VESTAMID®

Product Information

VESTAMID® L1930 BK 9.7503

GLASS FIBER-REINFORCED, HEAT STABILIZED POLYAMIDE 12 COMPOUND

VESTAMID® L1930 BK 9.7503 is a heat stabilized, with 30% milled glass fiber-reinforced PA 12 compound suitable for injection molding.

Due to the reinforcement moldings from this compound exhibit a high strength and rigidity. Because PA 12 absorbs only little water, the parts have a good dimensional stability and almost unaffected mechanical properties at changing ambient humidity.

Due to the reinforcement the shrinking of moldings is decreased compared with unreinforced compounds. Using specialty short glass fibers for the reinforcement of VESTAMID® L1930 BK 9.7503 the difference between longitudinal and transverse shrinkage relating to the flow direction of the melt is significantly lower than with common glass fiber-reinforced products. Therefore especially low-warpage precision parts can be molded.

As a semi-crystalline material VESTAMID® L1930 BK 9.7503 feature an outstanding chemical resistance, e.g., against fuels, oils and fats.

VESTAMID® L1930 BK 9.7503 is supplied as cylindrical pellets in moisture-proof packaging.

Pigmentation may affect 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, Industry and Engineering

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

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	**3800 / 2970**	MPa	ISO 527
Tensile strength	**66 / 58**	MPa	ISO 527
Yield stress	**65 / 58**	MPa	ISO 527
Yield strain	**5 / 8**	%	ISO 527
Stress at break	**60 / 51**	MPa	ISO 527
Nominal strain at break, tB	**11 / 15**	%	ISO 527
Charpy impact strength, +23°C	**75 / 82**	kJ/m²	ISO 179/1eU
Type of failure	**C / C**	-	-
Charpy impact strength, -30°C	**65 / 72**	kJ/m²	ISO 179/1eU
Type of failure	**C / C**	-	-
Charpy notched impact strength, +23°C	**7 / 6**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**6 / 5**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-
Flexural modulus, 23°C	**3600 / 2800**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**90 / 69**	MPa	ISO 178
Flexural strength, 23°C	**99 / 82**	MPa	ISO 178

Flexural strain at flexural strength, 23°C	**6 / 7**	%	ISO 178
Flexural stress at break, 23°C	**N / N**	MPa	ISO 178
Flexural strain at break, 23°C	**N / N**	%	ISO 178

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**177 / ***	°C	ISO 11357-1/-3
Glass transition temperature, DSC	**44 / ***	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**130 / ***	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**170 / ***	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**175 / ***	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**170 / ***	°C	ISO 306
Melting Temperature	**177**	°C	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1240 / -**	kg/m³	ISO 1183
Water absorption	**1.1 / ***	%	Sim. to ISO 62
Humidity absorption	**0.5 / ***	%	Sim. to ISO 62
Density	**1240**	kg/m³	ASTM D 792

Burning Behav.	**dry / cond**	**Unit**	**Test Standard**
Burning behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**1.6 / ***	mm	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**1.4 / ***	mm	-

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, V	**1E13 / 1.5E12**	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	**- / >1E15**	Ohm per square	IEC 62631-3-2
Surface resistivity, A	**1E13 / -**	Ohm per square	IEC 62631-3-2

Relative permittivity, 50Hz	**4.3 / 5.5**	-	IEC 62631-2-1
Relative permittivity, 100Hz	**4.2 / 5.3**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.5 / 3.5**	-	IEC 62631-2-1
Dissipation factor, 50Hz	**450 / 830**	E-4	IEC 62631-2-1
Dissipation factor, 100Hz	**360 / 860**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**340 / 460**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	**48 / 45**	kV/mm	IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**27 / ***	cm^3/10min	ISO 1133
Temperature	**250 / ***	°C	-
Load	**5 / ***	kg	-
Molding shrinkage, parallel	**0.5 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.5 / ***	%	ISO 294-4, 2577
Mold temperature	**80 / ***	°C	-
Melt temperature	**250 / ***	°C	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**250**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Characteristics

Special Characteristics
Semi-crystalline, High heat resistant, Low warpage / Low shrinkage

Color
Black

Additives
Heat stabilizer

Chemical Resistance
Grease resistance, Oil resistance, General chemical resistance