



ULTEM™ Resin DT1810EV
Americas: COMMERCIAL

Improved ductility, transparent, enhanced flow Polyetherimide blend (Tg 200C) with internal mold release and enhanced ductility. ECO Conforming, UL94 V0 listed.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1050	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	860	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	80	%	ASTM D 638
Tensile Modulus, 5 mm/min	32700	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1470	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	33800	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	98	MPa	ISO 527
Tensile Stress, break, 5 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	7	%	ISO 527
Tensile Strain, break, 5 mm/min	80	%	ISO 527
Tensile Modulus, 1 mm/min	2500	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	135	MPa	ISO 178
Flexural Modulus, 2 mm/min	3100	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	NB	cm-kgf/cm	ASTM D 4812
Izod Impact, unnotched, -30°C	NB	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	3	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	3	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	489	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	2	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	2	kJ/m ²	ISO 180/1A



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IMPACT			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	2	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	192	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	173	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	178	°C	ASTM D 648
CTE, -40°C to 150°C, flow	6.E-05	1/°C	ASTM E 831
CTE, -40°C to 150°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	5.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	5.5E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	192	°C	ISO 306
Vicat Softening Temp, Rate B/120	195	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	168	°C	ISO 75/Ae
PHYSICAL			
Specific Gravity	1.28	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Melt Flow Rate, 337°C/6.6 kgf	43	g/10 min	ASTM D 1238
Density	1.28	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.36	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	56	cm ³ /10 min	ISO 1133



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	135	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	330 - 355	°C
Nozzle Temperature	325 - 350	°C
Front - Zone 3 Temperature	330 - 355	°C
Middle - Zone 2 Temperature	320 - 345	°C
Rear - Zone 1 Temperature	310 - 330	°C
Mold Temperature	95 - 135	°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