VESTAMID®

Product Information

VESTAMID® LX9043 NC

HEAT-STABILIZED POLYAMIDE 12 MOLDING COMPOUND WITH IMPROVED DEMOLDABILITY

VESTAMID® LX9043 NC is a semi-crystalline, low-viscosity molding compound based on PA12, from which various hollow articles can be produced by rotational molding. The polyamide 12 molding compound is especially suitable for industrial and technical applications with requirements for the manufacture of plastic products of different sizes. The semi-crystalline molding compound absorbs only small amounts of water. Components made from it therefore exhibit excellent dimensional stability under varying ambient humidity.

VESTAMID® LX9043 NC is supplied as cylindrical granules, ready for processing, in moisture-proof bags.
In the undamaged original packaging, the product has a shelf life of at least 2 years if stored in dry rooms at temperatures not exceeding 30°C.
The use of colorants may affect property values.

The results shown have been generated from a low number of production lots. Therefore, they are preliminary and not yet the result of a statistical evaluation. Therefore they must not be used to establish specifications.

Key Features

Industrial Sector
Industry and Engineering

Delivery form
Pellets, Granules

Optics
Laser transparent, Opaque

Resistance to
Heat (thermal stability)

Electrical
Insulating

Additives
Release agent, Unfilled

Mechanical properties ISO	dry	Unit	Test Standard
Tensile modulus	**1110**	MPa	ISO 527
Yield stress	**39**	MPa	ISO 527
Yield strain	**13**	%	ISO 527

Stress at 50% strain	**31**	MPa	ISO 527
Stress at break	**62**	MPa	ISO 527
Nominal strain at break, tB	**>50**	%	ISO 527
Typical for the mat. nom. strain at br., tB	**344**	%	ISO 527
Charpy impact strength, +23°C	**N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**5**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Charpy notched impact strength, -30°C	**4**	kJ/m²	ISO 179/1eA
Type of failure	**C**	-	-
Flexural modulus, 23°C	**1010**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**34**	MPa	ISO 178
Flexural strength, 23°C	**46**	MPa	ISO 178
Flexural strain at flexural strength, 23°C	**8**	%	ISO 178
Flexural stress at break, 23°C	**N**	MPa	ISO 178

Thermal properties	**dry**	**Unit**	**Test Standard**
Melting temperature	**178**	°C	ISO 11357-1/-3
Glass transition temperature, DSC	**40**	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**46**	°C	ISO 75-1/-2
Temp. of deflection under load C, 8.00 MPa	**96**	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**174**	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**133**	°C	ISO 306
Melting Temperature	**178**	°C	ASTM D 3418

Physical properties	**dry**	**Unit**	**Test Standard**
Density	**1010**	kg/m³	ISO 1183
Water absorption	**1.5**	%	Sim. to ISO 62

Moisture content	**0.07**	Gew.-%	ISO 15512
Shore D Hardness	**70**	-	ASTM D 2240

Rheological properties	dry	Unit	Test Standard
Melt volume-flow rate, MVR	**63**	cm^3/10min	ISO 1133
Temperature	**230**	°C	-
Load	**5**	kg	-
Molding shrinkage, parallel	**0.9**	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.2**	%	ISO 294-4, 2577
Mold temperature	**80**	°C	-
Melt temperature	**220**	°C	-
Melt viscosity, at 100 1/s	**449**	Pa s	-
Temperature	**220**	°C	-

Polymer analytics	dry	Unit	Test Standard
Rel. solution viscosity	**1.75**	-	ISO 307
Amino end group	**5**	mmol/kg	Evonik standard
Carboxyl end group	**80**	mmol/kg	Evonik standard

Characteristics

Applications
General purpose

Color
Natural color

Processing
Thermoforming, Rotational molding

Additives
Release agent

Special Characteristics
Halogen-free, Phosphorus-free, Semi-crystalline, Low viscosity

Delivery form
Cylindrical pellets

Processing Recommendation Injection Molding	dry	Unit	Test Standard
Pre-drying - Temperature	**70 - 80**	°C	-
Pre-drying - Time	**5 - 12**	h	-

Processing humidity	**≤0.1**	%	-
Melt temperature	**210 - 220**	°C	-
Mold temperature	**60 - 80**	°C	-
Feed temperature	**40 - 60**	°C	-
Circumferential speed	**50 - 200**	mm/s	-
Back pressure	**5 - 10**	MPa	-