

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	<a href="#">VESTAMID® L GE medium</a>	-	ISO 14040, 14044
LCA certifier	<a href="#">TÜV Rheinland</a>	-	ISO 14040, 14044
Blue water consumption	<b>23.6</b>	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	<b>5.1</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	<b>5.1</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	<b>0.1</b>	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	<b>-2.3</b>	kg CO <sub>2</sub> eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	<b>551000 / 431000</b>	psi	ISO 527
Tensile strength	<b>9570 / 8410</b>	psi	ISO 527
Yield stress	<b>9430 / 8410</b>	psi	ISO 527
Yield strain	<b>5 / 8</b>	%	ISO 527
Stress at break	<b>8700 / 7400</b>	psi	ISO 527
Nominal strain at break, tB	<b>11 / 15</b>	%	ISO 527
Charpy impact strength, +23°C	<b>35.7 / 39</b>	ftlb/in <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / C</b>	-	-
Charpy impact strength, -30°C	<b>30.9 / 34.3</b>	ftlb/in <sup>2</sup>	ISO 179/1eU
Type of failure	<b>C / C</b>	-	-
Charpy notched impact strength, +23°C	<b>3.33 / 2.85</b>	ftlb/in <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / C</b>	-	-
Charpy notched impact strength, -30°C	<b>2.85 / 2.38</b>	ftlb/in <sup>2</sup>	ISO 179/1eA
Type of failure	<b>C / C</b>	-	-
Flexural modulus, 23°C	<b>522000 / 406000</b>	psi	ISO 178
Flexural stress at conv. deflection, 23°C	<b>13100 / 10000</b>	psi	ISO 178
Flexural strength, 23°C	<b>14400 / 11900</b>	psi	ISO 178

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

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	351 / *	°F	ISO 11357-1/-3
Glass transition temperature, DSC	111 / *	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	266 / *	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	338 / *	°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	338 / *	°F	ISO 306
Melting Temperature	351	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1.24 / -	g/cm <sup>3</sup>	ISO 1183
Water absorption	1.1 / *	%	Sim. to ISO 62
Humidity absorption	0.5 / *	%	Sim. to ISO 62
Density	1.24	g/cm <sup>3</sup>	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	0.0630 / *	in	-
Burnin behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.0551 / *	in	-

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/sq	IEC 62631-3-2
Surface resistivity, A	1E13 / -	Ohm/sq	IEC 62631-3-2

Relative permittivity, 50Hz	<b>4.3 / 5.5</b>	-	IEC 62631-2-1
Relative permittivity, 100Hz	<b>4.2 / 5.3</b>	-	IEC 62631-2-1
Relative permittivity, 1MHz	<b>3.5 / 3.5</b>	-	IEC 62631-2-1
Dissipation factor, 50Hz	<b>450 / 830</b>	E-4	IEC 62631-2-1
Dissipation factor, 100Hz	<b>360 / 860</b>	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	<b>340 / 460</b>	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	<b>1220 / 1140</b>	kV/in	IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	<b>27 / *</b>	cm <sup>3</sup> /10min	ISO 1133
Temperature	<b>250 / *</b>	°C	-
Load	<b>5 / *</b>	kg	-
Molding shrinkage, parallel	<b>0.5 / *</b>	%	ISO 294-4, 2577
Molding shrinkage, normal	<b>0.5 / *</b>	%	ISO 294-4, 2577
Mold temperature	<b>176 / *</b>	°F	-
Melt temperature	<b>482 / *</b>	°F	-

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