

NORYL™ RESIN FE1410PW

REGION ASIA

DESCRIPTION

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.

TYPICAL PROPERTY VALUES

Revision 20180906

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/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	13	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	4	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
Charpy Impact, notched, 23°C	3	kJ/m ²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	14	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	14	kJ/m ²	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
Mold Shrinkage, flow, 3.2 mm	0.2 – 0.4	%	SABIC method
Density	1.13	g/cm ³	ISO 1183

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Water Absorption, (23°C/sat)	0.2	%	ISO 62
Melt Volume Rate, MVR at 280°C/10.0 kg	32	cm ³ /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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