



VALOX™ Resin SHF4910

Europe-Africa-Middle East: COMMERCIAL

6.5% glass reinforced, Super High Flow, flame retardant PBT.

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	670	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	670	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	3.1	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	3.1	%	ASTM D 638
Tensile Modulus, 5 mm/min	42900	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1190	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	37200	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	73	MPa	ISO 527
Tensile Stress, break, 5 mm/min	73	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3.5	%	ISO 527
Tensile Strain, break, 5 mm/min	3.5	%	ISO 527
Tensile Modulus, 1 mm/min	4350	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	115	MPa	ISO 178
Flexural Modulus, 2 mm/min	3650	MPa	ISO 178
IMPACT			
Charpy Impact, unnotched, 23°C	32	kJ/m ²	ISO 179/2C
Charpy Impact, unnotched, -30°C	27	kJ/m ²	ISO 179/2C
Izod Impact, unnotched, 23°C	49	cm-kgf/cm	ASTM D 4812
Izod Impact, unnotched, -30°C	32	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	3	cm-kgf/cm	ASTM D 256
Instrumented Impact Total Energy, 23°C	489	cm-kgf	ASTM D 3763



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IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	26	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	21	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	4	kJ/m ²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	5	kJ/m ²	ISO 179/1eA
Charpy Impact, notched, 23°C	5	kJ/m ²	ISO 179/2C
Charpy Impact, notched, -30°C	5	kJ/m ²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate A/50	216	°C	ASTM D 1525
Vicat Softening Temp, Rate B/50	191	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	200	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	160	°C	ASTM D 648
CTE, -40°C to 40°C, flow	5.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	9.5E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, flow	6.3E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	1.04E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	Pass	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	217	°C	ISO 306
Vicat Softening Temp, Rate B/50	192	°C	ISO 306
Vicat Softening Temp, Rate B/120	195	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	145	°C	ISO 75/Af
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	120	°C	UL 746B
Relative Temp Index, Mech w/o impact	130	°C	UL 746B



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PHYSICAL			
Specific Gravity	1.46	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.7 - 1.3	%	SABIC Method
Mold Shrinkage, flow, 3.2 mm (5)	0.7 - 1.3	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2) (5)	1.1 - 1.7	%	SABIC Method
Melt Flow Rate, 250°C/2.16 kgf	31	g/10 min	ASTM D 1238
Density	1.46	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.26	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Flow Rate, 250°C/2.16 kg	31	g/10 min	ISO 1133
Melt Volume Rate, MVR at 250°C/2.16 kg	25	cm ³ /10 min	ISO 1133
Melt Viscosity, 250°C, 1500 sec-1	110	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+13	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	50	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	30.7	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Dissipation Factor, 1 MHz	0.015	-	IEC 60250
Comparative Tracking Index	275	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.8	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1	mm	IEC 60695-2-12
Oxygen Index (LOI)	27	%	ISO 4589



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
Injection Molding		
Drying Temperature	110 - 120	°C
Drying Time	2 - 4	hrs
Maximum Moisture Content	0.02	%
Melt Temperature	250 - 270	°C
Nozzle Temperature	240 - 260	°C
Front - Zone 3 Temperature	245 - 265	°C
Middle - Zone 2 Temperature	240 - 255	°C
Rear - Zone 1 Temperature	230 - 245	°C
Hopper Temperature	40 - 60	°C
Mold Temperature	40 - 100	°C