Product Information

VESTAMID® L1930 NC

MILLED GLASS FIBER FILLED PA 12-PLASTIC RESIN FOR THE INJECTION MOLDING

VESTAMID® L1930 NC is a heat stabilized, with 30% milled glass fiber-reinforced PA 12 compound suitable for injection molding of stiff, relatively warp free molded parts.

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 NC 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 NC feature an outstanding chemical resistance, e.g., against fuels, oils and fats.

VESTAMID® L1930 NC 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

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

Electrical
Insulating

Conformity
Drinking water contact, Automotive

VESTAMID®

Delivery form
Pellets, Granules

Additives
Glass fibers, Lubricant

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	**542000 / -**	psi	ISO 527
Tensile strength	**9140 / -**	psi	ISO 527
Yield stress	**9140 / -**	psi	ISO 527
Yield strain	**4.5 / -**	%	ISO 527
Stress at break	**7980 / -**	psi	ISO 527
Nominal strain at break, tB	**12 / -**	%	ISO 527
Charpy impact strength, +23°C	**42.3 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy impact strength, -30°C	**30.9 / -**	ftlb/in²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy notched impact strength, +23°C	**3.81 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-
Charpy notched impact strength, -30°C	**5.23 / -**	ftlb/in²	ISO 179/1eA
Type of failure	**C / -**	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	**352 / ***	°F	ISO 11357-1/-3
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
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**2.78E-5 / ***	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**2.78E-5 / ***	in/in/°F	ISO 11359-1/-2
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	**0.5 / ***	%	Sim. to ISO 62
Density	**1.24**	g/cm³	ASTM D 792

Burning Behav.	dry / cond	Unit	Test Standard
UL Yellow Card available	yes / *	-	-
Burning behav. at 1.5 mm nom. thickn.	**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	-
Burning behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0319 / ***	in	-
Hot Wire Ignition (HWI)	**4**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.0319**	in	-
Hot Wire Ignition (HWI)	**3**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.0591**	in	-

Hot Wire Ignition (HWI)	**3**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.1181**	in	-

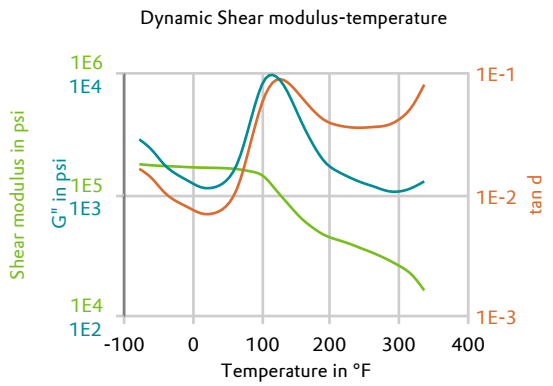
Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, V	**>1E13 / -**	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	**4.1 / -**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.4 / -**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**310 / -**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**240 / -**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	**1020 / -**	V/mil	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	**600 / -**	-	IEC 60112
Assessment of the insulation group	**I**	-	DIN EN 60664-1
CTI, Performance Level Categories, PLC	**0**	class	ASTM D 3638

Rheological properties	**dry / cond**	**Unit**	**Test Standard**
Melt volume-flow rate, MVR	**24 / ***	cm^3/10min	ISO 1133
Temperature	**240 / ***	°C	-
Load	**5 / ***	kg	-
Molding shrinkage, parallel	**0.7 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.6 / ***	%	ISO 294-4, 2577
Mold temperature	**176 / ***	°F	-
Melt temperature	**482 / ***	°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
Injection Molding, pressure at hold	**10200**	psi	ISO 294

Diagrams

Dynamic Shear modulus-temperature



Characteristics

Applications
General purpose

Special Characteristics
High heat resistant

Regulatory
Water contact KTW-BWGL, Water contact DIN EN 16421, Water contact WRAS

Color
Natural color

Additives
Heat stabilizer, Processing aids

Chemical Media Resistance

Acids

- ✔ Acetic Acid (5% by mass) (23°C)
- ✔ Citric Acid solution (10% by mass) (23°C)

Bases

- ✔ Sodium Hydroxide solution (35% by mass) (23°C)

- ✔ Sodium Hydroxide solution (1% by mass) (23°C)
- ✔ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✔ Isopropyl alcohol (23°C)
- ✔ Methanol (23°C)
- ✔ Ethanol (23°C)

Hydrocarbons

- ✔ n-Hexane (23°C)
- ✔ Toluene (23°C)
- ✔ iso-Octane (23°C)

Ketones

- ✔ Acetone (23°C)

Ethers

- ✔ Diethyl ether (23°C)

Mineral oils

- ✔ SAE 10W40 multigrade motor oil (23°C)
- ✔ Insulating Oil (23°C)

Standard Fuels

- ✔ ISO 1817 Liquid 1 (60°C)
- ✔ ISO 1817 Liquid 2 (60°C)
- ✔ ISO 1817 Liquid 3 (60°C)
- ✔ ISO 1817 Liquid 4 (60°C)
- ✔ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✔ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)
- ✔ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✔ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)
- ✔ Diesel EN 590 (100°C)

Salt solutions

- ✔ Sodium Chloride solution (10% by mass) (23°C)
- ✔ Sodium Carbonate solution (20% by mass) (23°C)
- ✔ Sodium Carbonate solution (2% by mass) (23°C)
- ✔ Zinc Chloride solution (50% by mass) (23°C)

Other

- ✔ Ethyl Acetate (23°C)
- ✔ Hydrogen peroxide (23°C)
- ✔ DOT No. 4 Brake fluid (120°C)
- ✔ Water (23°C)

Rheological calculation properties	dry	Unit	Test Standard
Min. mold temperature	**86**	°F	-
Max. mold temperature	**212**	°F	-
Min. melt temperature	**446**	°F	-
Max. melt temperature	**518**	°F	-