

Product Information

VESTAMID® LC-GF23 NC

GLASS FIBER REINFORCED PA12 COMPOUND WITH HIGH STRAIN AT BREAK FOR INJECTION MOLDING

VESTAMID® LC-GF23 NC is a semi-crystalline, heat- and UV-stabilized compound based on PA 12 from which connectors are preferably produced by injection molding. The polyamide compound is especially suitable for the automotive and mobility sector. The semi-crystalline molding compound absorbs only small amounts of water. Components made from **VESTAMID® LC-GF23 NC** therefore have excellent dimensional accuracy with changing ambient humidity and constant general chemical stability.

The semi-crystalline polymer is characterized by its outstanding mechanical and thermal load capacity.

Molding or process-specific deviations from the recommended processing parameters are possible to a certain extent if the cavity or the process requires it.

VESTAMID® LC-GF23 NC is delivered as cylindrical-granules in ready-to-process condition, in moisture-tight packaging.

The use of colorants may change property values.

The results presented were generated from a small number of production lots. They are therefore provisional and not yet the result of a statistical analysis.

The values presented are typical or average values, they do not constitute a specification.

Key Features

Industrial Sector

Automotive and Mobility, Industry and Engineering

Resistance to

Heat (thermal stability), UV / light / weathering

Processing

Injection molding

Electrical

Insulating

Delivery form

Pellets, Granules

Conformity

Automotive

Optics

Laser absorbing

Additives

Glass fibers

Mechanical properties ISO

dry

Unit

Test Standard

Tensile modulus

5470

MPa

ISO 527

Yield stress

106

MPa

ISO 527

Yield strain	4	%	ISO 527
Stress at break	101	MPa	ISO 527
Strain at break, B	7	%	ISO 527
Nominal strain at break, tB	6	%	ISO 527
Charpy impact strength, +23°C	91	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -30°C	93	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -40°C	97	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	22	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	15	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -40°C	13	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-

Thermal properties	dry	Unit	Test Standard
Melting temperature	178	°C	ISO 11357-1/-3
Glass transition temperature, DSC	42	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	162	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	178	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	176	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	172	°C	ISO 306

Physical properties	dry	Unit	Test Standard
Density	1180	kg/m ³	ISO 1183
Moisture content	0.107	Gew.-%	ISO 15512

Shore D hardness	79	-	ISO 7619-1
------------------	----	---	------------

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	31	cm ³ /10min	ISO 1133
Temperature	275	°C	-
Load	5	kg	-
Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8	%	ISO 294-4, 2577
Mold temperature	80	°C	-
Melt temperature	260	°C	-
Flow length, flow spiral	463	mm	Evonik standard
Flow front velocity, flow spiral	950	mm/s	Evonik standard
Flow cross section	6 x 2	mm ²	Evonik standard
Mold temperature, flow spiral	250	°C	Evonik standard
Melt temperature, flow spiral	80	°C	Evonik standard
Injection pressure, flow spiral	1500	bar	Evonik standard
Flow length, flow spiral	581	mm	Evonik standard
Flow front velocity, flow spiral	950	mm/s	Evonik standard
Flow cross section	6 x 2	mm ²	Evonik standard
Mold temperature, flow spiral	250	°C	Evonik standard
Melt temperature, flow spiral	80	°C	Evonik standard
Injection pressure, flow spiral	2000	bar	Evonik standard

Polymer analytics	dry	Unit	Test Standard
Corrected Viscosity number	170	cm ³ /g	ISO 307, 1157, 1628
Rel. solution viscosity	1.85	-	ISO 307
Amino end group	60	mmol/kg	Evonik standard
Carboxyl end group	7	mmol/kg	Evonik standard

Characteristics

Applications

Quick-connectors

Special Characteristics

Halogen-free, Semi-crystalline, U.V. stabilized, Medium viscosity

Features

Non-corrosive

Color

Natural color

Delivery form

Cylindrical pellets

Chemical Resistance

Fuel resistance

Processing Recommendation Injection Molding	dry	Unit	Test Standard
Pre-drying - Temperature	80 - 100	°C	-
Pre-drying - Time	2 - 4	h	-
Processing humidity	≤0.1	%	-
Melt temperature	240 - 280	°C	-
Mold temperature	60 - 100	°C	-
Feed temperature	40 - 60	°C	-
Zone 1	260	°C	-
Zone 2	255	°C	-
Zone 3	250	°C	-
Zone 4	50	°C	-
Nozzle temperature	250	°C	-
Screw speed	127	rpm	-
Circumferential speed	50 - 200	mm/s	-
Back pressure	0.3 - 0.8	MPa	-
Holding pressure	7	MPa	-