

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

**Resistance to**

Heat (thermal stability), UV / light / weathering

**Processing**

Injection molding

**Electrical**

Insulating

**Delivery form**

Pellets, Granules

**Additives**

Glass fibers

**Optics**

Translucent

**LCA-values**

LCA name of certificate

dry

[VESTAMID® CW  
modified GF](#)

Unit

-

Test Standard

ISO 14040, 14044

LCA certifier

[TÜV Rheinland](#)

-

ISO 14040, 14044

Blue water consumption	<b>237.7</b>	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	<b>6.3</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	<b>6.6</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	<b>2.9</b>	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	<b>-1.6</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044

<b>Mechanical properties ISO</b>	<b>dry / cond</b>	<b>Unit</b>	<b>Test Standard</b>
Tensile modulus	<b>1600 / -</b>	MPa	ISO 527
Tensile strength	<b>48 / -</b>	MPa	ISO 527
Yield stress	<b>48 / -</b>	MPa	ISO 527
Yield strain	<b>5.6 / -</b>	%	ISO 527
Stress at break	<b>39 / -</b>	MPa	ISO 527
Strain at break, B	<b>18.8 / -</b>	%	ISO 527
Nominal strain at break, tB	<b>18.3 / -</b>	%	ISO 527
Charpy impact strength, +23°C	<b>130 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / -</b>	-	-
Charpy impact strength, -30°C	<b>131 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / -</b>	-	-
Charpy notched impact strength, +23°C	<b>10 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / -</b>	-	-
Charpy notched impact strength, -30°C	<b>6 / -</b>	kJ/m <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / -</b>	-	-
Flexural modulus, 23°C	<b>1320 / -</b>	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	<b>44 / -</b>	MPa	ISO 178
Flexural strength, 23°C	<b>60 / -</b>	MPa	ISO 178
Flexural strain at flexural strength, 23°C	<b>7.5 / -</b>	%	ISO 178

## VESTAMID®

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	180 / *	°C	ISO 11357-1/-3

Physical properties	dry / cond	Unit	Test Standard
Density	1030 / -	kg/m <sup>3</sup>	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	60 / *	°C	-
Melt temperature	240 / *	°C	-

### 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