

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

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	3740 / -	MPa	ISO 527
Tensile strength	63 / -	MPa	ISO 527
Yield stress	63 / -	MPa	ISO 527
Yield strain	4.5 / -	%	ISO 527
Stress at break	55 / -	MPa	ISO 527
Nominal strain at break, tB	12 / -	%	ISO 527
Charpy impact strength, +23°C	89 / -	kJ/m ²	ISO 179/1eU
Type of failure	C / -	-	-
Charpy impact strength, -30°C	65 / -	kJ/m ²	ISO 179/1eU
Type of failure	C / -	-	-
Charpy notched impact strength, +23°C	8 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-
Charpy notched impact strength, -30°C	11 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	178 / *	°C	ISO 11357-1/-3
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
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	50 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	50 / *	E-6/K	ISO 11359-1/-2
Melting Temperature	178	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1240 / -	kg/m ³	ISO 1183
Water absorption	1.1 / *	%	Sim. to ISO 62
Humidity absorption	0.5 / *	%	Sim. to ISO 62
Density	1240	kg/m ³	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	1.5 / *	mm	-
Burnin behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	3.0 / *	mm	-
Burning behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	-
Hot Wire Ignition (HWI)	4	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	0.8	mm	-
Hot Wire Ignition (HWI)	3	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	1.5	mm	-

Hot Wire Ignition (HWI)	3	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	3.0	mm	-

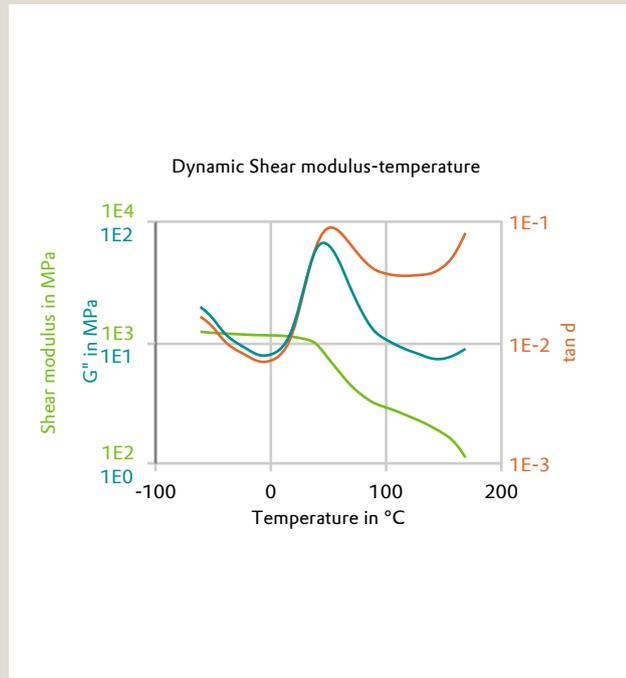
Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	>1E13 / -	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	4.1 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	3.4 / -	-	IEC 62631-2-1
Dissipation factor, 100Hz	310 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	240 / -	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	40 / -	kV/mm	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	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
Injection Molding, pressure at hold	70	MPa	ISO 294

Diagrams

Dynamic Shear modulus-temperature



Characteristics

Applications

General purpose

Color

Natural color

Special Characteristics

High heat resistant

Additives

Heat stabilizer, Processing aids

Regulatory

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

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	30	°C	-
Max. mold temperature	100	°C	-
Min. melt temperature	230	°C	-
Max. melt temperature	270	°C	-