VALOX™ FR RESIN VC112

DESCRIPTION

VALOX VC112 compound is based on Polybutylene Terephthalate (PBT) resin containing 12% carbon fiber. Added features of this grade include: Electrically Conductive, Flame Retardant.

GENERAL INFORMATION	
Features	Flame Retardant, Electrically Conductive, Carbon fiber filled, High stiffness/Strength
Fillers	Carbon Fiber
Polymer Types	Polybutylene Terephthalate (PBT)
Processing Techniques	Injection Molding

INDUSTRY	SUB INDUSTRY
Electrical and Electronics	Electronic Components
Industrial	Material Handling

TYPICAL PROPERTY VALUES

Revision 20231109

PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
MECHANICAL [1]			
Tensile Stress, yield	117	MPa	SABIC - Japan Method
Tensile Strain, break	3	%	SABIC - Japan Method
Flexural Stress	176	MPa	ASTM D790
Flexural Modulus	7350	MPa	ASTM D790
IMPACT [1]			
Izod Impact, notched, 23°C	49	J/m	ASTM D256
THERMAL [1]			
HDT, 0.45 MPa, 3.2 mm, unannealed	180	°C	ASTM D648
CTE, -30°C to 30°C	6.00E-05	1/°C	TMA
PHYSICAL [1]			
Specific Gravity	1.44	-	ASTM D792
Water Absorption, (23°C/24hrs)	0.07	%	ASTM D570
Mold Shrinkage, flow, 3.2 mm [2]	0.2 – 0.3	%	SABIC method
Mold Shrinkage, flow, 6.4 mm [2]	0.7 – 0.8	%	SABIC method
ELECTRICAL [1]			
Surface Resistivity [3]	1.E+05 – 1.E+08	Ω	ASTM D257
INJECTION MOLDING [4]			
Drying Temperature	120	°C	
Drying Time	2 – 4	Hrs	
Maximum Moisture Content	0.02	%	
Melt Temperature	235 – 255	°C	
Nozzle Temperature	230 – 250	°C	
Front - Zone 3 Temperature	235 – 255	°C	

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PROPERTIES	TYPICAL VALUES	UNITS	TEST METHODS
Middle - Zone 2 Temperature	230 – 250	°C	
Rear - Zone 1 Temperature	225 – 245	°C	
Mold Temperature	50 – 130	°C	
Back pressure (Plastic Pressure)	3 – 8	MPa	
Screw speed (Circumferential speed)	0.1 – 0.2	m/s	
Shot to Cylinder Size	30 – 70	%	

(1) The information stated on Technical Datasheets should be used as indicative only for material selection purposes and not be utilized as specification or used for part or tool design.
(2) Measurements made from laboratory test coupon. Actual shrinkage may vary outside of range due to differences in processing conditions, equipment, part geometry and tool design. It is recommended that mold shrinkage studies be performed with surrogate or legacy tooling prior to cutting tools for new molded article.
(3) Measurement meets requirements as specified in ASTM D4496.
(4) Injection Molding parameters are only mentioned as general guidelines. These may not apply or may need adjustment in specific situations such as low shot sizes, large part molding, thin wall molding and gas-assist molding.

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