



VALOX™ Resin V4860HR
Americas: COMMERCIAL

30% glass reinforced PBT, UL94 V-0 rated, Hydrolytically stable, Impact Modified.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1180	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	1170	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.3	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.3	%	ASTM D 638
Tensile Modulus, 5 mm/min	99400	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1770	kgf/cm ²	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	30	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	68700	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	111	MPa	ISO 527
Tensile Stress, break, 5 mm/min	110	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.1	%	ISO 527
Tensile Strain, break, 5 mm/min	2.2	%	ISO 527
Tensile Modulus, 1 mm/min	9440	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	183	MPa	ISO 178
Flexural Stress, break, 2 mm/min	182	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2.9	%	ISO 178
Flexural Modulus, 2 mm/min	7870	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	9	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	7	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	136	cm-kgf	ASTM D 3763
Izod Impact, notched 80*10*4 +23°C	10	kJ/m ²	ISO 180/1A



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
IMPACT			
Izod Impact, notched 80*10*4 -30°C	8	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	10	kJ/m ²	ISO 179/1eA
THERMAL			
Vicat Softening Temp, Rate B/50	176	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	197	°C	ASTM D 648
HDT, 0.45 MPa, 6.4 mm, unannealed	221	°C	ASTM D 648
HDT, 1.82 MPa, 6.4 mm, unannealed	205	°C	ASTM D 648
CTE, -40°C to 95°C, flow	2.35E-05	1/°C	ASTM E 831
CTE, -40°C to 95°C, xflow	1.14E-04	1/°C	ASTM E 831
CTE, 23°C to 80°C, flow	2.28E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	1.19E-04	1/°C	ISO 11359-2
Ball Pressure Test, approximate maximum	75	°C	IEC 60695-10-2
Vicat Softening Temp, Rate B/50	176	°C	ISO 306
Vicat Softening Temp, Rate B/120	175	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	188	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.64	-	ASTM D 792
Mold Shrinkage, flow, 3.2 mm (5)	0.5 - 0.7	%	SABIC Method
Mold Shrinkage, xflow, 3.2 mm (5)	0.5 - 1	%	SABIC Method
Melt Flow Rate, 250°C/5.0 kgf	17.8	g/10 min	ASTM D 1238
Density	1.64	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.19	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.06	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	12	cm ³ /10 min	ISO 1133
FLAME CHARACTERISTICS			
UL Compliant, 94V-0 Flame Class Rating (3)(4)	0.8	mm	UL 94 by SABIC-IP



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	120	°C
Drying Time	3 - 4	hrs
Drying Time (Cumulative)	12	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	230 - 260	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	240 - 260	°C
Middle - Zone 2 Temperature	230 - 250	°C
Rear - Zone 1 Temperature	220 - 240	°C
Mold Temperature	60 - 120	°C
Back Pressure	0.3 - 0.7	MPa
Screw Speed	20 - 100	rpm
Shot to Cylinder Size	30 - 70	%
Vent Depth	0.025 - 0.038	mm