

# ULTEM™ RESIN DT1810EV

REGION ASIA

## DESCRIPTION

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

## TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, yld, Type I, 5 mm/min	103	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	7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	80	%	ASTM D 638
Tensile Modulus, 5 mm/min	3210	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	145	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	3320	MPa	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
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	NB	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	NB	J/m	ASTM D 4812
Izod Impact, notched, 23°C	32	J/m	ASTM D 256
Izod Impact, notched, -30°C	35	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	48	J	ASTM D 3763
Izod Impact, notched 80°10*4 +23°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Izod Impact, notched 80°10*4 -30°C	2	kJ/m <sup>2</sup>	ISO 180/1A
Charpy 23°C, V-notch Edgew 80°10*4 sp=62mm	2	kJ/m <sup>2</sup>	ISO 179/1eA
<b>THERMAL</b>			
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

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>PHYSICAL</b>			
Specific Gravity	1.28	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	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 <sup>3</sup>	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 <sup>3</sup> /10 min	ISO 1133
<b>INJECTION MOLDING</b>			
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	

## DISCLAIMER

Any sale by SABIC, its subsidiaries and affiliates (each a "seller"), is made exclusively under seller's standard conditions of sale (available upon request) unless agreed otherwise in writing and signed on behalf of the seller. While the information contained herein is given in good faith, SELLER MAKES NO WARRANTY, EXPRESS OR IMPLIED, INCLUDING MERCHANTABILITY AND NONINFRINGEMENT OF INTELLECTUAL PROPERTY, NOR ASSUMES ANY LIABILITY, DIRECT OR INDIRECT, WITH RESPECT TO THE PERFORMANCE, SUITABILITY OR FITNESS FOR INTENDED USE OR PURPOSE OF THESE PRODUCTS IN ANY APPLICATION. Each customer must determine the suitability of seller materials for the customer's particular use through appropriate testing and analysis. No statement by seller concerning a possible use of any product, service or design is intended, or should be construed, to grant any license under any patent or other intellectual property right.