NORYL™ FE1410PW resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Europe

Message:

Noryl* FE1410PW resin is a blend of polyphenylene Oxide (PPO) and polystyrene (PS) resin that contains 10% glass reinforcement. The resin is suitable for injection molding. Noryl FE1410PW resin has been developed for fluid engineering applications that require improved hydrolytic stability. Noryl FE1410PW resin has been certified for potable water applications up to 85C in Europe and North America in limited colors.

General Information			
Filler / Reinforcement	Glass fiber reinforced material, 10% filler by weight		
Uses	Potable water application		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.13	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (280°C/10.0 kg)	32.0	cm³/10min	ISO 1133
Molding Shrinkage - Flow (3.20 mm)	0.20 - 0.40	%	Internal method
Water Absorption			
Saturated, 23°C	0.20	%	ISO 62
Balance, 50% RH	0.060	%	ASTM D570
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus			
-- [1]	4780	MPa	ASTM D638
--	4930	MPa	ISO 527-2/1
Tensile Strength			
Fracture [2]	94.0	MPa	ASTM D638
Fracture	94.0	MPa	ISO 527-2/5
Tensile Elongation			
Fracture [3]	2.8	%	ASTM D638
Fracture	2.7	%	ISO 527-2/5
Flexural Modulus			
50.0mm span [4]	4860	MPa	ASTM D790
-- [5]	4880	MPa	ISO 178
Flexural Stress			
--	135	MPa	ISO 178
Fracture, 50.0mm span [6]	135	MPa	ASTM D790
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C)	3.0	kJ/m²	ISO 179/2C
Charpy Unnotched Impact Strength [7]			ISO 179/1eU
-30°C	14	kJ/m²	ISO 179/1eU
23°C	14	kJ/m²	ISO 179/1eU

Notched Izod Impact			
-30°C	35	J/m	ASTM D256
23°C	35	J/m	ASTM D256
-30°C [8]	4.0	kJ/m²	ISO 180/1A
23°C [9]	4.0	kJ/m²	ISO 180/1A
Unnotched Izod Impact			
-30°C	230	J/m	ASTM D4812
23°C	230	J/m	ASTM D4812
-30°C [10]	13	kJ/m²	ISO 180/1U
23°C [11]	13	kJ/m²	ISO 180/1U

Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 100 mm span [12]	135	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	127	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span [13]	126	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	146	°C	ISO 306/A50
--	140	°C	ISO 306/B120
Linear thermal expansion coefficient			ISO 11359-2
Flow: -40 to 40°C	3.0E-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

10.	80*10*4
11.	80*10*4
12.	120*10*4 mm
13.	120*10*4 mm

Recommended distributors for this material

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