ULTEM™ Resin HU2100

PEI-GF10 — Saudi Basic Industries Corporation (SABIC)

Product Texts

10% Glass fiber filled, standard flow Polyetherimide (Tg 217C). US FDA and European Food Contact approved. For medical devices and pharmaceutical applications. Healthcare management of change, biocompatible (ISO 10993 or USP Class VI); food contact compliant; Steam, Gamma, EtO, and E-beam sterilizable.

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**9**	cm³/10min	ISO 1133
Temperature	**360**	°C	-
Load	**5**	kg	-
ASTM Data			
Melt Flow Index, MFI	**7**	g/10min	ASTM D 1238
Temperature	**337**	°C	-
Load	**6.6**	kg	-

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**4500**	MPa	ISO 527
Yield stress	**115**	MPa	ISO 527
Yield strain	**4**	%	ISO 527
Stress at break	**115**	MPa	ISO 527
Strain at break	**4**	%	ISO 527
Flexural modulus	**4500**	MPa	ISO 178
Charpy notched impact strength, +23°C	**7**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**30**	kJ/m²	ISO 180/1U
Izod impact strength, +23°C, 4mm	**30**	kJ/m²	ISO 180/1U
Izod impact strength, -30°C, 4mm	**30**	kJ/m²	ISO 180/1U
ASTM Data			
Tensile Modulus	**4680**	MPa	ASTM D 638
Tensile Strength at Yield	**114**	MPa	ASTM D 638
Tensile Strength at Break	**115**	MPa	ASTM D 638
Elongation at Yield	**6**	%	ASTM D 638
Elongation at Break	**6**	%	ASTM D 638
Flexural Modulus	**5500**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**53**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**53**	J/m	ASTM D 256
Temperature	**-30**	°C	-

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**205**	°C	ISO 75-1/-2
Vicat softening temperature, B	**212**	°C	ISO 306
Vicat softening temperature, 120°C/h 50N	**217**	°C	ISO 306
Coeff. of linear therm. expansion, parallel	**26**	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, normal	**60**	E-6/K	ISO 11359-1/-2
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.4**	mm	-
Yellow Card available	**yes**	-	-
Burning behav. 5V at thickness h	**5VA**	class	IEC 60695-11-20
Thickness tested	**1.9**	mm	-
Yellow Card available	**yes**	-	-
ASTM Data			
Coefficient of Thermal Expansion, MD	**32.4**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**60**	E-6/K	ASTM D 696
DTUL @ 264 psi	**205**	°C	ASTM D 648
Vicat Temperature	**223**	°C	ASTM D 1525

Electrical properties	Value	Unit	Test Standard
ISO Data			

Electric strength	**15**	kV/mm	IEC 60243-1
Comparative tracking index	**150**	-	IEC 60112
ASTM Data			
Arc Resistance	**90**	s	ASTM D 495

Other properties	**Value**	**Unit**	**Test Standard**
Water absorption	**1**	%	Sim. to ISO 62
Humidity absorption	**0.6**	%	Sim. to ISO 62
Density	**1340**	kg/m³	ISO 1183
Density	**1340**	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	**370 - 410**	°C	-
Mold temperature	**140 - 180**	°C	-
Feed temperature	**80 - 120**	°C	-
Zone 1	**340 - 395**	°C	-
Zone 2	**350 - 405**	°C	-
Zone 3	**360 - 415**	°C	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Heat stabilized or stable to heat, Sterilizable, Ethylene Oxide (EtO) Sterilization, Steam sterilization, Gamma irradiation sterilization, Electron beam (e-beam) sterilization

Features
Amorphous, Creep Resistance, Good Adhesion, Low Smoke

Chemical Resistance
General Chemical Resistance, Hydrolytically Stable, Radiation Resistance

Certifications
Food contact, Food approval FDA 21 CFR, Medical Grade, Biocompatibility ISO 10993, US Pharmacopeia Class VI Approved

Applications
Medical

Regional Availability
North America, Europe, Asia Pacific, South and Central America