ULTEM™ Resin 2120

PEI-GF10 — Saudi Basic Industries Corporation (SABIC)

Product Texts

ULTEM 2120 resin is a high flow 10% glass fiber reinforced polyetherimide resin. The material is RoHS compliant and is intrinsically flame retardant without the use of FR modifiers and offers UL94 V0 at ≥ 0.5 mm. 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 is opaque and can be custom colored.
ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

UL Yellow Card Link: 104556711-E121562

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
Melt volume-flow rate, MVR	**12**	cm³/10min	ISO 1133
Temperature	**337**	°C	-
Load	**6.7**	kg	-
ASTM Data			
Melt Flow Index, MFI	**20**	g/10min	ASTM D 1238
Temperature	**337**	°C	-
Load	**6.7**	kg	-
Mold Shrinkage, MD	**0.004**	mm/mm	ASTM D 955
Mold Shrinkage, TD	**0.004**	mm/mm	ASTM D 955

Mechanical properties	Value	Unit	Test Standard
ISO Data			
Tensile Modulus	**4960**	MPa	ISO 527
Stress at break	**124**	MPa	ISO 527
Strain at break	**4.2**	%	ISO 527
Flexural modulus, 23°C	**4920**	MPa	ISO 178
Charpy impact strength, +23°C	**31.7**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**33.2**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, -30°C	**2.7**	kJ/m²	ISO 179/1eA
Charpy notched impact strength, +23°C, 3mm	**2.6**	kJ/m²	ISO 179/1eA
Izod impact strength, +23°C	**28**	kJ/m²	ISO 180/1U
Izod notched impact strength, +23°C	**4**	kJ/m²	ISO 180/1A
Izod notched impact strength	**3.8**	kJ/m²	ISO 180/1A
Temperature	**-30**	°C	-
ASTM Data			
Tensile Modulus	**5100**	MPa	ASTM D 638
Tensile Strength at Break	**120**	MPa	ASTM D 638
Elongation at Break	**3**	%	ASTM D 638
Flexural Modulus	**5100**	MPa	ASTM D 790
Izod Impact notched, 1/8 in	**50**	J/m	ASTM D 256
Izod Impact notched, Low-Temperature	**45**	J/m	ASTM D 256
Temperature	**-30**	°C	-
Izod Impact unnotched, 1/8 in	**510**	J/m	ASTM D 256

Thermal properties	Value	Unit	Test Standard
ISO Data			
Temp. of deflection under load, 1.80 MPa	**205**	°C	ISO 75-1/-2
Temp. of deflection under load, 0.45 MPa	**214**	°C	ISO 75-1/-2
Vicat softening temperature, B	**218**	°C	ISO 306
Burning behav. at thickness h	**V-0**	class	IEC 60695-11-10
Thickness tested	**0.5**	mm	-
Yellow Card available	**yes**	-	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (1)	**0.5**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (2)	**1.5**	mm	-
Glow Wire Flammability Index (GWFI)	**960**	°C	IEC 60695-2-12
GWFI - thickness tested (3)	**3**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13

GWIT - thickness tested (1)	**0.5**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (2)	**1.5**	mm	-
Glow Wire Ignition Temperature (GWIT)	**825**	°C	IEC 60695-2-13
GWIT - thickness tested (3)	**3**	mm	-
ASTM Data			
UL 94 Flame rating	**V-0**	-	UL 94
Thickness tested	**0.5**	mm	-
Coefficient of Thermal Expansion, MD	**31.5**	E-6/K	ASTM D 696
Coefficient of Thermal Expansion, TD	**59.2**	E-6/K	ASTM D 696
Vicat Temperature	**215**	°C	ASTM D 1525

Electrical properties	**Value**	**Unit**	**Test Standard**
ISO Data			
Comparative tracking index	**137**	-	IEC 60112
ASTM Data			
Dielectric Strength, Short Time	**27**	kV/mm	ASTM D 149
Volume Resistivity	**1E13**	Ohm*cm	ASTM D 257

Other properties	**Value**	**Unit**	**Test Standard**
Density	**1240**	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	**350 - 400**	°C	-
Mold temperature	**135 - 165**	°C	-
Zone 1	**330 - 400**	°C	-
Zone 2	**340 - 400**	°C	-
Zone 3	**345 - 400**	°C	-
Nozzle temperature	**345 - 400**	°C	-
Screw speed	**40 - 70**	rpm	-
Back pressure	**0.3 - 0.7**	MPa	-

Characteristics

Processing
Injection Molding

Special Characteristics
Flame retardant, Opaque

Features
Creep Resistance

Certifications
RoHS compliant, ISCC Plus

Applications
Automotive, Electrical and Electronical

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