SABIC Innovative Plastics™

Xenoy* Resin X4870HH

Americas: COMMERCIAL

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 fatique and high heat dimensional stability. The X4870HH could be positioned for body panels, housings, medical device enclosures, outdoor sports equipment.

Property

TYPICAL PROPERTIES (1)			
MECHANICAL	Value	Unit	Standard
Tensile Stress, yld, Type I, 50 mm/min	65	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	50	MPa	ASTM D 638
Tensile Stress, yld, Type I, 5 mm/min	61	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	45	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3.3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	30	%	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	60	%	ASTM D 638
Tensile Modulus, 5 mm/min	4600	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	104	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	4250	MPa	ASTM D 790
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
Hardness, H358/30	105	MPa	ISO 2039-1
IMPACT	Value	Unit	Standard
Izod Impact, notched, 23°C	90	J/m	ASTM D 256
Izod Impact, notched, 0°C	80	J/m	ASTM D 256
Izod Impact, notched, -30°C	70	J/m	ASTM D 256
Multiaxial Impact	90	J	ISO 6603
Instrumented Impact Total Energy, 23°C	60	J	ASTM D 3763
Instrumented Impact Total Energy, -20°C	60	J	ASTM D 3763
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
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	Value	Unit	Standard
Vicat Softening Temp, Rate B/50	137	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	132	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	113	°C	ASTM D 648
CTE, -40°C to 40°C, flow	4.3E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	6.4E-05	1/°C	ASTM E 831
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	Value	Unit	Standard
Specific Gravity	1.34	-	ASTM D 792
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 D 1238
Density	1.34	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.42	%	ISO 62
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

Source GMD, last updated:11/03/2006

Processing

Parameter Injection Molding	Value	Unit
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

Source GMD, last updated:11/03/2006

THESE PROPERTY VALUES ARE NOT INTENDED FOR SPECIFICATION PURPOSES.

PLEASE CHECK WITH YOUR (LOCAL SALES OFFICE) FOR AVAILABILITY IN YOUR REGION

(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.

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