SABIC Innovative Plastics™

Ultem* Resin 4002

Americas: COMMERCIAL

PTFE filled, standard flow Polyetherimide (Tg 217C). ECO Conforming, UL 94 V0 and 5VA listing in recognized colors.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 5 mm/min	105	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	85	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	5	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	40	%	ASTM D 638
Tensile Modulus, 5 mm/min	3460	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	155	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3550	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	100	MPa	ISO 527
Tensile Stress, break, 50 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	6	%	ISO 527
Tensile Strain, break, 50 mm/min	25	%	ISO 527
Tensile Modulus, 1 mm/min	3300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	130	MPa	ISO 178
Flexural Modulus, 2 mm/min	3100	MPa	ISO 178
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	117	J/m	ASTM D 256
Izod Impact, notched, -30°C	120	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	380	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
THERMAL	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	219	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	197	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	200	°C	ASTM D 648
CTE, -40°C to 150°C, flow	3.9E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	4.E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	3.9E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	4.E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Passes	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	215	°C	ISO 306
Vicat Softening Temp, Rate B/120	210	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	190	°C	ISO 75/Ae
PHYSICAL	Value	Unit	Standard
Specific Gravity	1.33	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2)	0.6 - 0.8	%	SABIC Method
Mold Shrinkage, flow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	9.5	g/10 min	ASTM D 1238

Density	1.33	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	1.1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.6	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	13	cm³/10 min	ISO 1133
FLAME CHARACTERISTICS	Value	Unit	Standard
UL Recognized, 94V-0 Flame Class Rating (3)	0.4	mm	UL 94

Source GMD, last updated:04/02/2004

Processing

Parameter Injection Molding	Value	Unit
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	10	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	350 - 370	°C
Nozzle Temperature	350 - 370	°C
Front - Zone 3 Temperature	350 - 370	°C
Middle - Zone 2 Temperature	345 - 365	°C
Rear - Zone 1 Temperature	340 - 360	°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:04/02/2004

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.

or as a recommendation for the use of such material, product or design in the infringement of any patent or other intellectual property right

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