



VALOX™ Resin ENH8560

Europe-Africa-Middle East: COMMERCIAL

Non-Brominated & Non-Chlorinated Flame Retardant, 30% Glass fiber reinforced PBT/PET blend

TYPICAL PROPERTIES ¹	TYPICAL VALUE	Unit	Standard
MECHANICAL			
Tensile Stress, yld, Type I, 5 mm/min	1050	kgf/cm ²	ASTM D 638
Tensile Stress, brk, Type I, 5 mm/min	1050	kgf/cm ²	ASTM D 638
Tensile Strain, yld, Type I, 5 mm/min	1	%	ASTM D 638
Tensile Strain, brk, Type I, 5 mm/min	2	%	ASTM D 638
Tensile Modulus, 5 mm/min	122300	kgf/cm ²	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	1470	kgf/cm ²	ASTM D 790
Flexural Stress, brk, 1.3 mm/min, 50 mm span	1470	kgf/cm ²	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	101900	kgf/cm ²	ASTM D 790
Tensile Stress, yield, 5 mm/min	105	MPa	ISO 527
Tensile Stress, break, 5 mm/min	105	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	1	%	ISO 527
Tensile Strain, break, 5 mm/min	2	%	ISO 527
Tensile Modulus, 1 mm/min	12000	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	165	MPa	ISO 178
Flexural Stress, break, 2 mm/min	165	MPa	ISO 178
Flexural Strain, break, 2 mm/min	2	%	ISO 178
Flexural Modulus, 2 mm/min	10000	MPa	ISO 178
Hardness, H358/30	166	MPa	ISO 2039-1
Hardness, Rockwell R	118	-	ISO 2039-2
IMPACT			
Charpy Impact, unnotched, 23°C	30	kJ/m ²	ISO 179/2C
Charpy Impact, unnotched, -30°C	30	kJ/m ²	ISO 179/2C



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IMPACT			
Izod Impact, unnotched, 23°C	45	cm-kgf/cm	ASTM D 4812
Izod Impact, unnotched, -30°C	40	cm-kgf/cm	ASTM D 4812
Izod Impact, notched, 23°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, notched, 0°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, notched, -30°C	6	cm-kgf/cm	ASTM D 256
Izod Impact, unnotched 80*10*4 +23°C	30	kJ/m ²	ISO 180/1U
Izod Impact, unnotched 80*10*4 -30°C	27	kJ/m ²	ISO 180/1U
Izod Impact, notched 80*10*4 +23°C	7	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 0°C	7	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	7	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	7	kJ/m ²	ISO 179/2C
Charpy Impact, notched, -30°C	7	kJ/m ²	ISO 179/2C
THERMAL			
Vicat Softening Temp, Rate A/50	220	°C	ASTM D 1525
Vicat Softening Temp, Rate B/50	196	°C	ASTM D 1525
HDT, 0.45 MPa, 3.2 mm, unannealed	210	°C	ASTM D 648
HDT, 1.82 MPa, 3.2mm, unannealed	196	°C	ASTM D 648
CTE, -40°C to 40°C, flow	1.9E-05	1/°C	ISO 11359-2
CTE, -40°C to 40°C, xflow	5.6E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, flow	2.1E-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	215	°C	ISO 306



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THERMAL			
Vicat Softening Temp, Rate B/50	203	°C	ISO 306
Vicat Softening Temp, Rate B/120	201	°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	180	°C	ISO 75/ Af
Relative Temp Index, Elec	75	°C	UL 746B
Relative Temp Index, Mech w/impact	75	°C	UL 746B
Relative Temp Index, Mech w/o impact	75	°C	UL 746B
PHYSICAL			
Specific Gravity	1.58	-	ASTM D 792
Filler Content	30	%	ASTM D 229
Mold Shrinkage on Tensile Bar, flow (2) (5)	0.3 - 0.4	%	SABIC Method
Melt Flow Rate, 250°C/5.0 kgf	11	g/10 min	ASTM D 1238
Melt Flow Rate, 265°C/2.16kgf	5	g/10 min	ASTM D 1238
Melt Volume Rate, MVR at 250°C/5 kg	10	cm ³ /10 min	ASTM D 1238
Density	1.58	g/cm ³	ISO 1183
Water Absorption, (23°C/sat)	0.3	%	ISO 62
Moisture Absorption (23°C / 50% RH)	0.05	%	ISO 62
Melt Flow Rate, 250°C/5.0 kg	11	g/10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	25	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	155	Pa-s	ISO 11443
ELECTRICAL			
Volume Resistivity	1.E+15	Ohm-cm	ASTM D 257
Dielectric Strength, in oil, 0.8 mm	35	kV/mm	ASTM D 149
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	ASTM D 149
Dielectric Strength, in oil, 3.2 mm	8	kV/mm	ASTM D 149
Relative Permittivity, 1 MHz	3.6	-	ASTM D 150
Dissipation Factor, 1 MHz	0.012	-	ASTM D 150
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A



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ELECTRICAL			
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	2	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, 0.8 mm	35	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	IEC 60243-1
Dielectric Strength, in oil, 3.2 mm	8	kV/mm	IEC 60243-1
Relative Permittivity, 1 MHz	3.6	-	IEC 60250
Dissipation Factor, 1 MHz	0.012	-	IEC 60250
Comparative Tracking Index	425	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	1.5	mm	UL 94
UL Recognized, 94-5VA Rating (3)	3	mm	UL 94
Glow Wire Flammability Index 960°C, passes at	1.5 - 3	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 1.0 mm	750	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 2.0 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	825	°C	IEC 60695-2-13



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PROCESSING PARAMETERS	TYPICAL VALUE	Unit
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