

Technical Data

Product Description

ULTEM™ Resin
2312 - Europe

30% Milled glass filled, enhanced flow Polyetherimide (Tg 217C). ECO Conforming, UL94 V0 and 5VA listing.

ISCC+ certified renewable bio-based solutions are available for this grade via differentiated color nomenclature.

Generic
PEI - Glass Fiber, Milled

This data represents typical values that have been calculated from all products classified as: Generic PEI - Glass Fiber, Milled

This information is provided for comparative purposes only.

General

ULTEM™ Resin 2312 - Europe

Generic PEI - Glass Fiber, Milled

Manufacturer / Supplier

- SABIC

- Generic

Generic Symbol

- PEI

- PEI

Material Status

- Commercial: Active

- Commercial: Active

Availability

- Europe

- Africa & Middle East
- Asia Pacific
- Europe
- Latin America
- North America

Filler / Reinforcement

- Milled Glass Fiber, 30% Filler by Weight

- Milled Glass Fiber

Features

- Amorphous
- Chemical Resistant
- Creep Resistant
- Electrically Insulating
- Flame Retardant
- Good Dimensional Stability
- Good Processability
- Halogen Free
- High Flow
- High Heat Resistance
- High Stiffness
- High Strength
- Hydrolytically Stable
- Low (to None) Ion Content
- Low Shrinkage
- Low Smoke Emission
- Low to No Outgassing
- Low Toxicity
- Low Warpage
- PFAS Free
- Platable
- Renewable Resource Content

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General	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled
Uses	<ul style="list-style-type: none"> • Aerospace Applications • Appliances • Automotive Lighting • Automotive Under the Hood • Building Materials • Cell Phones • Communication Applications • Computer Components • Consumer Applications • Drone Applications • Electrical Parts • Electrical/Electronic Applications • Eyeglasses • Furniture • Heavy Transportation • Housings • Hygiene • Industrial Applications • Labware • Lighting Applications • Material Handling • Medical/Healthcare Applications • Motorcycle Applications • Packaging • Personal Care • Pharmaceutical Packaging • Printer • Pump Parts • Rail Applications • Recreational Vehicle Applications • Speaker Applications • Sporting Goods • Surgical Instruments • Textile Applications • Thin-walled Parts • Water Management 	--
Agency Ratings	• ISCC PLUS	--
Processing Method	• Injection Molding	--
Also Available In	<ul style="list-style-type: none"> • Asia Pacific • Latin America • North America 	<ul style="list-style-type: none"> • Asia Pacific • Europe • Latin America • North America

Physical	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Density	1.51	--	g/cm ³	ISO 1183
Melt Volume-Flow Rate (MVR) (360°C/5.0 kg)	12	--	cm ³ /10min	ISO 1133
Molding Shrinkage				
--	--	0.50	%	ISO 294-4
Flow ²	0.20 to 0.40	--	%	Internal Method
Water Absorption				ISO 62
Saturation, 23°C	0.90	--	%	
Equilibrium, 23°C, 50% RH	0.50	--	%	



Mechanical	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Tensile Modulus	6000	--	MPa	ISO 527-1/1
Tensile Stress (Break)	85.0	--	MPa	ISO 527-2/5
Tensile Strain (Break)	3.0	--	%	ISO 527-2/5
Flexural Modulus ³	6000	--	MPa	ISO 178
Flexural Stress ^{3, 4}	145	--	MPa	ISO 178
Impact	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Charpy Notched Impact Strength (23°C)	4.0	--	kJ/m ²	ISO 179/2C
Charpy Unnotched Impact Strength ⁵				ISO 179/1eU
-30°C	25	--	kJ/m ²	
23°C	25	--	kJ/m ²	
Notched Izod Impact Strength ⁶ (-40°C)	5.0	--	kJ/m ²	ISO 180/1A
Unnotched Izod Impact Strength ⁶				ISO 180/1U
-30°C	20	--	kJ/m ²	
23°C	20	--	kJ/m ²	
Hardness	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Ball Indentation Hardness (H 358/30)	160	--	MPa	ISO 2039-1
Thermal	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Deflection Temperature Under Load				
0.45 MPa, Unannealed, 4.00 mm, 100 mm Span ⁷	206	--	°C	ISO 75-2/Be
1.8 MPa, Unannealed	--	199 to 207	°C	ASTM D648
1.8 MPa, Unannealed, 4.00 mm, 100 mm Span ⁷	192	--	°C	ISO 75-2/Ae
Vicat Softening Temperature				
--	213	--	°C	ISO 306/B120
--	211	--	°C	ISO 306/B50
--	220	--	°C	ISO 306/A50
--	--	211 to 213	°C	ISO 306
Ball Pressure Test (123 to 127°C)	Pass	--		IEC 60695-10-2
CLTE				ISO 11359-2
Flow : -40 to 150°C	2.3E-5	--	cm/cm/°C	
Transverse : -40 to 150°C	2.7E-5	--	cm/cm/°C	
Thermal Conductivity	0.30	--	W/m/K	ISO 8302
RTI Elec	170	--	°C	UL 746B
RTI Imp	170	--	°C	UL 746B
RTI Str	170	--	°C	UL 746B
Electrical	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Surface Resistivity	> 1.0E+15	--	ohms	IEC 60093
Volume Resistivity	1.0E+15	--	ohms-cm	IEC 60093
Relative Permittivity (1 MHz)	3.40	--		IEC 60250
Arc Resistance ⁸	PLC 7	--		ASTM D495
Comparative Tracking Index (CTI)	PLC 4	--		UL 746A
Comparative Tracking Index ⁹	150	--	V	IEC 60112
High Amp Arc Ignition (HAI)				UL 746A
> 0.8 mm	PLC 4	--		
> 3.0 mm	PLC 3	--		
High Voltage Arc Resistance to Ignition (HVAR)	PLC 0	--		UL 746A



Electrical	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Hot-wire Ignition (HWI)				UL 746A
> 0.8 mm	PLC 2	--		
> 3.0 mm	PLC 1	--		
Flammability	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	Test Method
Flame Rating (> 0.8 mm)	V-0	--		UL 94
Glow Wire Flammability Index (1.5 mm)	960	--	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (1.5 mm)	875	--	°C	IEC 60695-2-13
Injection	ULTEM™ Resin 2312 - Europe	Generic PEI - Glass Fiber, Milled	Unit	
Drying Temperature	150	--	°C	
Drying Time	4.0 to 6.0	--	hr	
Suggested Max Moisture	0.020	--	%	
Hopper Temperature	80 to 100	--	°C	
Rear Temperature	340 to 380	--	°C	
Middle Temperature	360 to 400	--	°C	
Front Temperature	370 to 410	--	°C	
Nozzle Temperature	360 to 400	--	°C	
Processing (Melt) Temp	360 to 400	--	°C	
Mold Temperature	140 to 180	--	°C	

Notes

¹ Typical properties: these are not to be construed as specifications.

² Tensile Bar

³ 2.0 mm/min

⁴ at Yield

⁵ 80*10*4 sp=62mm

⁶ 80*10*4 mm

⁷ 120*10*4 mm

⁸ Tungsten Electrode

⁹ Value shown here is based on internal measurement.

