



XENOY™ Resin 5220U
Americas: COMMERCIAL

Unreinforced PBT+PC Alloy. Impact Modified. Improved retention of mechanical properties under UV exposure. Excellent low temperature impact and chemical resistance.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	540	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	520	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	120	%	ASTM D 638
Tensile Modulus, 50 mm/min	22900	kgf/cm ²	ASTM D 638
Tensile Modulus, 5 mm/min	22900	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	850	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	20600	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 50 mm/min	50	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	4	%	ISO 527
Tensile Strain, break, 50 mm/min	120	%	ISO 527
Tensile Modulus, 1 mm/min	2050	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	80	MPa	ISO 178
Flexural Modulus, 2 mm/min	2000	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	72	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	54	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -40°C	30	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	611	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	50	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	30	kJ/m ²	ISO 180/1A

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 (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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IMPACT			
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	55	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	122	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	84	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	107	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	99	°C	ASTM D 648
CTE, -40°C to 40°C, flow	9.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	9.5E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	9.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	120	°C	ISO 306
Vicat Softening Temp, Rate B/120	125	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	75	°C	ISO 75/Af
Relative Temp Index, Elec	75	°C	UL 746B
Relative Temp Index, Mech w/impact	75	°C	UL 746B
Relative Temp Index, Mech w/o impact	75	°C	UL 746B
PHYSICAL			
Specific Gravity	1.21	-	ASTM D 792
Specific Volume	0.83	cm ³ /g	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.8 - 1	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2) (5)	0.8 - 1	%	SABIC Method
Density	1.22	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.5	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.15	%	ISO 62
Melt Flow Rate, 250°C/5.0 kg	16	g/10 min	ISO 1133

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PHYSICAL			
Melt Volume Rate, MVR at 250°C/5.0 kg	15	cm ³ /10 min	ISO 1133
ELECTRICAL			
Arc Resistance, Tungsten {PLC}	5	PLC Code	ASTM D 495
Hot Wire Ignition {PLC}	3	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	0	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating (3)	1.5	mm	UL 94
UV-light, water exposure/immersion	F2	-	UL 746C

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- Dry for recommended time and temperature as overdrying can cause loss of physical properties and/or create appearance defects.

PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	110	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	260 - 275	°C
Nozzle Temperature	255 - 270	°C
Front - Zone 3 Temperature	255 - 275	°C
Middle - Zone 2 Temperature	250 - 270	°C
Rear - Zone 1 Temperature	245 - 265	°C
Mold Temperature	65 - 90	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	50 - 80	rpm
Shot to Cylinder Size	50 - 80	%
Vent Depth	0.013 - 0.02	mm
Sheet Extrusion		
Drying Temperature	110 - 115	°C
Drying Time	4 - 6	hrs
Drying Time (Cumulative)	8	hrs
Maximum Moisture Content	0 - 0.02	%
Melt Temperature	245 - 275	°C
Barrel - Zone 1 Temperature	170 - 205	°C
Barrel - Zone 2 Temperature	195 - 255	°C
Barrel - Zone 3 Temperature	205 - 280	°C
Barrel - Zone 4 Temperature	205 - 280	°C
Adapter Temperature	225 - 280	°C
Die Temperature	230 - 280	°C
Roll Stack Temp - Top	70 - 80	°C
Roll Stack Temp - Middle	75 - 80	°C

- Purge material from extruder prior to shutdown.

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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Sheet Extrusion		
Roll Stack Temp - Bottom	80 - 95	°C

- Purge material from extruder prior to shutdown.

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