

ULTEM™ RESIN 2200R

REGION EUROPE

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 20180524

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	17	mg/1000cy	SABIC method
Tensile Stress, break, 5 mm/min	140	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	6800	MPa	ISO 527
Flexural Stress, break, 2 mm/min	210	MPa	ISO 178
Flexural Modulus, 2 mm/min	6500	MPa	ISO 178
Hardness, H358/30	150	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched, 23°C	480	J/m	ASTM D 4812
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	30	kJ/m ²	ISO 180/1U
Charpy Impact, notched, 23°C	9	kJ/m ²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	220	°C	ASTM D 1525
Thermal Conductivity	0.28	W/m-°C	ISO 8302
CTE, 23°C to 150°C, flow	2.5E-05	1/°C	ISO 11359-2
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 A/50	223	°C	ISO 306
Vicat Softening Temp, Rate B/50	212	°C	ISO 306
Vicat Softening Temp, Rate B/120	218	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	210	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	205	°C	ISO 75/Ae
Relative Temp Index, Elec	170	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Relative Temp Index, Mech w/impact	170	°C	UL 746B
Relative Temp Index, Mech w/o impact	170	°C	UL 746B
PHYSICAL			
Specific Gravity	1.42	-	ASTM D 792
Water Absorption, 24 hours	0.19	%	ASTM D 570
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.3 – 0.5	%	SABIC method
Density	1.42	g/cm ³	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	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	34	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	26	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	16	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0008	-	IEC 60250
Dissipation Factor, 1 MHz	0.0025	-	IEC 60250
Dissipation Factor, 2450 MHz	0.0049	-	IEC 60250
Relative Permittivity, 50/60 Hz	3.1	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.41	mm	UL 94
UL Recognized, 94-5VA Rating (3)	1.9	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	46	%	ISO 4589
INJECTION MOLDING			
Drying Temperature	150	°C	
Drying Time	4 – 6	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	370 – 410	°C	
Nozzle Temperature	360 – 410	°C	
Front - Zone 3 Temperature	370 – 420	°C	
Middle - Zone 2 Temperature	360 – 410	°C	
Rear - Zone 1 Temperature	350 – 400	°C	
Hopper Temperature	80 – 120	°C	
Mold Temperature	140 – 180	°C	



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