



ULTEM™ Resin 2400F

Europe-Africa-Middle East: COMMERCIAL

40% Glass fiber filled, standard flow Polyetherimide (Tg 217°C). Resin is RoHS compliant. UL94 V0 listing. US FDA and European Food Contact approved. Effective June, 2007 this grade will no longer be supported with biocompatibility information and should not be used for medical applications which require biocompatibility. Alternative grade HU2400.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Taber Abrasion, CS-17, 1 kg	20	mg/1000cy	SABIC Method
Tensile Stress, break, 5 mm/min	180	MPa	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	11500	MPa	ISO 527
Flexural Stress, break, 2 mm/min	240	MPa	ISO 178
Flexural Modulus, 2 mm/min	10000	MPa	ISO 178
Hardness, H358/30	170	MPa	ISO 2039-1
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	35	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	35	kJ/m ²	ISO 180/1U
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	40	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	40	kJ/m ²	ISO 179/1eU
THERMAL			
Thermal Conductivity	0.33	W/m·°C	ISO 8302
CTE, 23°C to 150°C, flow	1.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	4.5E-05	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	230	°C	ISO 306
Vicat Softening Temp, Rate B/50	217	°C	ISO 306
Vicat Softening Temp, Rate B/120	225	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	215	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	210	°C	ISO 75/Ae
PHYSICAL			
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.1 - 0.3	%	SABIC Method

(1) Typical values only. Variations within normal tolerances are possible for various colors. All values are measured after at least 48 hours storage at 23°C/50% relative humidity. All properties, except the melt volume and melt flow rates, are measured on injection molded samples. All samples tested under ISO test standards are prepared according to ISO 294.

(2) Only typical data for selection purposes. Not to be used for part or tool design.

(3) This rating is not intended to reflect hazards presented by this or any other material under actual fire conditions.

(4) Internal measurements according to UL standards.

(5) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.

(6) Needs hard coat to consistently pass 60 sec Vertical Burn.

Source GMD, last updated:

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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
PHYSICAL			
Density	1.61	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.8	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.4	%	ISO 62
Melt Volume Rate, MVR at 360°C/5.0 kg	5	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	35	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	3.1	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.002	-	IEC 60250
Dissipation Factor, 1 MHz	0.001	-	IEC 60250
Comparative Tracking Index	150	V	IEC 60112
Comparative Tracking Index, M	100	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
FLAME CHARACTERISTICS			
Glow Wire Flammability Index 960°C, passes at	3.2	mm	IEC 60695-2-12
Oxygen Index (LOI)	48	%	ISO 4589

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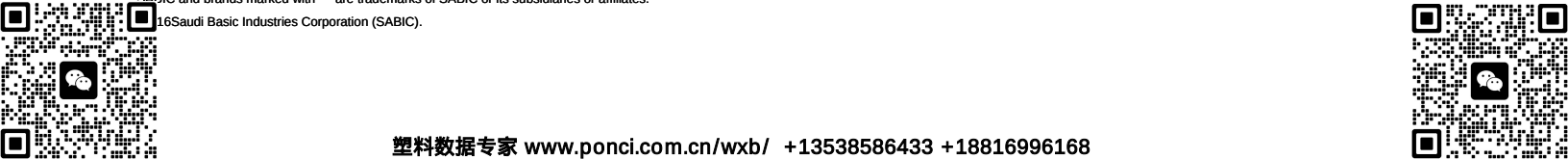
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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	150	°C
Drying Time	4 - 6	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	370 - 410	°C
Nozzle Temperature	370 - 410	°C
Front - Zone 3 Temperature	380 - 420	°C
Middle - Zone 2 Temperature	370 - 410	°C
Rear - Zone 1 Temperature	350 - 390	°C
Hopper Temperature	80 - 100	°C
Mold Temperature	140 - 180	°C

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