

VALOX™ RESIN 735

REGION EUROPE

DESCRIPTION

40% glass/mineral, excellent thermal performance/low shrink. Motorized heating appliances, adaptor rings, oven grills, etc. Black/natural only.

TYPICAL PROPERTY VALUES

Revision 20190814

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	95	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	95	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D638
Tensile Modulus, 5 mm/min	10400	MPa	ASTM D638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	120	MPa	ASTM D790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	124	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	8300	MPa	ASTM D790
Taber Abrasion, CS-17, 1 kg	64	mg/1000cy	SABIC method
Tensile Stress, yield, 5 mm/min	90	MPa	ISO 527
Tensile Stress, break, 5 mm/min	90	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	10000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	130	MPa	ISO 178
Flexural Stress, break, 2 mm/min	130	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2	%	ISO 178
Flexural Modulus, 2 mm/min	8300	MPa	ISO 178
Ball Indentation Hardness, H358/30	144	MPa	ISO 2039-1
Hardness, Rockwell R	124	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	40	kJ/m²	ISO 179/2C
Charpy Impact, unnotched, -30°C	30	kJ/m²	ISO 179/2C
Izod Impact, unnotched, 23°C	560	J/m	ASTM D4812
Izod Impact, unnotched, -30°C	520	J/m	ASTM D4812
Izod Impact, notched, 23°C	60	J/m	ASTM D256
Izod Impact, notched, 0°C	55	J/m	ASTM D256
Izod Impact, notched, -30°C	50	J/m	ASTM D256
Izod Impact, unnotched 80°10°4 +23°C	35	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 23°C, V-notch Edgew 80°10°4 sp=62mm	4	kJ/m²	ISO 179/1eA
Charpy Impact, notched, 23°C	7	kJ/m²	ISO 179/2C

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Charpy -30°C, V-notch Edgew 80*10*4 sp=62mm	4	kJ/m ²	ISO 179/1eA
Charpy Impact, notched, -30°C	7	kJ/m ²	ISO 179/2C
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	35	kJ/m ²	ISO 179/1eU
Charpy -30°C, Unnotch Edgew 80*10*4 sp=62mm	30	kJ/m ²	ISO 179/1eU
THERMAL			
Vicat Softening Temp, Rate A/50	220	°C	ASTM D1525
Vicat Softening Temp, Rate B/50	185	°C	ASTM D1525
HDT, 0.45 MPa, 3.2 mm, unannealed	215	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	190	°C	ASTM D648
Thermal Conductivity	0.36	W/m.°C	ISO 8302
CTE, -40°C to 40°C, flow	2.28E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	6.53E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, flow	2.5E-05	1/°C	ISO 11359-2
CTE, 23°C to 80°C, xflow	8.E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	2.18E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.4E-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	215	°C	ISO 75/Bf
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	190	°C	ISO 75/Af
Relative Temp Index, Elec	140	°C	UL 746B
Relative Temp Index, Mech w/impact	140	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.62	-	ASTM D792
Filler Content	40	%	ASTM D229
Mold Shrinkage on Tensile Bar, flow	0.3 – 0.6	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.5 – 0.8	%	SABIC method
Melt Flow Rate, 266°C/5.0 kgf	20	g/10 min	ASTM D1238
Density	1.62	g/cm ³	ISO 1183
Water Absorption, (23°C/saturated)	0.96	%	ISO 62-1
Moisture Absorption (23°C / 50% RH)	0.07	%	ISO 62
Melt Volume Rate, MVR at 250°C/5.0 kg	1	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/1.2 kg	3	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	15	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	160	Pa.s	ISO 11443
ELECTRICAL			
Volume Resistivity	>1.E+15	Ω.cm	ASTM D257
Dielectric Strength, in oil, 0.8 mm	45	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	22	kV/mm	ASTM D149
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	ASTM D149
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ω.cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ω	IEC 60093
Dielectric Strength, in oil, 0.8 mm	45	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	22	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	18	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.3	-	IEC 60250
Dissipation Factor, 50/60 Hz	0.008	-	IEC 60250
Dissipation Factor, 1 MHz	0.017	-	IEC 60250
Relative Permittivity, 50/60 Hz	3.5	-	IEC 60250
FLAME CHARACTERISTICS			
UL Yellow Card Link	E45329-236611	-	-
UL Recognized, 94HB Flame Class Rating	0.81	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	4 – 6	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	260 – 285	°C	
Nozzle Temperature	265 – 275	°C	
Front - Zone 3 Temperature	260 – 280	°C	
Middle - Zone 2 Temperature	255 – 280	°C	
Rear - Zone 1 Temperature	240 – 260	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	60 – 110	°C	

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