VALOX™ RESIN VX4930

REGION EUROPE

DESCRIPTION

VALOX VX4930 is a 30% glass reinforced nucleated PBT/ASA blend with excellent mechanical properties, high dimensional stability and low density. Applications: connectors and automotive industry.

TYPICAL PROPERTY VALUES

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	125	MPa	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	2.8	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2.8	%	ASTM D 638
Tensile Modulus, 5 mm/min	9500	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	175	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	7700	MPa	ASTM D 790
Taber Abrasion, CS-17, 1 kg	65	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	130	MPa	ISO 527
Tensile Stress, break, 5 mm/min	130	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.8	%	ISO 527
Tensile Strain, break, 5 mm/min	2.8	%	ISO 527
Tensile Modulus, 1 mm/min	9600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	185	MPa	ISO 178
Flexural Stress, break, 2 mm/min	180	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2.9	%	ISO 178
Flexural Modulus, 2 mm/min	8200	MPa	ISO 178
Ball Indentation Hardness, H358/30	210	MPa	ISO 2039-1
Hardness, Rockwell R	116	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	55	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, -30°C	45	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	800	J/m	ASTM D 4812
Izod Impact, unnotched, -30°C	800	J/m	ASTM D 4812
Izod Impact, notched, 23°C	80	J/m	ASTM D 256
Izod Impact, notched, 0°C	80	J/m	ASTM D 256
Izod Impact, notched, -30°C	80	J/m	ASTM D 256
Instrumented Impact Total Energy, 23°C	78	J	ASTM D 3763
Izod Impact, unnotched 80*10*4 +23°C	50	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	45	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	9	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	8	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	8	kJ/m²	ISO 180/1A
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Charpy Impact, notched, 23°C	9	kJ/m²	ISO 179/2C
Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	6	kJ/m²	ISO 179/1eA
Charpy Impact, notched, -30°C	9	kJ/m²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	25	kJ/m²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	218	°C	ASTM D 1525
Vicat Softening Temp, Rate B/50	182	°C	ASTM D 1525
HDT, 1.82 MPa, 3.2mm, unannealed	190	°C	ASTM D 648
CTE, -40°C to 40°C, flow	2.2E-05	1/°C	ASTM E 831
CTE, -40°C to 40°C, xflow	1.15E-04	1/°C	ASTM E 831
Thermal Conductivity	0.26	W/m-°C	ISO 8302
CTE, 23°C to 60°C, flow	2.2E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.15E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate A/50	218	°C	ISO 306
Vicat Softening Temp, Rate B/50	182	°C	ISO 306
Vicat Softening Temp, Rate B/120	182	°C	ISO 306
HDT/Be, 0.45MPa Edgew 120*10*4 sp=100mm	215	°C	ISO 75/Be
HDT/Ae, 1.8 MPa Edgew 120*10*4 sp=100mm	190	°C	ISO 75/Ae
Relative Temp Index, Elec	50	°C	UL 746B
Relative Temp Index, Mech w/impact	50	°C	UL 746B
Relative Temp Index, Mech w/o impact	50	°C	UL 746B
PHYSICAL			
Specific Gravity	1.46	-	ASTM D 792
Filler Content	30	%	ASTM D 229
Mold Shrinkage on Tensile Bar, flow	0.1 – 0.3	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.3 – 0.7	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.3 – 0.7	%	SABIC method
Melt Flow Rate, 200°C/3.8 kgf	13	g/10 min	ASTM D 1238
Melt Flow Rate, 265°C/5.0 kgf	35	g/10 min	ASTM D 1238
Melt Flow Rate, 266°C/5.0 kgf	35	g/10 min	ASTM D 1238
Density	1.46	g/cm³	ISO 1183
Water Absorption, (23°C/sat)	0.71	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.23	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	13	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	25	cm³/10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	130	Pa-s	ISO 11443
ELECTRICAL			
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Dielectric Strength, in oil, 3.2 mm	21	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.2	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.0024	-	IEC 60250

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Dissipation Factor, 1 MHz	0.0182	-	IEC 60250
Comparative Tracking Index	500	V	IEC 60112
Relative Permittivity, 50/60 Hz	3.6	-	IEC 60250
FLAME CHARACTERISTICS			
UL Recognized, 94HB Flame Class Rating	0.75	mm	UL 94
UL Recognized, 94HB Flame Class Rating 2nd value	3	mm	UL 94
Glow Wire Flammability Index 750°C, passes at	1	mm	IEC 60695-2-12
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	