

Product Information

VESTAMID® LC-GF50 BK

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



VESTAMID® LC-GF50 BK 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-GF50 BK** 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-GF50 BK is delivered as cylindrical-granules in ready-to-process condition, in moisture-tight packaging.

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

Tensile modulus

dry

12600

Unit

MPa

Test Standard

ISO 527

Tensile strength

156

MPa

ISO 527

Yield stress	157	MPa	ISO 527
Yield strain	6	%	ISO 527
Stress at break	156	MPa	ISO 527
Strain at break, B	7	%	ISO 527
Nominal strain at break, tB	6	%	ISO 527
Charpy impact strength, +23°C	102	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -30°C	107	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -40°C	109	kJ/m ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	28	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	23	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -40°C	22	kJ/m ²	ISO 179/1eA
Type of failure	C	-	-

Thermal properties	dry	Unit	Test Standard
Melting temperature	176	°C	ISO 11357-1/-3
Glass transition temperature, DSC	41	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	171	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	180	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	178	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	176	°C	ISO 306

Physical properties	dry	Unit	Test Standard
Density	1480	kg/m ³	ISO 1183

Moisture content	0.124	Gew.-%	ISO 15512
Shore D hardness	84	-	ISO 7619-1

Rheological properties

	dry	Unit	Test Standard
Melt volume-flow rate, MVR	7	cm ³ /10min	ISO 1133
Temperature	275	°C	-
Load	5	kg	-
Flow length, flow spiral	312	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	280	°C	Evonik standard
Melt temperature, flow spiral	80	°C	Evonik standard
Injection pressure, flow spiral	1500	bar	Evonik standard
Flow length, flow spiral	392	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	280	°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	177	cm ³ /g	ISO 307, 1157, 1628
Rel. solution viscosity	1.89	-	ISO 307
Amino end group	34	mmol/kg	Evonik standard
Carboxyl end group	<20	mmol/kg	Evonik standard

Characteristics

Applications

Quick-connectors, Fittings

Special Characteristics

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

Features

Lightweight, Non-corrosive

Color

Black

Additives

Light stabilizer

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	260	°C	-
Zone 3	260	°C	-
Zone 4	50	°C	-
Nozzle temperature	265	°C	-
Screw speed	127	rpm	-
Circumferential speed	50 - 200	mm/s	-
Back pressure	0.3 - 0.8	MPa	-
Holding pressure	7	MPa	-