

Product Information

VESTAMID® DX9302 BK E70178

IMPACT-MODIFIED, HEAT- AND LIGHTSTABILIZED POLYAMIDE 612 COMPOUND FOR EXTRUSION



VESTAMID® DX9302 BK E70178 has been developed for the production of flexible, impact resistant extruded parts, especially tubes.

Its composition makes VESTAMID® DX9302 BK E70178 suitable for the extrusion of tubes for windshield washer systems that have only small amounts of extractables substances in water/alcohol mixtures.

Further advantages of VESTAMID® DX9302 BK E70178 are the typical properties of PA 612 like little water adsorption, good dimensional stability and almost constant mechanical properties at changing ambient humidity.

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

Electrical

Insulating

Processing

Extrusion

Conformity

Automotive

Delivery form

Pellets, Granules

Additives

Unfilled

Resistance to

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

Mechanical properties ISO

dry / cond

Unit

Test Standard

Tensile modulus

1150 / 850

MPa

ISO 527

Tensile strength	31 / -	MPa	ISO 527
Yield stress	31 / 26	MPa	ISO 527
Yield strain	15 / 23	%	ISO 527
Stress at 50% strain	31 / *	MPa	ISO 527
Stress at break	33 / *	MPa	ISO 527
Nominal strain at break, tB	>50 / >50	%	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 notched impact strength, +23°C	95 / 100	kJ/m ²	ISO 179/1eA
Type of failure	P / P	-	-
Charpy notched impact strength, -30°C	19 / 17	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Tensile-impact strength, notched, atN +23°C	158 / 199	kJ/m ²	ISO 8256/1
Type of failure	C / C	-	-
Flexural modulus, 23°C	1170 / -	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	38 / -	MPa	ISO 178
Flexural strength, 23°C	46 / -	MPa	ISO 178
Flexural strain at flexural strength, 23°C	7 / -	%	ISO 178
Flexural stress at break, 23°C	N / -	MPa	ISO 178
Flexural strain at break, 23°C	N / -	%	ISO 178

Thermal properties	dry / cond	Unit	Test Standard
Melting temperature	215 / *	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	50 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	140 / *	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	110 / *	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	170 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	1.7 / *	E-6/K	ISO 11359-1/-2

Melting Temperature	215	°C	ASTM D 3418
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Physical properties	dry / cond	Unit	Test Standard
Density	1020 / 1020	kg/m ³	ISO 1183
Water absorption	2.2 / *	%	Sim. to ISO 62
Humidity absorption	0.5 / *	%	Sim. to ISO 62
Density	1020	kg/m ³	ASTM D 792

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	1E12 / -	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	3.8 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	3 / -	-	IEC 62631-2-1
Dissipation factor, 100Hz	470 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	310 / -	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	41 / -	kV/mm	IEC 60243-1
Dielectric strength, AC, S20/P50	41 / -	kV/mm	Sim. to 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	N / A / *	cm ³ /10min	ISO 1133
Molding shrinkage, parallel	1.9 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.2 / *	%	ISO 294-4, 2577

VESTAMID®

Mold temperature	80 / *	°C	-
Melt temperature	260 / *	°C	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	220	°C	ISO 294
Injection Molding, mold temperature	35	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294

Characteristics

Applications

Tube and hose

Color

Black

Processing

Profile extrusion

Additives

Impact resistant, Light stabilizer, Heat stabilizer

Special Characteristics

High impact strength, Light-stabilized, High heat resistant

Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)

Bases

- ✓ Sodium Hydroxide solution (35% by mass) (23°C)
- ✓ Sodium Hydroxide solution (1% by mass) (23°C)
- ✓ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✓ Isopropyl alcohol (23°C)
- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

Hydrocarbons

- ✓ n-Hexane (23°C)
- ✓ Toluene (23°C)

✓ iso-Octane (23°C)

Ketones

✓ Acetone (23°C)

Ethers

✓ Diethyl ether (23°C)

Mineral oils

✓ SAE 10W40 multigrade motor oil (23°C)

✓ Insulating Oil (23°C)

Standard Fuels

✓ ISO 1817 Liquid 1 (60°C)

✓ ISO 1817 Liquid 2 (60°C)

✓ ISO 1817 Liquid 3 (60°C)

✓ ISO 1817 Liquid 4 (60°C)

✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)

✓ Standard fuel with alcohol (pref. ISO 1817 Liquid 4) (23°C)

✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)

✓ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)

✓ Diesel EN 590 (100°C)

Salt solutions

✓ Sodium Chloride solution (10% by mass) (23°C)

✓ Sodium Carbonate solution (20% by mass) (23°C)

✓ Sodium Carbonate solution (2% by mass) (23°C)

✓ Zinc Chloride solution (50% by mass) (23°C)

Other

✓ Ethyl Acetate (23°C)

✓ Hydrogen peroxide (23°C)

✓ DOT No. 4 Brake fluid (120°C)

✓ Water (23°C)