

# ULTEM™ RESIN 2200R

REGION ASIA

## DESCRIPTION

20% Glass fiber filled, standard flow Polyetherimide (Tg 217C) with internal mold release. ECO Conforming, UL94 V0 and 5VA listing.

## TYPICAL PROPERTY VALUES

Revision 20180905

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>MECHANICAL</b>			
Tensile Stress, brk, Type I, 5 mm/min	131	MPa	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	4	%	ASTM D 638
Tensile Modulus, 5 mm/min	6890	MPa	ASTM D 638
Flexural Stress, brk, 2.6 mm/min, 100 mm span	227	MPa	ASTM D 790
Flexural Modulus, 2.6 mm/min, 100 mm span	6890	MPa	ASTM D 790
Hardness, Rockwell M	114	-	ASTM D 785
<b>IMPACT</b>			
Izod Impact, unnotched, 23°C	480	J/m	ASTM D 4812
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, Reverse Notched, 3.2 mm	512	J/m	ASTM D 256
<b>THERMAL</b>			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	210	°C	ASTM D 648
CTE, -20°C to 150°C, flow	2.52E-05	1/°C	ASTM E 831
Relative Temp Index, Elec	170	°C	UL 746B
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
<b>PHYSICAL</b>			
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
Melt Flow Rate, 337°C/6.6 kgf	6.5	g/10 min	ASTM D 1238
<b>ELECTRICAL</b>			
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
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	2	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	4	PLC Code	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
<b>FLAME CHARACTERISTICS</b>			
UL Recognized, 94V-0 Flame Class Rating	0.41	mm	UL 94
UL Recognized, 94-5VA Rating	1.9	mm	UL 94
Oxygen Index (LOI)	50	%	ASTM D 2863
NBS Smoke Density, Flaming, Ds 4 min	1.3	-	ASTM E 662
<b>INJECTION MOLDING</b>			
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	
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	

## 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 NON-INFRINGEMENT 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.