

Product Information

VESTAMID® DX9303 BK E70288

HIGH-VISCOSITY, PLASTICIZED, HEAT- AND LIGHT-STABILIZED, IMPACT-MODIFIED POLYAMIDE 612 COMPOUND FOR EXTRUSION



VESTAMID® DX9303 BK E70288 is a PA 612 extrusion compound developed for the production of tubing systems with higher requirements for heat resistance.

The melting point of VESTAMID® DX9303 BK E70288 is about 35°C higher than PA 11 and PA 12 compounds, allows higher peak temperatures in use. Thereby this compound fulfills the increased demands resulting from higher temperatures in the engine compartment.

If it is intended to use VESTAMID® DX9303 BK E70288 for fuel lines, certain preconditions must be observed. The Technical Marketing assists you in finding the suitable VESTAMID® compound.

At temperatures above 100°C tubing of VESTAMID® DX9303 BK E70288 allow a higher pressure load than tubing made of PA 12 compounds with comparable flexibility.

The process temperatures should be in the range of 240-270°C.

The material absorbs only little moisture. Therefore dimensions and properties of parts are nearly unaffected through ambient conditions.

Pigmentation may affect 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

Processing

Extrusion

Delivery form

Pellets, Granules

Electrical

Insulating

Conformity

Automotive

Additives

Unfilled

Resistance to

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

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® D Compound medium	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	21.7	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	7.2	kg CO ₂ eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	7.2	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	131000 / 98600	psi	ISO 527
Tensile strength	5510 / -	psi	ISO 527
Yield stress	5510 / -	psi	ISO 527
Yield strain	30 / -	%	ISO 527
Stress at 50% strain	5370 / -	psi	ISO 527
Stress at break	6530 / 5950	psi	ISO 527
Nominal strain at break, tB	196 / 200	%	ISO 527
Typical for the mat. nom. strain at br., tB	≥200	%	ISO 527
Charpy impact strength, +23°C	N / N	ftlb/in ²	ISO 179/1eU
Charpy impact strength, -30°C	N / N	ftlb/in ²	ISO 179/1eU
Charpy notched impact strength, +23°C	41.4 / 64.2	ftlb/in ²	ISO 179/1eA
Type of failure	P / P	-	-
Charpy notched impact strength, -30°C	5.23 / 7.14	ftlb/in ²	ISO 179/1eA
Type of failure	C / C(P)	-	-
Flexural modulus, 23°C	123000 / 87700	psi	ISO 178

Flexural stress at conv. deflection, 23°C	3480 / 2610	psi	ISO 178
Flexural strength, 23°C	4930 / 4060	psi	ISO 178
Flexural strain at flexural strength, 23°C	8.5 / 10	%	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	412 / *	°F	ISO 11357-1/-3
Glass transition temperature, DSC	68 / *	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	140 / *	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	288 / *	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	396 / *	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	318 / *	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	8.33E-5 / *	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	6.67E-5 / *	in/in/°F	ISO 11359-1/-2
Melting Temperature	412	°F	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1.05 / -	g/cm ³	ISO 1183
Water absorption	2.4 / *	%	Sim. to ISO 62
Humidity absorption	1 / *	%	Sim. to ISO 62
Shore D hardness	70^[b] / 65^[b]	-	ISO 7619-1
Density	1.05	g/cm 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	0.0630 / *	in	-
Burnin behav. at thickness h	HB / *	class	IEC 60695-11-10

Thickness tested **0.1260 / *** in -

Electrical properties	dry / cond	Unit	Test Standard
Volume resistivity, V	2E10 / 5.3E8	Ohm*m	IEC 62631-3-1
Surface resistivity, C, circular electrodes	2.6E12 / 5E12	Ohm/sq	IEC 62631-3-2
Relative permittivity, 50Hz	5 / -	-	IEC 62631-2-1
Relative permittivity, 100Hz	4.7 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	2.7 / -	-	IEC 62631-2-1
Dissipation factor, 50Hz	1700 / -	E-4	IEC 62631-2-1
Dissipation factor, 100Hz	1450 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	400 / -	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	991 / 864	kV/in	IEC 60243-1
CTI, test solution A, 50 drops value	600 / -	-	IEC 60112
Assessment of the insulation group	I	-	DIN EN 60664-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	11 / *	cm ³ /10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	2.7 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.9 / *	%	ISO 294-4, 2577
Mold temperature	176 / *	°F	-
Melt temperature	482 / *	°F	-

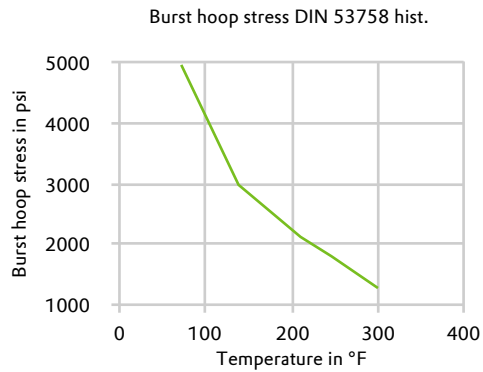
Pipes Properties	dry / cond	Unit	Test Standard
Cold impact resistance, breaks of 10, -40°C, 912g	0 / *	-	SAE J2260, J2043
Tube dimension, OD x WT	8 x 1 / *	mm	SAE J2260, J2043
Cold impact resistance, breaks of 10, -40°C, 454g	0 / *	-	SAE J844
Tube dimension, OD x WT	8 x 1 / *	mm	SAE J844

Cold impact resistance, breaks of 10, -40°C, 454g	0 / *	-	SAE J844
Tube dimension, OD x WT	8 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	8 x 1	mm	SAE J844
Pretreatment	24h 110°C	-	SAE J844
Burst hoop stress, 23°C, H2O	4930 / *	psi	DIN 53758, historical

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	482	°F	ISO 294
Injection Molding, mold temperature	176	°F	ISO 294
Injection Molding, injection velocity	7.87	in/s	ISO 294

Diagrams

Burst hoop stress DIN 53758 hist.



Characteristics

Applications

Tube and hose

Processing

Pipe/Tube extrusion

Special Characteristics

High impact strength, Light-stabilized, High heat resistant, High viscosity

Color

Black

Additives

Impact resistant, Light stabilizer, Heat stabilizer