

Product Information

VESTAMID® LX9112 BK

CONDUCTIVE, HEAT-STABILIZED AND LIGHT-RESISTANT POLYAMIDE 12 COMPOUND FOR THE EXTRUSION COATING OF STEEL TUBING

VESTAMID® LX9112 BK is a heat-stabilized, conductive polyamide 12 compound, especially developed for the pore-free extrusion coating of steel tubing.

Compared to commonly use conductive extrusion compounds VESTAMID® LX9112 BK is distinguished by a significant lower melt viscosity and respectively by outstanding extrusion characteristics even in very thin coatings.

Steel tubing coated with VESTAMID® LX9112 BK meet the requirements of the US automotive industry to prevent electrostatic charge caused by flowing liquid fuels.

Due to the excellent impact strength and the good abrasion and chemical resistance of polyamide 12 the seamless coating with VESTAMID® LX9112 BK improves the corrosion resistance of steel tubing significantly.

VESTAMID® LX9112 BK is supplied as cylindrical pellets, 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

Automotive and Mobility, Sustainable, Industry and Engineering

Sustainability

Sustainable electricity

Processing

Extrusion, Coating

Delivery form

Pellets, Granules

Resistance to

Heat (thermal stability), UV / light / weathering, Oil / fuels

Electrical

Anti-static, Conductive

Conformity

Automotive

Additives

Bonding agent, Unfilled

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® L Compound high	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	23.9	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)	0.1	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	-2.1	kg CO ₂ eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	307000 / 245000	psi	ISO 527
Tensile strength	7830 / 6960	psi	ISO 527
Yield stress	7830 / 6960	psi	ISO 527
Yield strain	4 / 13	%	ISO 527
Stress at break	5950 / 5660	psi	ISO 527
Nominal strain at break, tB	32 / >50	%	ISO 527
Charpy impact strength, +23°C	N / N	ftlb/in ²	ISO 179/1eU
Charpy impact strength, 0°C	N / N	ftlb/in ²	ISO 179/1eU
Charpy impact strength, -30°C	N / N	ftlb/in ²	ISO 179/1eU
Charpy impact strength, -40°C	N / -	ftlb/in ²	ISO 179/1eU
Charpy notched impact strength, +23°C	1.9 / 1.43	ftlb/in ²	ISO 179/1eA
Type of failure	C / C	-	-
Charpy notched impact strength, 0°C	1.9 / -	ftlb/in ²	ISO 179/1eA
Type of failure	C / -	-	-
Charpy notched impact strength, -30°C	1.43 / 1.43	ftlb/in ²	ISO 179/1eA
Type of failure	C / C	-	-
Charpy notched impact strength, -40°C	1.9 / -	ftlb/in ²	ISO 179/1eA

Type of failure	C / -	-	-
Flexural modulus, 23°C	276000 / 247000	psi	ISO 178
Flexural stress at conv. deflection, 23°C	8990 / 7250	psi	ISO 178
Flexural strength, 23°C	10700 / 8990	psi	ISO 178
Flexural strain at flexural strength, 23°C	7 / 7	%	ISO 178
Flexural stress at break, 23°C	N / N	psi	ISO 178
Flexural strain at break, 23°C	N / N	%	ISO 178
Flexural modulus, var. temp.	319000 / -	psi	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	349 / *	°F	ISO 11357-1/-3
Glass transition temperature, DSC	111 / *	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	126 / *	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	302 / *	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	345 / *	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	313 / *	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	5.83E-5 / *	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	6.89E-5 / *	in/in/°F	ISO 11359-1/-2
Melting Temperature	349	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1.12 / -	g/cm ³	ISO 1183
Water absorption	1.11 / *	%	Sim. to ISO 62
Humidity absorption	0.65 / *	%	Sim. to ISO 62
Density	1.12	g/cm ³	ASTM D 792

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	43000 / 29000	Ohm*m	IEC 62631-3-1

Volume resistivity on bar, V	1.00E3 / -	Ohm*m	Sim. to IEC 62631-3-1
Surface resistivity, C, circular electrodes	2E6 / 1.3E6	Ohm/sq	IEC 62631-3-2
Surface resistance, RSD	1.00E6 / -	Ohm	IEC 62631-3-2

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	34 / *	cm ³ /10min	ISO 1133
Temperature	240 / *	°C	-
Load	10 / *	kg	-
Molding shrinkage, parallel	1.2 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.5 / *	%	ISO 294-4, 2577
Mold temperature	140 / *	°F	-
Melt temperature	464 / *	°F	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	464	°F	ISO 294
Injection Molding, mold temperature	140	°F	ISO 294
Injection Molding, injection velocity	7.87	in/s	ISO 294

Characteristics

Special Characteristics

Light-stabilized, High heat resistant

Color

Black

Additives

Light stabilizer, Conductive agent, Heat stabilizer