VESTODUR®

Product Information

VESTODUR® GF30-FR3 BK V307168

GLASS FIBER-REINFORCED AND FLAME RETARDANT POLYBUTYLENE TEREPHTHALATE COMPOUND

VESTODUR® GF30-FR3 BK V307168 is a glass fiber reinforced (with 30% glass fiber), semicrystalline thermoplastic compounds for injection molding, based on polybutylene terephthalate (PBT).

Test bars made of this compound are rated V-0, according UL94 by Underwriters Laboratories Inc., self-extinguishing and nondripping.

This compound is especially suitable for parts which are subjected to high mechanical and thermal loads and must have a very good flame-resistance.

The incorporated flame retardant is non-migrating and does not contain polybrominated diphenyl ethers. The additive has no corrosive effects on metal inserts or neighboring metal parts.

Therefore, the compounds are distinguished for moldings in the electrical and electronical industry. Laser marking with high contrasts is possible.

The compounds are supplied as cylindrical pellets in polyethylene packaging.

The use of colorants may affect property values.

Inside the original and undamaged packaging, the product has a shelf life of at least 2 years when stored in dry rooms at temperatures not exceeding 30°C.

Key Features

Industrial Sector
Automotive and Mobility

Processing
Injection molding

Delivery form
Pellets, Granules

Optics
Laser markable

Resistance to
Fire / burn, UV / light / weathering

Conformity
Automotive

Additives
Glass fibers, Flame retardant

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**1.6E6 / 1.57E6**	psi	ISO 527
Tensile strength	**20300 / 18100**	psi	ISO 527
Stress at break	**20300 / 18100**	psi	ISO 527
Strain at break, B	**2 / 2**	%	ISO 527
Charpy impact strength, +23°C	**26.2 / 21.9**	ftlb/in^2	ISO 179/1eU
Type of failure	**C / C**	-	-
Charpy impact strength, -30°C	**28.5 / 23.8**	ftlb/in^2	ISO 179/1eU
Type of failure	**C / C**	-	-
Charpy notched impact strength, +23°C	**4.76 / 3.81**	ftlb/in^2	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**4.28 / 4.28**	ftlb/in^2	ISO 179/1eA
Type of failure	**C / C**	-	-
Flexural modulus, 23°C	**1.58E6 / 1.54E6**	psi	ISO 178
Flexural strength, 23°C	**30900 / 28300**	psi	ISO 178
Flexural strain at flexural strength, 23°C	**2 / 2**	%	ISO 178
Flexural stress at break, 23°C	**30900 / 28300**	psi	ISO 178
Flexural strain at break, 23°C	**2 / 2**	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**432 / ***	°F	ISO 11357-1/-3
Glass transition temperature, DSC	**111 / ***	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**421 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**433 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**428 / ***	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**415 / ***	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**2.78E-5 / ***	in/in/°F	ISO 11359-1/-2
Melting Temperature	**432**	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	**1.72 / -**	g/cm³	ISO 1183
Water absorption	**0.4 / ***	%	Sim. to ISO 62
Humidity absorption	**0.2 / ***	%	Sim. to ISO 62
Shore D hardness	**84**[b] **/ -**	-	ISO 7619-1
Density	**1.72**	g/cm³	ASTM D 792

b: 3 seconds

Burning Behav.	dry / cond	Unit	Test Standard
Burning behav. at 1.5 mm nom. thickn.	**V-0 / ***	class	IEC 60695-11-10
Thickness tested	**0.0591 / ***	in	-
Burning behav. at thickness h	**V-0 / ***	class	IEC 60695-11-10
Thickness tested	**0.0315 / ***	in	-
Oxygen index	**34 / ***	%	ISO 4589-1/-2
Limiting Oxygen Index	**34**	%	ASTM D 2863
Glow Wire Flammability Index (GWFI)	**1760**	°F	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	**1470**	°F	IEC 60695-2-13

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	**1E12 / -**	Ohm*m	IEC 62631-3-1
Surface resistance, RSD	**1E13 / -**	Ohm	IEC 62631-3-2
Relative permittivity, 100Hz	**4.1 / -**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**4.4 / -**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**30 / -**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**150 / -**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	**787 / -**	V/mil	Sim. to IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**12 / ***	cm³/10min	ISO 1133

Temperature	**250 / ***	°C	-
Load	**2.16 / ***	kg	-
Molding shrinkage, parallel	**0.3 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.2 / ***	%	ISO 294-4, 2577
Mold temperature	**176 / ***	°F	-
Melt temperature	**500 / ***	°F	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**500**	°F	ISO 294
Injection Molding, mold temperature	**176**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294

Characteristics

Applications
Electrical and Electronical, Encapsulation

Special Characteristics
Color stability, Self-extinguishing

Features
Non-corrosive, Non-migrating ingredients

Color
Black

Additives
Flame retardant, Heat stabilizer