

Product Information

**VESTAMID® CW1442 BK**

**CARBON FIBER-REINFORCED, HEAT- AND UV-STABILIZED PA12 COMPOUND**

**VESTAMID® CW1442 BK** is a highly filled, carbon fiber-reinforced, heat- and UV-stabilized compound based on PA12. It is generally used for components manufactured in the injection molding process and is especially suitable for applications where high impact strength and stiffness as well as low coefficient of friction are required. In addition, it has a good bonding strength with TPU.

The PA12 compound absorbs only small amounts of water. Therefore, components made from this material have an excellent dimensional accuracy with changing ambient humidity.

Due to the low melting point of **VESTAMID® CW1442 BK**, the material provides a wide processing window for the injection molding process. The compound is suitable for applications requiring a high ratio of flow length to wall thickness.

The results presented were generated from a small number of production lots. They are therefore provisional and not yet the result of a statistical analysis.

VESTAMID® CW1442 BK is supplied as cylindrical granules ready for processing, in moisture barrier bags.

The use of colorants can change property values.

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

**Key Features**

**Industrial Sector**

Sports and Lifestyle

**Resistance to**

Heat (thermal stability), UV / light / weathering

**Processing**

Injection molding

**Electrical**

Insulating

**Delivery form**

Pellets, Granules

**Additives**

Carbon fibers

**Mechanical properties ISO**

Tensile modulus

dry / cond

12600 / -

Unit

MPa

Test Standard

ISO 527

Tensile strength

137 / -

MPa

ISO 527

Stress at break

137 / -

MPa

ISO 527

Strain at break, B	5 / -	%	ISO 527
Nominal strain at break, tB	5 / -	%	ISO 527
Charpy impact strength, +23°C	83 / -	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	C / -	-	-
Charpy impact strength, -30°C	79 / -	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	C / -	-	-
Charpy notched impact strength, +23°C	24 / -	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	P / -	-	-
Charpy notched impact strength, -30°C	16 / -	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	C / -	-	-
Flexural modulus, 23°C	12000 / -	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	196 / -	MPa	ISO 178
Flexural strength, 23°C	201 / -	MPa	ISO 178
Flexural strain at flexural strength, 23°C	4 / -	%	ISO 178
Flexural stress at break, 23°C	109 / -	MPa	ISO 178
Flexural strain at break, 23°C	5 / -	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	176 / *	°C	ISO 11357-1/-3

Physical properties	dry / cond	Unit	Test Standard
Density	1160 / -	kg/m <sup>3</sup>	ISO 1183
Water absorption	0.2 / *	%	Sim. to ISO 62
Humidity absorption	0.07 / *	%	Sim. to ISO 62
Shore D hardness	80 / -	-	ISO 7619-1

Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	0 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.2 / *	%	ISO 294-4, 2577

## VESTAMID®

Mold temperature	60 / *	°C	-
Melt temperature	270 / *	°C	-

### Characteristics

#### Applications

General purpose

#### Processing

Thermoforming

#### Special Characteristics

U.V. stabilized

#### Color

Black

#### Additives

Heat stabilizer

#### Delivery form

Cylindrical pellets

#### Chemical Resistance

General chemical resistance