

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			
Filler / Reinforcement	Glass fiber reinforced material, 40% filler by weight		
Features	Rigid, good		
Uses	Potable water application		
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 - 0.15	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	13800	MPa	ASTM D638
--	11300	MPa	ISO 527-2/1
Tensile Strength			
Fracture ²	165	MPa	ASTM D638
Fracture	155	MPa	ISO 527-2/5
Tensile Elongation			
Fracture ³	1.8	%	ASTM D638
Fracture	1.8	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁴	11700	MPa	ASTM D790
-- ⁵	9500	MPa	ISO 178
Flexural Stress			
--	195	MPa	ISO 178
Fracture, 50.0mm 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	ASTM D256
23°C	110	J/m	ASTM D256
Unnotched Izod Impact Strength ⁸			ISO 180/1U
-30°C	30	kJ/m ²	ISO 180/1U
23°C	30	kJ/m ²	ISO 180/1U
Instrumented Dart Impact (23°C, Total Energy)			ASTM D3763
	18.0	J	
Thermal	Nominal Value	Unit	Test Method
Deflection Temperature Under Load			
1.8 MPa, unannealed, 3.20mm	148	°C	ASTM D648
1.8 MPa, unannealed, 64.0mm 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
Linear thermal expansion coefficient			ISO 11359-2
Flow: -40 to 40°C	2.0E-5	cm/cm/°C	ISO 11359-2
Lateral: -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
Injection	Nominal Value	Unit	
Drying Temperature	100 - 120	°C	
Drying Time	2.0 - 4.0	hr	
Suggested Max Moisture	0.020	%	
Hopper Temperature	60.0 - 80.0	°C	
Rear Temperature	250 - 270	°C	
Middle Temperature	270 - 290	°C	
Front Temperature	290 - 310	°C	
Nozzle Temperature	280 - 300	°C	
Processing (Melt) Temp	280 - 300	°C	
Mold Temperature	80.0 - 120	°C	
NOTE			
1.	5.0 mm/min		
2.	Type 1, 5.0 mm/min		
3.	Type 1, 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.	标准 B (120°C/h), 载荷2 (50N)		

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