Product Information

VESTAMID® L-GF30 BK E70285

GLASS-FIBER REINFORCED, LASER-WELDABLE POLYAMIDE 12

VESTAMID® L-GF30 BK E70285 is a glass fiber reinforced, heat-stabilized PA 12 compound with good IR laser transparency for injection molding. The material contains about 30% glass fibers, an ageing protective agent and processing aid for a fast and even form filling.

VESTAMID® L-GF30 BK E70285 is laser-weldable by a diode-pumped or solid-state laser in the range of = 808–1064 nm. Using glass fiber reinforcement the strength and the heat deflection temperature are significantly increased.

Further advantages of VESTAMID® L-GF30 BK E70285 are the characteristic properties of polyamide 12 as low water absorption, good dimensional stability and almost the same properties at changing ambient humidity.

VESTAMID® L-GF30 BK E70285 is supplied as cylindrical pellets ready for processing in moisture-proof bags.

The use of colorants may change property values.

Inside the original and undamaged packaging, the product has a shelf life of at least 2 years when stored in dry rooms at temperatures not exceeding 30°C.

Key Features

Industrial Sector
Automotive and Mobility, Sustainable

Sustainability
Sustainable electricity

Processing
Injection molding

Delivery form
Pellets, Granules

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

Electrical
Insulating

Conformity
Automotive

Additives
Glass fibers

Optics
Laser transparent

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® L GF medium	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	**23.6**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**5.1**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**5.1**	kg CO_2 eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	**0.1**	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	**-2.3**	kg CO_2 eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**986000 / -**	psi	ISO 527
Tensile strength	**17700 / -**	psi	ISO 527
Stress at break	**17400 / -**	psi	ISO 527
Nominal strain at break, tB	**6 / -**	%	ISO 527
Charpy impact strength, +23°C	**40.4 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy impact strength, -30°C	**47.6 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy notched impact strength, +23°C	**10.9 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Charpy notched impact strength, -30°C	**9.99 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Flexural modulus, 23°C	**882000 / -**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**24800 / -**	psi	ISO 178
Flexural strength, 23°C	**27300 / -**	psi	ISO 178

Flexural strain at flexural strength, 23°C	**5 / -**	%	ISO 178
Flexural stress at break, 23°C	**26800 / -**	psi	ISO 178
Flexural strain at break, 23°C	**5 / -**	%	ISO 178

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**352 / ***	°F	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**329 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**347 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**347 / ***	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**347 / ***	°F	ISO 306
Melting Temperature	**352**	°F	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1.24 / -**	g/cm³	ISO 1183
Water absorption	**1.1 / ***	%	Sim. to ISO 62
Humidity absorption	**0.6 / ***	%	Sim. to ISO 62
Density	**1.24**	g/cm³	ASTM D 792

Burning Behav.	**dry / cond**	**Unit**	**Test Standard**
UL Yellow Card available	yes / *	-	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0315 / ***	in	-
Burning behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0591 / ***	in	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.1181 / ***	in	-

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, V	**7.2E12 / -**	Ohm*m	IEC 62631-3-1

Surface resistivity, C, circular electrodes	**>1E15 / -**	Ohm/sq	IEC 62631-3-2
Relative permittivity, 50Hz	**4.1 / -**	-	IEC 62631-2-1
Relative permittivity, 100Hz	**4 / -**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.2 / -**	-	IEC 62631-2-1
Dissipation factor, 1MHz	**290 / -**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	**1220 / -**	kV/in	IEC 60243-1

Rheological properties	**dry / cond**	**Unit**	**Test Standard**
Melt volume-flow rate, MVR	**11 / ***	cm^3/10min	ISO 1133
Temperature	**250 / ***	°C	-
Load	**5 / ***	kg	-
Molding shrinkage, parallel	**0.3 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.9 / ***	%	ISO 294-4, 2577
Mold temperature	**176 / ***	°F	-

Test specimen production	**dry**	**Unit**	**Test Standard**
Injection Molding, melt temperature	**482**	°F	ISO 294
Injection Molding, mold temperature	**176**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294

Characteristics

Special Characteristics
High heat resistant

Color
Black

Features
Weldable

Additives
Antioxidant agent, Heat stabilizer, Processing aids