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

Processing
Injection molding

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability), UV / light / weathering

Electrical
Insulating

Additives
Carbon fibers

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**1.83E6 / -**	psi	ISO 527
Tensile strength	**19900 / -**	psi	ISO 527
Stress at break	**19900 / -**	psi	ISO 527

Strain at break, B	**5 / -**	%	ISO 527
Nominal strain at break, tB	**5 / -**	%	ISO 527
Charpy impact strength, +23°C	**39.5 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy impact strength, -30°C	**37.6 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy notched impact strength, +23°C	**11.4 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**P / -**	-	-
Charpy notched impact strength, -30°C	**7.61 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Flexural modulus, 23°C	**1.74E6 / -**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**28400 / -**	psi	ISO 178
Flexural strength, 23°C	**29200 / -**	psi	ISO 178
Flexural strain at flexural strength, 23°C	**4 / -**	%	ISO 178
Flexural stress at break, 23°C	**15800 / -**	psi	ISO 178
Flexural strain at break, 23°C	**5 / -**	%	ISO 178

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**349 / ***	°F	ISO 11357-1/-3

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1.16 / -**	g/cm³	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

Mold temperature	**140 / ***	°F	-
Melt temperature	**518 / ***	°F	-

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