VESTORAN® 1900 GF20 BK 2.7026

PPE-GF20 Evonik Operations GmbH

Product Texts

Modified polyphenylene ether (PPE), heat resistant, glass fiber-reinforced, suitable for plastic/rubber composites manufactured by the K K process

VESTORAN® 1900GF20 BK 2.7206 is the registered trademark of Evonik Operations GmbH for molding compounds containing poly-2,6-dimethyl-1,4-phenylene ether as polymeric constituent (polyphenylene ether, PPE, also referred to as PPO).
As a material of amorphous structure VESTORAN® 1900GF20 shows very small mold shrinkage. Therefore molded parts have a very low tendency to warp.

Moldings of VESTORAN® 1900GF20 are dimensionally stable and hydrolysis resistant even in hot water, but are more sensitive to organic solvents than semi-crystalline plastics. VESTORAN® 1900GF20 is resistant to aqueous alkalines and acides, certain alcohols, and glycol solutions.

Glass fiber reinforcement of this molding material combines outstanding heat deflection temperature under load with high strength and rigidity.

The even smaller shrinkage compared to non-reinforced VESTORAN® depends on the orientation of the glass fibers in the molded parts.

VESTORAN® 1900GF20 is particularly suitable for the adhesion promoter-free manufacturing of plastic/rubber composites by the Evonik Degussa GmbH-patented K&K process ("direct-bonding to rubber").

Compared to VESTORAN® 1900, VESTORAN® 1900GF20 offers higher rigidity and strength.

Colored material contains only cadmium-free pigments.

VESTORAN® 1900GF20 is supplied as cylindrical granules in polyethylene packaging.

Processing advice is given in a separate product information.

The use of colorants may affect property values.

The values presented are typical or average values, they do not constitute a specification.

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM

Processing/Physical Characteristics	Value	Unit	Test Standard
ISO Data			
[C] Melt volume-flow rate, MVR	**24**	cm³/10min	ISO 1133
Temperature	**300**	°C	-
Load	**21.6**	kg	-
[C] Molding shrinkage, parallel	**0.5**	%	ISO 294-4, 2577
[C] Molding shrinkage, normal	**0.6**	%	ISO 294-4, 2577
[C] Density of melt	**1020**	kg/m³	-
[C] Thermal conductivity of melt	**0.23**	W/(m K)	-
[C] Spec. heat capacity of melt	**1690**	J/(kg K)	-

[C]: CAMPUS

Mechanical properties	Value	Unit	Test Standard
ISO Data			
[C] Tensile Modulus	**5800**	MPa	ISO 527
[C] Yield stress	**110**	MPa	ISO 527
[C] Yield strain	**2.8**	%	ISO 527
[C] Nominal strain at break	**3**	%	ISO 527
[C] Tensile creep modulus, 1h	**5100**	MPa	ISO 899-1
[C] Tensile creep modulus, 1000h	**2300**	MPa	ISO 899-1
[C] Charpy impact strength, +23°C	**50**	kJ/m²	ISO 179/1eU
[C] Type of failure	**C**	-	-
[C] Charpy notched impact strength, +23°C	**12**	kJ/m²	ISO 179/1eA
[C] Type of failure	**C**	-	-

[C] Tensile notched impact strength, +23°C	**260**	kJ/m²	ISO 8256/1

[C]: CAMPUS

Thermal properties	Value	Unit	Test Standard
ISO Data			
[C] Glass transition temperature, 10°C/min	**190**	°C	ISO 11357-1/-2
[C] Temp. of deflection under load, 1.80 MPa	**185**	°C	ISO 75-1/-2
[C] Temp. of deflection under load, 0.45 MPa	**190**	°C	ISO 75-1/-2
[C] Vicat softening temperature, B	**193**	°C	ISO 306
[C] Coeff. of linear therm. expansion, parallel	**40**	E-6/K	ISO 11359-1/-2
[C] Coeff. of linear therm. expansion, normal	**50**	E-6/K	ISO 11359-1/-2
[C] Burning Behav. at 1.5 mm nom. thickn.	**HB**	class	IEC 60695-11-10
Thickness tested	**1.6**	mm	-
[C] Burning Behav. at thickness h	**HB**	class	IEC 60695-11-10
Thickness tested	**0.8**	mm	-
[C] Oxygen index	**29**	%	ISO 4589-1/-2

[C]: CAMPUS

Electrical properties	Value	Unit	Test Standard
ISO Data			
[C] Relative permittivity, 100Hz	**2.9**	-	IEC 62631-2-1
[C] Relative permittivity, 1MHz	**2.7**	-	IEC 62631-2-1
[C] Dissipation factor, 100Hz	**8**	E-4	IEC 62631-2-1
[C] Dissipation factor, 1MHz	**180**	E-4	IEC 62631-2-1
[C] Volume resistivity	**1E11**	Ohm*m	IEC 62631-3-1
[C] Surface resistivity	**1E13**	Ohm	IEC 62631-3-2
[C] Comparative tracking index	**175**	-	IEC 60112

[C]: CAMPUS

Other properties	Value	Unit	Test Standard
[C] Water absorption	**0.35**	%	Sim. to ISO 62
[C] Density	**1190**	kg/m³	ISO 1183

[C]: CAMPUS

Test specimen production	Value	Unit	Test Standard
ISO Data			
[C] Injection Molding, melt temperature	**320**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

[C]: CAMPUS

Characteristics

Processing
Injection Molding, Profile Extrusion, Sheet Extrusion

Delivery form
Pellets, Black

Special Characteristics
Heat stabilized or stable to heat

Features
Amorphous, Good Adhesion, Low Warpage

Chemical Resistance
Acid Resistance, Alkali Resistance, Hydrolytically Stable

Regional Availability
North America, Europe, Asia Pacific, South and Central America, Near East/Africa