

NORYL™ RESIN FE1630PW

REGION EUROPE

DESCRIPTION

NORYL™ FE1630PW resin is a 30% glass reinforced blend of polyphenylene ether (PPE) + crystal clear polystyrene (ccPS). This injection moldable material is FC EU, FDA food contact compliant, NSF/ANSI 61*ACS, WRAS, KTW, and W270 listed for global potable water use. NORYL FE1630PW resin exhibits excellent long-term hydrolytic stability, very low moisture absorption, heat / hot water resistance and is an excellent candidate for a variety of water management applications such as pump housings, impellers, shower/faucet, membrane housings and valves. *NSF certification is color dependent.

TYPICAL PROPERTY VALUES

Revision 20200610

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	134	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.4	%	ASTM D 638
Tensile Modulus, 5 mm/min	9570	MPa	ASTM D 638
Flexural Modulus, 1.3 mm/min, 50 mm span	7760	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	65	mg/1000cy	SABIC method
Tensile Stress, break, 5 mm/min	133	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.5	%	ISO 527
Tensile Modulus, 1 mm/min	9600	MPa	ISO 527
Flexural Stress, break, 2 mm/min	192	MPa	ISO 178
Flexural Modulus, 2 mm/min	8120	MPa	ISO 178
Ball Indentation Hardness, H358/30	240	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched, 23°C	505	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	465	J/m	ASTM D 4812
Izod Impact, notched, 23°C	85	J/m	ASTM D 256
Izod Impact, notched, -30°C	75	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	30	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	8	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	9	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	145	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	3.E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate A/50	165	°C	ISO 306
Vicat Softening Temp, Rate B/50	154	°C	ISO 306

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Vicat Softening Temp, Rate B/120	158	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	150	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	145	°C	ISO 75/Ae
Relative Temp Index, Elec ⁽¹⁾	65	°C	UL 746B
Relative Temp Index, Mech w/impact ⁽¹⁾	65	°C	UL 746B
Relative Temp Index, Mech w/o impact ⁽¹⁾	65	°C	UL 746B
PHYSICAL			
Mold Shrinkage, flow, 3.2 mm	0.1 – 0.3	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.2 – 0.5	%	SABIC method
Melt Flow Rate, 300°C/5.0 kgf	9	g/10 min	ASTM D 1238
Density	1.3	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.2	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 300°C/10.0 kg	30	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS ⁽¹⁾			
UL Yellow Card Link	E45329-101521740	-	-
UL Recognized, 94HB Flame Class Rating	≥1.5	mm	UL 94
INJECTION MOLDING ⁽²⁾			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	290 – 320	°C	
Nozzle Temperature	290 – 320	°C	
Front - Zone 3 Temperature	300 – 310	°C	
Middle - Zone 2 Temperature	280 – 300	°C	
Rear - Zone 1 Temperature	270 – 280	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

(2) For detailed processing conditions please contact the SABIC representative.

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