ULTEM™ RESIN 2200F

REGION AMERICAS

DESCRIPTION

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C). ECO Conforming. US FDA Food Contact compliant in recognized colors.

INDUSTRY	SUB INDUSTRY
Consumer	Home Decoration, Personal Accessory, Home Appliances, Personal Recreation, Commercial Appliance
Packaging	Flexible Packaging, Food & Beverage, Consumer Packaging

TYPICAL PROPERTY VALUES

Revision 20190925

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	131	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	131	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	6890	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	225	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	6850	MPa	ASTM D 790
Hardness, Rockwell M	114	-	ASTM D 785
Tensile Stress, yield, 5 mm/min	131	MPa	ISO 527
Tensile Stress, break, 5 mm/min	131	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	6890	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	228	MPa	ISO 178
Flexural Modulus, 2 mm/min	6500	MPa	ISO 178
IMPACT			
Izod Impact, unnotched, 23°C	480	J/m	ASTM D 4812
Izod Impact, notched, 23°C	64	J/m	ASTM D 256
Izod Impact, notched, -30°C	70	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	464	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	8	J	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	64	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	70	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	65	kJ/m²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	208	°C	ASTM D 648
CTE, -40°C to 150°C, xflow	6.E-05	1/°C	ASTM E 831
CTE, -20°C to 150°C, flow	2.5E-05	1/°C	ASTM E 831
CTE, 23°C to 150°C, flow	2.5E-05	1/°C	ISO 11359-2

© 2019 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
CTE, 23°C to 150°C, xflow	6.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	212	°C	ISO 306
Vicat Softening Temp, Rate B/120	218	°C	ISO 306
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	205	°C	ISO 75/Ae
Relative Temp Index, Elec [1]	170	°C	UL 746B
Relative Temp Index, Mech w/impact [1]	170	°C	UL 746B
Relative Temp Index, Mech w/o impact [1]	170	°C	UL 746B
PHYSICAL			
Specific Gravity	1.42	-	ASTM D 792
Water Absorption, 24 hours	0.19	%	ASTM D 570
Water Absorption, equilibrium, 23C	1.1	%	ASTM D 570
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.5	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.3 – 0.5	%	SABIC method
Melt Flow Rate, 337°C/6.6 kgf	6	g/10 min	ASTM D 1238
Density	1.42	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	1	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.55	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	7	cm³/10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	7.E+16	Ohm-cm	ASTM D 257
Dielectric Strength, in oil, 1.6 mm	26.3	kV/mm	ASTM D 149
Relative Permittivity, 1 kHz	3.5	-	ASTM D 150
Dissipation Factor, 1 kHz	0.0015	-	ASTM D 150
Dissipation Factor, 2450 MHz	0.0049	-	ASTM D 150
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A
Hot-Wire Ignition (HWI), PLC 1	≥3	mm	UL 746A
Hot-Wire Ignition (HWI), PLC 2	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 3	≥1.5	mm	UL 746A
High Amp Arc Ignition (HAI), PLC 4	≥3	mm	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
FLAME CHARACTERISTICS [1]			
UL Yellow Card Link	E121562-221093	-	-
UL Recognized, 94-5VA Flame Class Rating	≥1.9	mm	UL 94
UL Recognized, 94V-0 Flame Class Rating	≥0.41	mm	UL 94
Oxygen Index (LOI)	50	%	ASTM D 2863
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	

© 2019 Copyright by SABIC. All rights reserved

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
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	

(1) UL Ratings shown on the technical datasheet might not cover the full range of thicknesses and colors. For details, please see the UL Yellow Card.

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.

© 2019 Copyright by SABIC. All rights reserved