VALOX™ RESIN VX4910

REGION EUROPE

DESCRIPTION

10% Glass reinforced nucleated PBT/ASA with excellent mechanical properties high dimensional stability, and low density.

TYPICAL PROPERTY VALUES

Revision 20181114

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	80	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	80	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	3	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	3	%	ASTM D638
Tensile Modulus, 5 mm/min	4600	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	115	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	115	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	3400	MPa	ASTM D790
Tensile Stress, yield, 5 mm/min	80	MPa	ISO 527
Tensile Stress, break, 5 mm/min	80	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	3	%	ISO 527
Tensile Strain, break, 5 mm/min	3	%	ISO 527
Tensile Modulus, 1 mm/min	4600	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	120	MPa	ISO 178
Flexural Stress, break, 2 mm/min	115	MPa	ISO 178
Flexural Strain, break, 2 mm/min	4	%	ISO 178
Flexural Modulus, 2 mm/min	3800	MPa	ISO 178
Ball Indentation Hardness, H358/30	100	MPa	ISO 2039-1
Hardness, Rockwell R	120	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	45	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, -30°C	20	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	440	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	340	J/m	ASTM D4812
Izod Impact, notched, 23°C	55	J/m	ASTM D256
Izod Impact, notched, 0°C	50	J/m	ASTM D256
Izod Impact, notched, -30°C	45	J/m	ASTM D256
Instrumented Dart Impact Total Energy, 23°C	45	J	ASTM D3763
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	25	kJ/m²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	5	kJ/m²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m²	ISO 180/1A
Charpy Impact, notched, 23°C	6	kJ/m²	ISO 179/2C
Charpy Impact, notched, -30°C	5	kJ/m²	ISO 179/2C

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
THERMAL			
Vicat Softening Temp, Rate A/50	218	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	150	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	205	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	130	°C	ASTM D648
CTE, -40°C to 40°C, flow	4.11E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	8.12E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, flow	5.E-05	1/°C	ISO 11359-2
CTE, 23°C to 60°C, xflow	1.2E-04	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	3.57E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.96E-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	150	°C	ISO 306
Vicat Softening Temp, Rate B/120	155	°C	ISO 306
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	205	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	130	°C	ISO 75/Af
PHYSICAL			
Specific Gravity	1.3	-	ASTM D792
Filler Content	10	%	ASTM D229
Mold Shrinkage, flow, 3.2 mm	0.6 – 0.8	%	SABIC method
Melt Flow Rate, 200°C/3.8 kgf	20	g/10 min	ASTM D1238
Melt Flow Rate, 265°C/5.0 kgf	40	g/10 min	ASTM D1238
Density	1.3	g/cm³	ISO 1183
Melt Volume Rate, MVR at 250°C/5.0 kg	25	cm³/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	35	cm³/10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	160	Pa-s	ISO 11443
ELECTRICAL			
Relative Permittivity, 1 MHz	3.4	-	ASTM D150
Dissipation Factor, 1 MHz	0.02	-	ASTM D150
Relative Permittivity, 1 MHz	3.4	-	IEC 60250
Dissipation Factor, 1 MHz	0.02	-	IEC 60250
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	

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