NORYL™ RESIN FE1410PW

REGION ASIA

DESCRIPTION

NORYL™ FE1410PW resin is a 10% 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 FE1410PW 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 20191004

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	94	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.8	%	ASTM D 638
Tensile Modulus, 5 mm/min	4770	MPa	ASTM D 638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	135	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4860	MPa	ASTM D 790
Tensile Stress, break, 5 mm/min	94	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2.7	%	ISO 527
Tensile Modulus, 1 mm/min	4930	MPa	ISO 527
Flexural Stress, break, 2 mm/min	135	MPa	ISO 178
Flexural Modulus, 2 mm/min	4880	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	230	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	225	J/m	ASTM D 4812
Izod Impact, notched, 23°C	35	J/m	ASTM D 256
Izod Impact, notched, -30°C	35	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	13	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	13	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m²	ISO 180/1A
Charpy Impact, notched, 23°C	3	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	14	kJ/m²	ISO 179/1eU
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	127	°C	ASTM D 648
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	146	°C	ISO 306
Vicat Softening Temp, Rate B/120	140	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	135	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	126	°C	ISO 75/Ae
PHYSICAL			
Water Absorption, 50% RH, equilib	0.06	%	ASTM D 570

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.4	%	SABIC method
Density	1.13	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Melt Volume Rate, MVR at 280°C/10.0 kg	32	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	100 – 120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	280 – 300	°C	
Nozzle Temperature	280 – 300	°C	
Front - Zone 3 Temperature	290 – 310	°C	
Middle - Zone 2 Temperature	270 – 290	°C	
Rear - Zone 1 Temperature	250 – 270	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	80 – 120	°C	

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