VALOX™ FR RESINS 553

REGION ASIA

DESCRIPTION

VALOX 553 is a 30% glass filled flame retardant Polybutylene Terephthalate/Polycarbonate (PBT/PC) injection moldable grade. It has excellent chemical resistance and a UL94V0@0.86mm and 5VA@2.3mm flame rating. This is a good candidate for applications needing reduced shrinkage/warpage including appliance handles, spotlights, electric motors, and pump housings

TYPICAL PROPERTY VALUES

Revision 20260509

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL			
Tensile Stress, brk, Type I, 5 mm/min	110	MPa	ASTM D638
Flexural Stress, brk, 1.3 mm/min, 50 mm span	179	MPa	ASTM D790
Flexural Modulus, 1.3 mm/min, 50 mm span	9400	MPa	ASTM D790
Hardness, Rockwell R	118	-	ASTM D785
IMPACT			
Izod Impact, unnotched, 23°C	640	J/m	ASTM D4812
Izod Impact, notched, 23°C	85	J/m	ASTM D256
THERMAL			
HDT, 0.45 MPa, 6.4 mm, unannealed	204	°C	ASTM D648
HDT, 1.82 MPa, 6.4 mm, unannealed	160	°C	ASTM D648
HDT, 1.82 MPa, 3.2mm, unannealed	138	°C	ASTM D648
CTE			
-40°C to 40°C, flow	2.3E-05	1/°C	ASTM E831
60°C to 138°C, flow	2.16E-05	1/°C	ASTM E831
Relative Temp Index, Elec	125	°C	UL 746B
Relative Temp Index, Mech w/impact	110	°C	UL 746B
Relative Temp Index, Mech w/o impact	125	°C	UL 746B
PHYSICAL			
Specific Gravity	1.59	-	ASTM D792
Specific Volume	0.64	cm^3/g	ASTM D792
Water Absorption, (23°C/24hrs)	0.07	%	ASTM D570
Moisture Absorption, (23°C/50% RH/24 hrs)	0.07	%	ASTM D570
Mold Shrinkage, flow, 1.5-3.2 mm	0.3 – 0.5	%	SABIC method
Mold Shrinkage, flow, 3.2-4.6 mm	0.5 – 0.8	%	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 – 0.9	%	SABIC method
ELECTRICAL			
Volume Resistivity	4.3E+16	Ω.cm	ASTM D257
Dielectric Strength, in air, 3.2 mm	18.9	kV/mm	ASTM D149
Dielectric Strength, in oil, 1.6 mm	25	kV/mm	ASTM D149
Relative Permittivity, 100 Hz	3.8	-	ASTM D150
Relative Permittivity, 1 MHz	3.7	-	ASTM D150
Dissipation Factor			

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
100 Hz	0.002	-	ASTM D150
1 MHz	0.02	-	ASTM D150
Arc Resistance, Tungsten {PLC}	6	PLC Code	ASTM D495
Hot Wire Ignition {PLC}	1	PLC Code	UL 746A
High Voltage Arc Track Rate {PLC}	3	PLC Code	UL 746A
High Ampere Arc Ign, surface {PLC}	3	PLC Code	UL 746A
Comparative Tracking Index (UL) {PLC}	3	PLC Code	UL 746A
FLAME CHARACTERISTICS			
UL Yellow Card Link	E207780-643582	-	-
UL Yellow Card Link 2	E45587-236818	-	-
UL Recognized, 94V-0 Flame Class Rating	0.86	mm	UL 94
UL Recognized, 94-5VA Flame Class Rating	2.3	mm	UL 94
Oxygen Index (LOI)	37.1	%	ASTM D2863
UV-light, water exposure/immersion	F1	-	UL 746C
INJECTION MOLDING			
Drying Temperature	120	°C	
Drying Time	3 – 4	Hrs	
Drying Time (Cumulative)	12	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	250 – 265	°C	
Nozzle Temperature	245 – 260	°C	
Front - Zone 3 Temperature	250 – 265	°C	
Middle - Zone 2 Temperature	245 – 260	°C	
Rear - Zone 1 Temperature	240 – 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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