

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

5700

Unit

MPa

Test Standard

ISO 527

Tensile strength	103	MPa	ISO 527
Stress at break	103	MPa	ISO 527
Strain at break, B	2	%	ISO 527
Charpy impact strength, +23°C	45	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	9	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-

Thermal properties	dry	Unit	Test Standard
Temp. of deflection under load A, 1.80 MPa	190	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	195	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	205	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	195	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	40	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	50	E-6/K	ISO 11359-1/-2

Physical properties	dry	Unit	Test Standard
Density	1200	kg/m ³	ISO 1183
Moisture content	0.06	Gew.-%	ISO 15512
Density	1200	kg/m ³	ASTM D 792

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

Test specimen production	dry	Unit	Test Standard
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

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