

VALOX™ FR RESINS V6750

REGION AMERICAS

DESCRIPTION

VALOX™ V6750 resin is a 25% glass fiber reinforced, non-Chlorinated/non-Brominated/non-Antimony (Sb2O3) flame-retardant Polybutylene Terephthalate (PBT) injection molding grade. It is compliant with UL94 V0 @ 0.75mm and CTI 425V (IEC) / PLC1 (ASTM). This resin is based on No Intentionally Added PFAS (referred as NIA PFAS). Good candidate for various Electrical & Electronic (E&E) and E-Mobility Automotive applications, like (High Voltage) connectors, busbars, switches and electrical housings.

TYPICAL PROPERTY VALUES

Revision 20251126

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, yield, 5 mm/min	115	MPa	ISO 527
Tensile Stress, break, 5 mm/min	115	MPa	ISO 527
Tensile Strain, yield, 5 mm/min	2.4	%	ISO 527
Tensile Strain, break, 5 mm/min	2.4	%	ISO 527
Tensile Modulus, 1 mm/min	9800	MPa	ISO 527
Flexural Stress	180	MPa	ISO 178
Flexural Stress, yield, 2 mm/min	180	MPa	ISO 178
Flexural Stress, break, 2 mm/min	180	MPa	ISO 178
Flexural Modulus, 2 mm/min	9250	MPa	ISO 178
Tensile Stress, yld, Type I, 5 mm/min	115	MPa	ASTM D638
Tensile Stress, brk, Type I, 5 mm/min	115	MPa	ASTM D638
Tensile Strain, yld, Type I, 5 mm/min	2.5	%	ASTM D638
Tensile Strain, brk, Type I, 5 mm/min	2.5	%	ASTM D638
Tensile Modulus, 5 mm/min	9800	MPa	ASTM D638
Flexural Modulus, 1.3 mm/min, 50 mm span	9800	MPa	ASTM D790
IMPACT			
Izod Impact, notched 80*10*4 +23°C	8	kJ/m²	ISO 180/1A
Izod Impact, unnotched 80*10*4 +23°C	42	kJ/m²	ISO 180/1U
Charpy 23°C, V-notch Edgew 80*10*4 sp=62mm	7	kJ/m²	ISO 179/1eA
Charpy 23°C, Unnotch Edgew 80*10*4 sp=62mm	50	kJ/m²	ISO 179/1eU
Izod Impact, notched, 23°C	70	J/m	ASTM D256
Izod Impact, unnotched, 23°C	670	J/m	ASTM D4812
THERMAL			
Vicat Softening Temp, Rate A/50	220	°C	ISO 306
Vicat Softening Temp, Rate B/120	210	°C	ISO 306
HDT/Af, 1.8 MPa Flatw 80*10*4 sp=64mm	210	°C	ISO 75/Af
HDT, 1.82 MPa, 3.2mm, unannealed	210	°C	ASTM D648
HDT/Bf, 0.45 MPa Flatw 80*10*4 sp=64mm	220	°C	ISO 75/Bf
CTE, 23°C to 150°C, flow	2.40E-05	1/°C	ISO 11359-2
CTE, 23°C to 150°C, xflow	1.42E-04	1/°C	ISO 11359-2
Ball Pressure Test, 125°C +/- 2°C	PASSES	-	IEC 60695-10-2
CTE, 23°C to 150°C, flow	2.40E-05	1/°C	ASTM E831
CTE, 23°C to 150°C, xflow	1.42E-04	1/°C	ASTM E831

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CHEMISTRY THAT MATTERS™



PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
PHYSICAL			
Density	1.52	g/cm ³	ISO 1183
Moisture Absorption (23°C / 50% RH)	0.03	%	ISO 62
Water Absorption, (23°C/saturated)	0.06	%	ISO 62-1
Melt Volume Rate, MVR at 250°C/5.0 kg	21	cm ³ /10 min	ISO 1133
Melt Volume Rate, MVR at 265°C/5.0 kg	38	cm ³ /10 min	ISO 1133
Melt Viscosity, 260°C, 1500 sec-1	142	Pa-s	ISO 11443
Mold Shrinkage on Tensile Bar, flow	0.1 – 0.5	%	SABIC method
Mold Shrinkage, flow, 3.2 mm	0.5 – 0.7	%	SABIC method
Mold Shrinkage on Tensile Bar, xflow	0.4 – 0.8	%	SABIC method
Mold Shrinkage, xflow, 3.2 mm	0.5 – 1.0	%	SABIC method
Specific Gravity	1.52	-	ASTM D792
Filler Content	25	%	ASTM D229
Melt Flow Rate, 250°C/5.0 kgf	36	g/10 min	ASTM D1238
ELECTRICAL			
Comparative Tracking Index	425	V	IEC 60112
Hot Wire Ignition {PLC}	0	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	0	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	1	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Compliant, 94V-0 Flame Class Rating	0.75	mm	UL 94 by SABIC-IP
UL Compliant, 94-5VB Rating	2	mm	UL 94 by SABIC-IP
Glow Wire Flammability Index 960°C, passes at	0.75	mm	IEC 60695-2-12
Glow Wire Ignitability Temperature, 0.75 mm	775	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 1.5 mm	750	°C	IEC 60695-2-13
Glow Wire Ignitability Temperature, 3.0 mm	750	°C	IEC 60695-2-13
INJECTION MOLDING			
Drying Temperature	110 – 120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	240 – 265	°C	
Nozzle Temperature	235 – 260	°C	
Front - Zone 3 Temperature	240 – 265	°C	
Middle - Zone 2 Temperature	235 – 260	°C	
Rear - Zone 1 Temperature	230 – 255	°C	
Mold Temperature	65 – 90	°C	
Back Pressure	0.3 – 0.7	MPa	
Screw Speed	50 – 80	rpm	
Shot to Cylinder Size	40 – 80	%	
Vent Depth	0.025 – 0.038	mm	



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