Product Information

VESTAMID® X7297 BK 9.7507

HIGH VISCOSITY, PLASTICIZED, IMPACT-MODIFIED, HEAT- AND LIGHT STABILIZED PA 12 COMPOUND

VESTAMID® X7297 BK 9.7507 is a plasticized polyamide 12 compound with heat and light stabilizer for the extrusion of flexible tubing and hose especially for automotive applications.

VESTAMID® X7297 BK 9.7507 is characterized by easy processing as well as high impact strength at low temperatures.

Properties of compounds based on polyamide 12 vary little with changing humidity due to low moisture absorption. Parts made of this semi-crystalline material are characterized by exceptional impact strength, low coefficient of friction and good chemical resistance.

VESTAMID® X7297 BK 9.7507 is supplied as cylindrical pellets, ready for processing, in moisture-proof bags.

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

Delivery form
Pellets, Granules

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

Electrical
Insulating

Conformity
Automotive

Additives
Unfilled

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® L Compound medium	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	**25.6**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**6.0**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**6.0**	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	**-2.4**	kg CO_2 eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**56600 / 56600**	psi	ISO 527
Tensile strength	**3770 / 3630**	psi	ISO 527
Yield stress	**3770 / 3630**	psi	ISO 527
Yield strain	**37 / 37**	%	ISO 527
Stress at 50% strain	**3770 / 3630**	psi	ISO 527
Stress at break	**6090 / 5510**	psi	ISO 527
Nominal strain at break, tB	**240 / 230**	%	ISO 527
Typical for the mat. nom. strain at br., tB	**200**	%	ISO 527
Charpy impact strength, +23°C	**N / N**	ftlb/in²	ISO 179/1eU
Charpy impact strength, -30°C	**N / N**	ftlb/in²	ISO 179/1eU
Charpy notched impact strength, +23°C	**58 / 61.8**	ftlb/in²	ISO 179/1eA
Type of failure	**P / P**	-	-
Charpy notched impact strength, -30°C	**2.85 / 3.81**	ftlb/in²	ISO 179/1eA
Type of failure	**C / C**	-	-
Flexural modulus, 23°C	**58000 / 55100**	psi	ISO 178
Flexural stress at conv. deflection, 23°C	**2030 / 2030**	psi	ISO 178
Flexural strength, 23°C	**3050 / 3050**	psi	ISO 178

Flexural strain at flexural strength, 23°C	**9 / 9**	%	ISO 178
Flexural stress at break, 23°C	**N / N**	psi	ISO 178
Flexural strain at break, 23°C	**N / N**	%	ISO 178

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**340 / ***	°F	ISO 11357-1/-3
Glass transition temperature, DSC	**106 / ***	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**124 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**275 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**331 / ***	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**257 / ***	°F	ISO 306
Melting Temperature	**106**	°F	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1.02 / -**	g/cm³	ISO 1183
Water absorption	**1.4 / ***	%	Sim. to ISO 62
Humidity absorption	**0.8 / ***	%	Sim. to ISO 62
Density	**1.02**	g/cm³	ASTM D 792

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, V	**3.3E9 / 6.3E8**	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	**1.2E13 / 7.3E12**	Ohm/sq	IEC 62631-3-2
Relative permittivity, 50Hz	**12.2 / 14.9**	-	IEC 62631-2-1
Relative permittivity, 100Hz	**11.4 / 13.7**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.6 / 3.8**	-	IEC 62631-2-1
Dissipation factor, 50Hz	**2070 / 2670**	E-4	IEC 62631-2-1
Dissipation factor, 100Hz	**1850 / 2260**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**1040 / 1570**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	**914 / 914**	kV/in	IEC 60243-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**13 / ***	cm^3/10min	ISO 1133
Temperature	**230 / ***	°C	-
Load	**5 / ***	kg	-
Molding shrinkage, parallel	**0.9 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.3 / ***	%	ISO 294-4, 2577
Mold temperature	**140 / ***	°F	-
Melt temperature	**428 / ***	°F	-

Pipes Properties	dry / cond	Unit	Test Standard
Cold impact resistance, breaks of 10, -40°C, 454g	**0 / ***	-	SAE J844
Tube dimension, OD x WT	**6 x 1**	mm	SAE J844
Pretreatment	**2h boiling water**	-	SAE J844
Cold impact resistance, breaks of 10, -40°C, 454g	**0 / ***	-	SAE J844
Tube dimension, OD x WT	**6 x 1**	mm	SAE J844
Pretreatment	**24h 110°C**	-	SAE J844
Burst hoop stress, 23°C, H2O	**3480 / ***	psi	DIN 53758, historical
Burst hoop stress, 100°C, in Oil	**1510 / ***	psi	DIN 53758, historical

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**428**	°F	ISO 294
Injection Molding, mold temperature	**140**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294

Characteristics

Applications
Tube and hose

Color
Black

VESTAMID®

Processing
Pipe/Tube extrusion

Special Characteristics
High impact strength, Light-stabilized, U.V. stabilized, High heat resistant

Features
Low coefficient of friction

Additives
Plasticizer, Impact restistant, Light stabilizer, Heat stabilizer

Chemical Resistance
General chemical resistance