



VALOX™ Resin V3500EX

Europe-Africa-Middle East: COMMERCIAL

Unfilled PBT, Flame Retardant, good flow, high elongation at break for Extrusion applications (Monofilaments, Insulation Cables), Electrical Parts and Connectors

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	610	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	400	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	15	%	ASTM D 638
Tensile Modulus, 50 mm/min	31600	kgf/cm ²	ASTM D 638
Tensile Stress, yield, 50 mm/min	60	MPa	ISO 527
Tensile Stress, break, 50 mm/min	50	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	>70	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	95	MPa	ISO 178
Flexural Modulus, 2 mm/min	2850	MPa	ISO 178
Hardness, H358/30	170	MPa	ISO 2039-1
Hardness, Rockwell R	118	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	95	kJ/m ²	ISO 179/2C
Charpy Impact, unnotched, -30°C	80	kJ/m ²	ISO 179/2C
Izod Impact, unnotched, 23°C	96	cm-kgf/cm	ASTM D 4812
Izod Impact, unnotched, -30°C	84	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, notched, 0°C	4	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	4	cm-kgf/cm	ASTM D 256



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
IMPACT			
Izod Impact, unnotched 80*10*4 +23°C	60	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	60	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	6	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	6	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	6	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	6	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	220	°C	ASTM D 1525
Vicat Softening Temp, Rate B/50	180	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	165	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	80	°C	ASTM D 648
CTE, -40°C to 40°C, flow	6.01E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	7.4E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	1.9E-04	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.42E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/50	180	°C	ISO 306
Vicat Softening Temp, Rate B/120	180	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	165	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	80	°C	ISO 75/Af
Relative Temp Index, Elec	75	°C	UL 746B



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THERMAL			
Relative Temp Index, Mech w/impact	75	°C	UL 746B
Relative Temp Index, Mech w/o impact	75	°C	UL 746B
PHYSICAL			
Specific Gravity	1.5	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	1.1 - 1.8	%	SABIC Method
Mold Shrinkage on Tensile Bar, xflow (2) (5)	0.9 - 1.8	%	SABIC Method
Melt Flow Rate, 265°C/5.0 kgf	50	g/10 min	ASTM D 1238
Melt Flow Rate, 266°C/5.0 kgf	50	g/10 min	ASTM D 1238
Density	1.5	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.35	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.08	%	ISO 62
Melt Volume Rate, MVR at 250°C/2.16 kg	13	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 250°C/5.0 kg	13	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	40	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	170	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Dielectric Strength, in oil, 1.6 mm	39	kV/mm	ASTM D 149
Dielectric Strength, in oil, 3.2 mm	21	kV/mm	ASTM D 149
Relative Permittivity, 1 MHz	2.9	-	ASTM D 150
Dissipation Factor, 1 MHz	0.016	-	ASTM D 150
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 0.8 mm	62	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	39	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	21	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	2.9	-	IEC 60250
Dissipation Factor, 1 MHz	0.016	-	IEC 60250



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TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
ELECTRICAL Comparative Tracking Index	225	V	IEC 60112
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	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