

XENOY™ RESIN X4870HH

REGION AMERICAS

DESCRIPTION

XENOY X4870HH is a high heat, very high modulus and ductile PC/PET blend. Furthermore this resin provides chemical resistance, very low creep, low CTE, excellent fatigue and high heat dimensional stability. The X4870HH could be positioned for body panels, housings, medical device enclosures, outdoor sports equipment.

TYPICAL PROPERTY VALUES

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	50	MPa	ASTM D638
Tensile Stress, yld, Type I, 5 mm/min	61	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	45	MPa	ASTM D638
Tensile Strain, yld, Type I, 50 mm/min	3.3	%	ASTM D638
Tensile Strain, brk, Type I, 50 mm/min	30	%	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3.7	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D638
Tensile Modulus, 5 mm/min	4600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	104	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	4250	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	30	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	63	MPa	ISO 527
Tensile Stress, break, 5 mm/min	45	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	67	MPa	ISO 527
Tensile Stress, break, 50 mm/min	45	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.6	%	ISO 527
Tensile Strain, break, 5 mm/min	10	%	ISO 527
Tensile Strain, yield, 50 mm/min	3.8	%	ISO 527
Tensile Strain, break, 50 mm/min	10	%	ISO 527
Tensile Modulus, 1 mm/min	4300	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	98	MPa	ISO 178
Flexural Modulus, 2 mm/min	4000	MPa	ISO 178
Ball Indentation Hardness, H358/30	105	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	90	J/m	ASTM D256
Izod Impact, notched, 0°C	80	J/m	ASTM D256
Izod Impact, notched, -30°C	70	J/m	ASTM D256
Multiaxial Impact	90	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, notched 80*10*4 +23°C	10	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	kJ/m²	ISO 180/1A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	11	kJ/m²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	137	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	132	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	113	°C	ASTM D648
CTE, -40°C to 40°C, flow	4.3E-05	1/°C	ASTM E831
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ASTM E831
Thermal Conductivity	0.2	W/m·°C	ISO 8302
CTE, -30°C to 80°C, flow	4.8E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	6.8E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	137	°C	ISO 306
Vicat Softening Temp, Rate B/120	139	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	131	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	113	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.34	-	ASTM D792
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Melt Flow Rate, 266°C/5.0 kgf	8	g/10 min	ASTM D1238
Density	1.34	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	7	cm³/10 min	ISO 1133
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	265 – 275	°C	
Nozzle Temperature	260 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	250 – 275	°C	
Rear - Zone 1 Temperature	240 – 270	°C	
Hopper Temperature	60 – 80	°C	
Mold Temperature	60 – 100	°C	