C	
Rear Temperature	250 to 270	°C	
Middle Temperature	270 to 290	°C	
Front Temperature	290 to 310	°C	
Nozzle Temperature	280 to 300	°C	
Processing (Melt) Temp	280 to 300	°C	
Mold Temperature	80.0 to 120	°C	
NOTE			
1.	5.0 mm/min		
2.	Type I, 5.0 mm/min		
3.	Type I, 5.0 mm/min		
4.	1.3 mm/min		
5.	2.0 mm/min		
6.	1.3 mm/min		
7.	80*10*4 sp=62mm		
8.	80*10*4		
9.	80*10*4 mm		
10.	Rate B (120°C/h), Loading 2 (50 N)		

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