ULTEM™ Resin PW2300

PEI-GF30 — Saudi Basic Industries Corporation (SABIC)

Product Texts

ULTEM PW2300 resin is a standard flow 30% glass fiber reinforced polyetherimide resin. The material is suitable for potable water applications. It has global food approvals and PW certifications for KTW-BWGL, EN16421, ACS, WRAS, NSF-61 and NSF-REG4. The material may offer excellent dimension stability, strength, stiffness and creep resistance up to high temperature due to its high glass transition temperature of 217°C. The material also offers good hydrolytic resistance. The material is opaque and available in natural and black color.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**6**	cm³/10min	ISO 1133
Temperature	**360**	°C	-
Load	**5**	kg	-
ASTM Data			
Melt Flow Index, MFI	**5**	g/10min	ASTM D 1238
Temperature	**337**	°C	-
Load	**6.6**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**10500**	MPa	ISO 527
Stress at break	**175**	MPa	ISO 527
Strain at break	**2.4**	%	ISO 527
Flexural modulus, 23°C	**9600**	MPa	ISO 178
Charpy impact strength, +23°C	**40**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**40**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**10**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, -30°C	**10**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**40**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**10**	kJ/m²	ISO 180/1A
Izod notched impact strength	**10**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
Rockwell hardness	**M 110**	-	ISO 2039-2
Ball indentation hardness	**165**	MPa	ISO 2039-1
ASTM Data			
Tensile Modulus	**10400**	MPa	ASTM D 638
Tensile Strength at Break	**175**	MPa	ASTM D 638
Elongation at Break	**2.5**	%	ASTM D 638
Flexural Modulus	**9700**	MPa	ASTM D 790
Rockwell Hardness	**M 114**	-	ASTM D 785
Izod Impact notched, 1/8 in	**90**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**80**	J/m	ASTM D 256
Temperature	**-30**	°C	-
Izod Impact unnotched, 1/8 in	**600**	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**210**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**215**	°C	ISO 75-1/-2
Vicat softening temperature, A	**225**	°C	ISO 306
Vicat softening temperature, B	**213**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**18**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**48**	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.2**	mm	-
Yellow Card available	**yes**	-	-
Burning behav. 5V at thickness h	**5VA**	class	IEC 60695-11-20
Thickness tested	**1.2**	mm	-
Yellow Card available	**yes**	-	-
Oxygen index	**48**	%	ISO 4589-1/-2
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12

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GWFI - thickness tested (1)	**2**	mm	-
Glow Wire Ignition Temperature (GWIT)	**900**	°C	IEC 60695-2-13
GWIT - thickness tested (1)	**2**	mm	-
ASTM Data			
Coefficient of Thermal Expansion, MD	**19**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**41**	E-6/K	ASTM D 696
DTUL @ 66 psi	**215**	°C	ASTM D 648
DTUL @ 264 psi	**211**	°C	ASTM D 648
Limiting Oxygen Index	**50**	%	ASTM D 2863

Electrical properties	**Value**	**Unit**	**Test Standard**
ASTM Data			
Arc Resistance	**90**	s	ASTM D 495

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**0.9**	%	Sim. to ISO 62
Humidity absorption	**0.6**	%	Sim. to ISO 62
Density	**1510**	kg/m³	ISO 1183
Water Absorption, 24hr	**0.16**	%	ASTM D 570
Water Absorption, Equilibrium	**0.9**	%	ASTM D 570
Density	**1510**	kg/m³	ASTM D 792

Processing Recommendation Injection Molding	**Value**	**Unit**	**Test Standard**
Pre-drying - Temperature	**150**	°C	-
Pre-drying - Time	**4 - 6**	h	-
Processing humidity	**≤0.02**	%	-
Melt temperature	**350 - 410**	°C	-
Mold temperature	**135 - 180**	°C	-
Feed temperature	**80 - 120**	°C	-
Zone 1	**330 - 400**	°C	-
Zone 2	**340 - 410**	°C	-
Zone 3	**345 - 420**	°C	-
Nozzle temperature	**345 - 410**	°C	-
Back pressure	**0.3 - 1.5**	MPa	-

Characteristics

Processing
Injection Molding, Profile Extrusion, Sheet Extrusion, Other Extrusion

Special Characteristics
Flame retardant, Heat stabilized or stable to heat, Opaque

Features
Amorphous, Creep Resistance, Good Adhesion, Low Smoke

Chemical Resistance
General Chemical Resistance, Hydrolytically Stable

Certifications
Food contact, Drinking water contact, Drinking water contact KTW, Drinking water contact NSF 61

Applications
Building Construction

Regional Availability
Europe

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