

VALOX™ FR RESIN ENH3500

REGION EUROPE

DESCRIPTION

VALOX ENH3500 Polybutylene Terephthalate (PBT) resin is a non-reinforced, injection moldable grade. This non-chlorinated, non-brominated flame retardant PBT has a UL V0 rating. VALOX ENH3500 resin is a general purpose resin that is an excellent candidate for a wide variety of applications.

TYPICAL PROPERTY VALUES

Revision 20180528

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yld, Type I, 50 mm/min	44	MPa	ASTM D 638
Tensile Stress, brk, Type I, 50 mm/min	42	MPa	ASTM D 638
Tensile Strain, yld, Type I, 50 mm/min	3	%	ASTM D 638
Tensile Strain, brk, Type I, 50 mm/min	10	%	ASTM D 638
Tensile Modulus, 5 mm/min	3150	MPa	ASTM D 638
Flexural Stress, yld, 1.3 mm/min, 50 mm span	77	MPa	ASTM D 790
Flexural Modulus, 1.3 mm/min, 50 mm span	2750	MPa	ASTM D 790
Tensile Stress, yield, 50 mm/min	39	MPa	ISO 527
Tensile Stress, break, 50 mm/min	38	MPa	ISO 527
Tensile Strain, yield, 50 mm/min	3	%	ISO 527
Tensile Strain, break, 50 mm/min	8	%	ISO 527
Tensile Modulus, 1 mm/min	3200	MPa	ISO 527
Flexural Stress, yield, 2 mm/min	70	MPa	ISO 178
Flexural Modulus, 2 mm/min	2700	MPa	ISO 178
IMPACT			
Izod Impact, notched, 23°C	40	J/m	ASTM D 256
Izod Impact, notched 80*10*4 +23°C	5	kJ/m ²	ISO 180/1A
Izod Impact, notched 80*10*4 -30°C	5	kJ/m ²	ISO 180/1A
THERMAL			
HDT, 1.82 MPa, 3.2mm, unannealed	60	°C	ASTM D 648
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
Vicat Softening Temp, Rate B/120	170	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	60	°C	ISO 75/Af
Relative Temp Index, Elec	150	°C	UL 746B
Relative Temp Index, Mech w/impact	95	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL			
Specific Gravity	1.31	-	ASTM D 792
Mold Shrinkage on Tensile Bar, flow (2) (5)	1.8 – 2.8	%	SABIC method
Density	1.31	g/cm ³	ISO 1183
Melt Volume Rate, MVR at 250°C/2.16 kg	20	cm ³ /10 min	ISO 1133
ELECTRICAL			
Volume Resistivity	>1.E+15	Ohm-cm	ASTM D 257
Hot Wire Ignition {PLC}	4	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	0	PLC Code	UL 746A
Volume Resistivity	>1.E+15	Ohm-cm	IEC 60093
Surface Resistivity, ROA	>1.E+15	Ohm	IEC 60093
Comparative Tracking Index	600	V	IEC 60112
FLAME CHARACTERISTICS			
UL Recognized, 94V-0 Flame Class Rating (3)	0.8	mm	UL 94
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	2 – 4	hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	245 – 260	°C	
Nozzle Temperature	230 – 255	°C	
Front - Zone 3 Temperature	240 – 260	°C	
Middle - Zone 2 Temperature	235 – 250	°C	
Rear - Zone 1 Temperature	230 – 240	°C	
Hopper Temperature	40 – 60	°C	
Mold Temperature	40 – 100	°C	

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