

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			
UL YellowCard	E45329-101521740		
Filler / Reinforcement	Glass Fiber,30% Filler by Weight		
Features	Hydrolytically Stable		
Uses	Potable Water Applications		
RoHS Compliance	RoHS Compliant		
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 : 3.20 mm	0.10 to 0.30	%	
Across Flow : 3.20 mm	0.20 to 0.50	%	
Water Absorption			ISO 62
Saturation, 23°C	0.20	%	
Equilibrium, 23°C, 50% RH	0.060	%	
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			
Break ²	134	MPa	ASTM D638
Break	133	MPa	ISO 527-2/5
Tensile Elongation			
Break ³	2.4	%	ASTM D638
Break	2.5	%	ISO 527-2/5
Flexural Modulus			
50.0 mm 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	
23°C	10	kJ/m ²	
Charpy Unnotched Impact Strength ⁷			ISO 179/1eU
-30°C	30	kJ/m ²	
23°C	30	kJ/m ²	
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, 3.20 mm	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
CLTE			
Flow : -40 to 40°C	2.5E-5	cm/cm/°C	ASTM E831
Flow : -40 to 40°C	3.0E-5	cm/cm/°C	ISO 11359-2
Transverse : -40 to 40°C	6.0E-5	cm/cm/°C	ASTM E831
Transverse : -40 to 40°C	7.0E-5	cm/cm/°C	ISO 11359-2
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.	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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