SABIC Innovative Plastics™

Ultem* Resin DU319

Americas: COMMERCIAL

Transparent Polyetherimide blend. ECO Conforming. US FDA and EU Food Contact Compliant in recognized colors.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	110	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	82	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	60	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D 638
Tensile Modulus, 5 mm/min	3370	MPa	ASTM D 638
Flexural Stress, yld, 2.6 mm/min, 100 mm span	165	MPa	ASTM D 790
Tensile Stress, yield, 5 mm/min	110	MPa	ISO 527
Tensile Stress, break, 5 mm/min	75	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	6	%	ISO 527
Tensile Strain, break, 5 mm/min	36	%	ISO 527
Tensile Modulus, 1 mm/min	3300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	155	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	26	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	950	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	40	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	4	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	3	kJ/m²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	181	°C	ASTM D 1525
HDT, 1.82 MPa, 6.4 mm, unannealed	165	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.86E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	4.86E-05	1/°C	ASTM E 831
Vicat Softening Temp, Rate B/50	177	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.29	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.6 - 0.7	%	SABIC Method
Melt Flow Rate, 295°C/6.6 kgf	8.1	g/10 min	ASTM D 1238
Density	1.3	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.5	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.17	%	ISO 62

Source GMD, last updated:2009/11/09

Processing

Parameter		
Injection Molding	Value	Unit
Drying Temperature	120 - 150	°C

Drying Time	4 - 8	hrs
Drying Time (Cumulative)	24	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	300 - 330	°C
Nozzle Temperature	300 - 330	°C
Front - Zone 3 Temperature	295 - 325	°C
Middle - Zone 2 Temperature	290 - 320	°C
Rear - Zone 1 Temperature	280 - 315	°C
Mold Temperature	95 - 150	°C
Back Pressure	0.7 - 1.4	MPa
Screw Speed	50 - 100	rpm
Shot to Cylinder Size	40 - 60	%
Vent Depth	0.025 - 0.076	mm

Source GMD, last updated:2009/11/09

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.
(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.