Product Information

VESTAMID® LXM4

GLASS FIBER-REINFORCED, HEAT- AND UV-STABILIZED PA12 COMPOUND

VESTAMID LXM4 is a semi-crystalline, heat- and UV-stabilized compound based on PA12 with a glass fiber content of 4 %. In general, the material is suitable for sport and lifestyle applications and specifically for shoe soles that require good fatigue performance and bonding ability to TPUs.

VESTAMID LXM4 absorbs only small amounts of water. Therefore, components made of this material have excellent dimensional accuracy under changing ambient humidity. The material provides a wide processing window in the injection molding process with a high ratio of flow length to wall thickness.

VESTAMID® LXM4 is supplied as cylindrical granules ready for processing, in moisture barrier bags. Inside the original and undamaged packaging the product has a shelf life of at least two years when stored in dry rooms at temperatures not exceeding 30°C.

The use of colorants may affect property values.

Key Features

Industrial Sector
Sports and Lifestyle

Processing
Injection molding

Delivery form
Pellets, Granules

Optics
Translucent

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

Electrical
Insulating

Additives
Glass fibers

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® CW modified GF	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044

Blue water consumption	**237.7**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**6.3**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**6.6**	kg CO_2 eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	**2.9**	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	**-1.6**	kg CO_2 eq./kg	ISO 14040, 14044

Mechanical properties ISO	**dry / cond**	**Unit**	**Test Standard**
Tensile modulus	**232000 / -**	psi	ISO 527
Tensile strength	**6960 / -**	psi	ISO 527
Yield stress	**6960 / -**	psi	ISO 527
Yield strain	**5.6 / -**	%	ISO 527
Stress at break	**5660 / -**	psi	ISO 527
Strain at break, B	**18.8 / -**	%	ISO 527
Nominal strain at break, tB	**18.3 / -**	%	ISO 527
Charpy impact strength, +23°C	**61.8 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy impact strength, -30°C	**62.3 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy notched impact strength, +23°C	**4.76 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Charpy notched impact strength, -30°C	**2.85 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Flexural modulus, 23°C	**191000 / -**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**6380 / -**	psi	ISO 178
Flexural strength, 23°C	**8700 / -**	psi	ISO 178
Flexural strain at flexural strength, 23°C	**7.5 / -**	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**356 / ***	°F	ISO 11357-1/-3

Physical properties	dry / cond	Unit	Test Standard
Density	**1.03 / -**	g/cm³	ISO 1183
Water absorption	**0.26 / ***	%	Sim. to ISO 62
Humidity absorption	**0.17 / ***	%	Sim. to ISO 62
Shore D hardness	**73 / -**	-	ISO 7619-1

Optical properties	dry	Unit	Test Standard
Color L	**64.4**	-	CIE
Color a	**-0.4**	-	CIE
Color b	**3.1**	-	CIE

Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	**0.9 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.6 / ***	%	ISO 294-4, 2577
Mold temperature	**140 / ***	°F	-
Melt temperature	**464 / ***	°F	-

Characteristics

Applications
General purpose

Processing
Thermoforming

Special Characteristics
Semi-crystalline, Light-stabilized, U.V. stabilized

Color
Natural color

Additives
Light stabilizer, Heat stabilizer

Delivery form
Cylindrical pellets

Chemical Resistance
General chemical resistance