

## Ultem\* Resin 2312

Americas: COMMERCIAL

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

### Property

TYPICAL PROPERTIES <sup>(1)</sup>			
	Value	Unit	Standard
<b>MECHANICAL</b>			
Tensile Stress, brk, Type I, 5 mm/min	103	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	3.5	%	ASTM D 638
Tensile Modulus, 5 mm/min	5990	MPa	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	179	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	6550	MPa	ASTM D 790
<b>IMPACT</b>			
Izod Impact, notched, 23°C	32	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	309	J/m	ASTM D 256
<b>THERMAL</b>			
HDT, 1.82 MPa, 6.4 mm, unannealed	207	°C	ASTM D 648
CTE, -20°C to 150°C, flow	2.34E-05	1/°C	ASTM E 831
CTE, -20°C to 150°C, xflow	2.7E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	170	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
<b>PHYSICAL</b>			
Specific Gravity	1.51	-	ASTM D 792
Water Absorption, 24 hours	0.18	%	ASTM D 570
Water Absorption, equilibrium, 23C	0.98	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.3 - 0.4	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.45 - 0.55	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	10.1	g/10 min	ASTM D 1238
<b>ELECTRICAL</b>			
Relative Permittivity, 1 kHz	3.7	-	ASTM D 150
Relative Permittivity, 1 MHz	3.49	-	ASTM D 150
Arc Resistance, Tungsten {PLC}	7	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94V-0 Flame Class Rating (3)	0.81	mm	UL 94

Source GMD, last updated:01/13/2000

### Processing

Parameter	Value	Unit
Injection Molding		
Drying Temperature	150	°C
Drying Time	4 - 6	hrs

Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	350 - 400	°C
Nozzle Temperature	345 - 400	°C
Front - Zone 3 Temperature	345 - 400	°C
Middle - Zone 2 Temperature	340 - 400	°C
Rear - Zone 1 Temperature	330 - 400	°C
Mold Temperature	135 - 165	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	40 - 70	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

Source GMD, last updated:01/13/2000

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR [\(LOCAL SALES OFFICE\)](#) FOR AVAILABILITY IN YOUR REGION

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

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