

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	<b>11000 / 10800</b>	MPa	ISO 527
Tensile strength	<b>140 / 125</b>	MPa	ISO 527
Stress at break	<b>140 / 125</b>	MPa	ISO 527
Strain at break, B	<b>2 / 2</b>	%	ISO 527
Charpy impact strength, +23°C	<b>55 / 46</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / C</b>	-	-
Charpy impact strength, -30°C	<b>60 / 50</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / C</b>	-	-
Charpy notched impact strength, +23°C	<b>10 / 8</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / C</b>	-	-
Charpy notched impact strength, -30°C	<b>9 / 9</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / C</b>	-	-
Flexural modulus, 23°C	<b>10900 / 10600</b>	MPa	ISO 178
Flexural strength, 23°C	<b>213 / 195</b>	MPa	ISO 178
Flexural strain at flexural strength, 23°C	<b>2 / 2</b>	%	ISO 178
Flexural stress at break, 23°C	<b>213 / 195</b>	MPa	ISO 178
Flexural strain at break, 23°C	<b>2 / 2</b>	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	<b>222 / *</b>	°C	ISO 11357-1/-3
Glass transition temperature, DSC	<b>44 / *</b>	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	<b>216 / *</b>	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>223 / *</b>	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>220 / *</b>	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>213 / *</b>	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>50 / *</b>	E-6/K	ISO 11359-1/-2
Melting Temperature	<b>222</b>	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1720 / -	kg/m <sup>3</sup>	ISO 1183
Water absorption	0.4 / *	%	Sim. to ISO 62
Humidity absorption	0.2 / *	%	Sim. to ISO 62
Shore D hardness	84 <sup>[b]</sup> / -	-	ISO 7619-1
Density	1720	kg/m <sup>3</sup>	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	1.5 / *	mm	-
Burning behav. at thickness h	V-0 / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	-
Oxygen index	34 / *	%	ISO 4589-1/-2
Limiting Oxygen Index	34	%	ASTM D 2863
Glow Wire Flammability Index (GWFI)	960	°C	IEC 60695-2-12
Glow Wire Ignition Temperature (GWIT)	800	°C	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	31 / -	kV/mm	Sim. to IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	12 / *	cm <sup>3</sup> /10min	ISO 1133

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Temperature	<b>250 / *</b>	°C	-
Load	<b>2.16 / *</b>	kg	-
Molding shrinkage, parallel	<b>0.3 / *</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>1.2 / *</b>	%	ISO 294-4, 2577
Mold temperature	<b>80 / *</b>	°C	-
Melt temperature	<b>260 / *</b>	°C	-

<b>Test specimen production</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>260</b>	°C	ISO 294
Injection Molding, mold temperature	<b>80</b>	°C	ISO 294
Injection Molding, injection velocity	<b>200</b>	mm/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