

Xenoy* Resin X4810

Americas: COMMERCIAL

Xenoy X4810 is a hydrostable, High Modulus Ductile PC/PBT blend. This resin provides low temperature (below 0C) ductile impact behaviour, high chemical resistance, very low creep, low CTE, excellent fatigue and high heat dimensional stability. The X4810 could be positioned for body panels, safety equipment, housings, doorhandles, spring-loaded applications, medical device enclosures, outdoor sports equipment.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	58	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	60	MPa	ASTM D 638
Tensile Stress, yld, Type I, 5 mm/min	55	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	65	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	4.5	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	150	%	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	4.7	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	150	%	ASTM D 638
Tensile Modulus, 5 mm/min	2900	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	93	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2700	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	30	mg/1000cy	SABIC Method
Tensile Stress, yield, 5 mm/min	55	MPa	ISO 527
Tensile Stress, break, 5 mm/min	55	MPa	ISO 527
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	55	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	4.1	%	ISO 527
Tensile Strain, break, 5 mm/min	100	%	ISO 527
Tensile Strain, yield, 50 mm/min	4.1	%	ISO 527
Tensile Strain, break, 50 mm/min	100	%	ISO 527
Tensile Modulus, 1 mm/min	2750	MPa	ISO 527



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
MECHANICAL			
Flexural Stress, yield, 2 mm/min	87	MPa	ISO 178
Flexural Modulus, 2 mm/min	2500	MPa	ISO 178
Hardness, H358/30	105	MPa	ISO 2039-1
IMPACT			
Izod Impact, notched, 23°C	750	J/m	ASTM D 256
Izod Impact, notched, 0°C	500	J/m	ASTM D 256
Izod Impact, notched, -30°C	150	J/m	ASTM D 256
Multiaxial Impact	110	J	ISO 6603
Instrumented Impact Total Energy, 23°C	70	J	ASTM D 3763
Instrumented Impact Total Energy, -20°C	70	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	NB	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	50	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	20	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	12	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	50	kJ/m ²	ISO 179/1eA
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	15	kJ/m ²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	NB	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate B/50	131	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	120	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	98	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.9E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	8.3E-05	1/°C	ASTM E 831



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	UNIT	STANDARD
THERMAL			
Thermal Conductivity	0.2	W/m-°C	ISO 8302
CTE, -30°C to 80°C, flow	8.E-05	1/°C	ISO 11359-2
CTE, -30°C to 80°C, xflow	9.E-05	1/°C	ISO 11359-2
Vicat Softening Temp, Rate B/50	131	°C	ISO 306
Vicat Softening Temp, Rate B/120	133	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	115	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	91	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.25	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm	0.7 - 0.9	%	SABIC Method
Melt Flow Rate, 266°C/5.0 kgf	12	g/10 min	ASTM D 1238
Density	1.25	g/cm ³	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	10	cm ³ /10 min	ISO 1133



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PROCESSING PARAMETERS	TYPICAL VALUE	UNIT
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

