VALOX™ FR RESINS 780

REGION AMERICAS

DESCRIPTION

VALOX 780 Polybutylene Terephthalate/Polyethylene Terephthalate (PBT/PET) resin is mineral and glass fiber reinforced , reduced blooming effect, injection moldable grade. This brominated flame retardant PBT/PET has a UL V0 rating . VALOX 780 resin is a general purpose resin that is an excellent candidate for a wide variety of applications including circuit and motor coil housings.

TYPICAL PROPERTY VALUES

Revision 20191022

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	99	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	165	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	10340	MPa	ASTM D790
Hardness, Rockwell R	116	-	ASTM D785
IMPACT			
Izod Impact, unnotched, 23°C	373	J/m	ASTM D4812
Izod Impact, notched, 23°C	53	J/m	ASTM D256
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	210	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	193	°C	ASTM D648
CTE, -40°C to 40°C, flow	2.52E-05	1/°C	ASTM E831
CTE, 60°C to 138°C, flow	2.88E-05	1/°C	ASTM E831
Relative Temp Index, Elec	130	°C	UL 746B
Relative Temp Index, Mech w/impact	130	°C	UL 746B
Relative Temp Index, Mech w/o impact	140	°C	UL 746B
PHYSICAL			
Specific Gravity	1.77	-	ASTM D792
Specific Volume	0.56	cm^3/g	ASTM D792
Water Absorption, (23°C/24hrs)	0.02	%	ASTM D570
Mold Shrinkage, flow, 1.5-3.2 mm	0.3 – 0.4	%	SABIC method
Mold Shrinkage, flow, 3.2-4.6 mm	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 1.5-3.2 mm	0.4 – 0.6	%	SABIC method
Mold Shrinkage, xflow, 3.2-4.6 mm	0.6 – 0.8	%	SABIC method
ELECTRICAL			
Volume Resistivity	3.5E+15	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	18.1	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	25.5	kV/mm	ASTM D149
Relative Permittivity, 100 Hz	3.9	-	ASTM D150
Relative Permittivity, 1 MHz	3.8	-	ASTM D150
Dissipation Factor, 100 Hz	0.007	-	ASTM D150
Dissipation Factor, 1 MHz	0.02	-	ASTM D150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
High Voltage Arc Track Rate {PLC}	1	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	4	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	E121562-220809	-	-
UL Recognized, 94V-0 Flame Class Rating	0.81	mm	UL 94
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	255 – 275	°C	
Nozzle Temperature	255 – 270	°C	
Front - Zone 3 Temperature	255 – 265	°C	
Middle - Zone 2 Temperature	250 – 260	°C	
Rear - Zone 1 Temperature	245 – 255	°C	
Mold Temperature	65 – 95	°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	