

NORYL™ FE1630PW resin

Polyphenylene Ether + PS

SABIC Innovative Plastics Europe

Message:

Noryl* FE1630PW Polyphenylene Oxide (PPO) + Polystyrene (PS) resin is a 30 % Glass Reinforced, injection moldable grade with improved hydrolytic stability; this grade has been developed for fluid engineering applications. Noryl* FE1630PW 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, 30% filler by weight		
Uses	Potable water application		
Processing Method	Injection molding		
Physical	Nominal Value	Unit	Test Method
Density	1.30	g/cm ³	ISO 1183
Melt Mass-Flow Rate (MFR) (300°C/5.0 kg)	9.0	g/10 min	ASTM D1238
Melt Volume-Flow Rate (MVR) (300°C/10.0 kg)	30.0	cm ³ /10min	ISO 1133
Molding Shrinkage			Internal method
Flow: 3.20mm	0.10 - 0.30	%	Internal method
Transverse flow: 3.20mm	0.20 - 0.50	%	Internal method
Water Absorption			ISO 62
Saturated, 23°C	0.20	%	ISO 62
Equilibrium, 23°C, 50% RH	0.060	%	ISO 62
Hardness	Nominal Value	Unit	Test Method
Ball Indentation Hardness (H 358/30)	240	MPa	ISO 2039-1
Mechanical	Nominal Value	Unit	Test Method
Tensile Modulus			
-- ¹	9580	MPa	ASTM D638
--	9600	MPa	ISO 527-2/1
Tensile Strength			
Fracture ²	134	MPa	ASTM D638
Fracture	133	MPa	ISO 527-2/5
Tensile Elongation			
Fracture ³	2.4	%	ASTM D638
Fracture	2.5	%	ISO 527-2/5
Flexural Modulus			
50.0mm span ⁴	7760	MPa	ASTM D790
-- ⁵	8120	MPa	ISO 178
Flexural Stress	192	MPa	ISO 178
Taber Abrasion Resistance (1000 Cycles, 1000 g, CS-17 Wheel)	65.0	mg	Internal method

Impact	Nominal Value	Unit	Test Method
Charpy Notched Impact Strength ⁶			ISO 179/1eA
-30°C	9.0	kJ/m ²	ISO 179/1eA
23°C	10	kJ/m ²	ISO 179/1eA
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	30	kJ/m ²	ISO 179/1eU
23°C	30	kJ/m ²	ISO 179/1eU
Notched Izod Impact			
-30°C	75	J/m	ASTM D256
23°C	85	J/m	ASTM D256
-30°C ⁸	7.0	kJ/m ²	ISO 180/1A
23°C ⁹	8.0	kJ/m ²	ISO 180/1A
Unnotched Izod Impact			
-30°C	470	J/m	ASTM D4812
23°C	510	J/m	ASTM D4812
-30°C ¹⁰	30	kJ/m ²	ISO 180/1U
23°C ¹¹	30	kJ/m ²	ISO 180/1U
Thermal	Nominal Value	Unit	Test Method
Heat Deflection Temperature			
0.45 MPa, unannealed, 100 mm span ¹²	150	°C	ISO 75-2/Be
1.8 MPa, unannealed, 3.20mm	145	°C	ASTM D648
1.8 MPa, unannealed, 100 mm span ¹³	145	°C	ISO 75-2/Ae
Vicat Softening Temperature			
--	165	°C	ISO 306/A50
--	154	°C	ISO 306/B50
--	158	°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.	80*10*4 sp=62mm
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

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