

Product Information

# VESTORAN® 1900 GF20 HE30018

## MODIFIED POLYPHENYLENE ETHER (PPE), HEAT RESISTANT, GLASS FIBER-REINFORCED, SUITABLE FOR K+K PROCESS

**VESTORAN® 1900GF20 HE30018** 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 HE30018 shows very small mold shrinkage. Therefore molded parts have a very low tendency to warp.

Moldings of VESTORAN® 1900GF20 HE30018 are dimensionally stable and hydrolysis resistant even in hot water, but are more sensitive to organic solvents than semi-crystalline plastics.

VESTORAN® 1900GF20 HE30018 is resistant to aqueous alkalines and acids, certain alcohols, and glycol solutions.

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

VESTORAN® 1900GF20 HE30018 is particularly suitable for the adhesion promoter-free manufacturing of plastic/rubber composites patented K&K process ("direct-bonding to rubber").

VESTORAN® 1900GF20 HE30018 is supplied as cylindrical granules in polyethylene packaging.

### Key Features

**Industrial Sector**

Automotive and Mobility

**Resistance to**

Heat (thermal stability), Hydrolysis / hot water, Oil / fuels

**Processing**

Injection molding

**Conformity**

Automotive

**Delivery form**

Pellets, Granules

**Additives**

Glass fibers

**Mechanical properties ISO**

Tensile modulus

dry

**827000**

Unit

psi

Test Standard

ISO 527

Tensile strength	<b>14900</b>	psi	ISO 527
Stress at break	<b>14900</b>	psi	ISO 527
Strain at break, B	<b>2</b>	%	ISO 527
Charpy impact strength, +23°C	<b>21.4</b>	ftlb/in <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C</b>	-	-
Charpy notched impact strength, +23°C	<b>4.28</b>	ftlb/in <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C</b>	-	-

<b>Thermal properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Temp. of deflection under load A, 1.80 MPa	<b>374</b>	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	<b>383</b>	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	<b>401</b>	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	<b>383</b>	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	<b>2.22E-5</b>	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	<b>2.78E-5</b>	in/in/°F	ISO 11359-1/-2

<b>Physical properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Density	<b>1.2</b>	g/cm <sup>3</sup>	ISO 1183
Moisture content	<b>0.06</b>	wt.-%	ISO 15512
Density	<b>1.2</b>	g/cm <sup>3</sup>	ASTM D 792

<b>Rheological properties</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Melt volume-flow rate, MVR	<b>45</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>300</b>	°C	-
Load	<b>21.6</b>	kg	-

<b>Test specimen production</b>	<b>dry</b>	<b>Unit</b>	<b>Test Standard</b>
Injection Molding, melt temperature	<b>608</b>	°F	ISO 294
Injection Molding, mold temperature	<b>176</b>	°F	ISO 294

Injection Molding, injection velocity

**7.87**

in/s

ISO 294

### Characteristics

#### Processing

K&K process

#### Special Characteristics

Amorphous, High heat resistant, Low warpage / Low shrinkage

#### Color

Light ivory

#### Additives

Heat stabilizer

#### Chemical Resistance

Acid resistance, Alkali resistance