XENOY™ RESIN X4850

REGION EUROPE

DESCRIPTION

XENOY X4850 is a 12% mineral filled PC/PBT blend with low CTE, high modulus, high ductile PC/PBT blend. Furthermore, this resin provides high chemical resistance, very low creep, excellent fatigue and high heat dimensional stability. XENOY X4850 could be positioned for body panels, window rails, safety equipment, housings, door handles, spring-loaded applications, medical device enclosures, EV electric vehicle components.

TYPICAL PROPERTY VALUES

Revision 20200806

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D638
Tensile Stress, brk, Type I, 50 mm/min	55	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	58	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	60	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	3.7	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	130	%	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.8	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	140	%	ASTM D638
Tensile Modulus, 5 mm/min	4000	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	99	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3700	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	30	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	58	MPa	ISO 527
Tensile Stress, break, 5 mm/min	50	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	63	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.4	%	ISO 527
Tensile Strain, break, 5 mm/min	80	%	ISO 527
Tensile Strain, yield, 50 mm/min	3.5	%	ISO 527
Tensile Strain, break, 50 mm/min	30	%	ISO 527
Tensile Modulus, 1 mm/min	3850	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	94	MPa	ISO 178
Flexural Modulus, 2 mm/min	3500	MPa	ISO 178
Ball Indentation Hardness, H358/30	105	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	180	J/m	ASTM D256
Izod Impact, notched, 0°C	120	J/m	ASTM D256
Izod Impact, notched, -30°C	100	J/m	ASTM D256
Multiaxial Impact	100	J	ISO 6603
Instrumented Dart Impact Total Energy, 23°C	60	J	ASTM D3763
Instrumented Impact Total Energy, -20°C	60	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	20	kJ/m²	ISO 180/1A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Izod Impact, notched 80*10*4 0°C	11	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	20	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	134	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	125	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	101	°C	ASTM D648
CTE, -40°C to 40°C, flow	5.2E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	7.5E-05	1/°C	ASTM E831
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -30°C to 80°C, flow	6.3E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	8.1E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	133	°C	ISO 306
Vicat Softening Temp, Rate B/120	135	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	121	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	99	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.31	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.7 – 0.9	%	SABIC method
Melt Flow Rate, 266°C/5.0 kgf	4.5	g/10 min	ASTM D1238
Density	1.31	g/cm³	ISO 1183
Water Absorption, (23°C/saturated)	0.42	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.14	%	ISO 62
Melt Volume Rate, MVR at 265°C/5.0 kg	4	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	90 – 100	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	255 – 270	°C	
Nozzle Temperature	250 – 265	°C	
Front - Zone 3 Temperature	250 – 270	°C	
Middle - Zone 2 Temperature	240 – 265	°C	
Rear - Zone 1 Temperature	230 – 250	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	60 – 80	°C	

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