

Product Information

VESTAMID® LX9039 NC

MEDIUM VISCOSITY POLYAMIDE 12



VESTAMID® LX9039 NC is an unmodified, medium viscosity polyamide 12 without stabilizers and processing aids. It is usually used only in special cases where the absence of any additives is desirable or the presence of processing aids interferes.

VESTAMID® LX9039 NC is supplied as spherical granules, ready for processing in moisture-proof packaging.

The use of colorants may affect property 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

Sustainable, Industry and Engineering, Sports and Lifestyle

Delivery form

Pellets, Granules

Sustainability

Sustainable electricity

Additives

Unfilled

LCA-values

	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® L	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	14.4	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	5.8	kg CO ₂ eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	5.8	kg CO ₂ eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	0	Annual crop eq. y	ISO 14040, 14044

GWP savings as compared to 2023 reference **-1.3** kg CO₂ eq./kg ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	1400 / 1000	MPa	ISO 527
Tensile strength	43 / 38	MPa	ISO 527
Yield stress	43 / 38	MPa	ISO 527
Yield strain	5 / 15	%	ISO 527
Stress at 50% strain	32 / 31	MPa	ISO 527
Stress at break	50 / 50	MPa	ISO 527
Nominal strain at break, tB	260 / 260	%	ISO 527
Charpy impact strength, +23°C	N / N	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N / N	kJ/m ²	ISO 179/1eU
Charpy impact strength, -40°C	N / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	7 / 10	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Charpy notched impact strength, -30°C	7 / 5	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Charpy notched impact strength, -40°C	7 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-
Flexural modulus, 23°C	1420 / 1030	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	46 / 32	MPa	ISO 178
Flexural strength, 23°C	58 / 44	MPa	ISO 178
Flexural strain at flexural strength, 23°C	7 / 8	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	178 / *	°C	ISO 11357-1/-3
Glass transition temperature, DSC	39 / *	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	50 / *	°C	ISO 75-1/-2

Temp. of deflection under load B, 0.45 MPa	110 / *	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	173 / *	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	138 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	150 / *	E-6/K	ISO 11359-1/-2
Melting Temperature	178	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1020 / -	kg/m ³	ISO 1183
Water absorption	1.5 / *	%	Sim. to ISO 62
Humidity absorption	0.7 / *	%	Sim. to ISO 62
Shore D hardness	73^[b] / -	-	ISO 7619-1
Density	1020	kg/m ³	ASTM D 792

b: 3 seconds

Burning Behav.	dry / cond	Unit	Test Standard
Burning behav. at 1.5 mm nom. thickn.	HB / *	class	IEC 60695-11-10
Thickness tested	1.6 / *	mm	-
Burnin behav. at thickness h	HB / *	class	IEC 60695-11-10
Thickness tested	3.2 / *	mm	-

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	0 / 2.2E12	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	>1E15 / >1E15	Ohm per square	IEC 62631-3-2
Relative permittivity, 50Hz	3.9 / -	-	IEC 62631-2-1
Relative permittivity, 100Hz	3.8 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	3 / -	-	IEC 62631-2-1
Dissipation factor, 100Hz	500 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	323 / -	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	26 / -	kV/mm	Sim. to IEC 60243-1

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Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	27 / *	cm ³ /10min	ISO 1133
Temperature	240 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.8 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.1 / *	%	ISO 294-4, 2577
Mold temperature	60 / *	°C	-
Melt temperature	220 / *	°C	-

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	180 / *	cm ³ /g	ISO 307, 1157, 1628

Characteristics

Special Characteristics

Medium viscosity

Color

Natural color