

Product Information

VESTAMID® X7393 BK 9.7507

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



VESTAMID® X7393 BK 9.7507 is high viscosity, plasticized, impact modified, heat- and light stabilized polyamide 12 compound for flexible tubing and hoses for the automobile industry according to DIN 73 378 and DIN 74 324, Type PA 12-PHLY.

Parts made of VESTAMID® X7393 BK 9.7507 are characterized by optimized cold temperature impact resistance for the extrusion of semi-rigid tubing with increased burst pressure resistance as well as exceptional low coefficient of friction and good chemical resistance. Properties of compounds based on Polyamide 12 vary little with changing humidity due to their low moisture absorption.

VESTAMID® X7393 BK 9.7507 is supplied as pellets, ready for use, 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

Sustainability

Sustainable electricity, eCO

Processing

Injection molding, Extrusion

Delivery form

Pellets, Granules

Resistance to

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

Electrical

Insulating

Conformity

Automotive

Additives

Lubricant, Unfilled

LCA-values

LCA name of certificate

dry

[VESTAMID® L Compound medium](#)

Unit

-

Test Standard

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	560 / 495	MPa	ISO 527
Tensile strength	31 / 28	MPa	ISO 527
Yield stress	31 / 28	MPa	ISO 527
Yield strain	26 / 26	%	ISO 527
Stress at 50% strain	30 / 27	MPa	ISO 527
Stress at break	44 / 42	MPa	ISO 527
Nominal strain at break, tB	>50 / 200	%	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	115 / 124	kJ/m ²	ISO 179/1eA
Type of failure	P / P	-	-
Charpy notched impact strength, -30°C	8 / 8	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Flexural modulus, 23°C	715 / 480	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	- / 16	MPa	ISO 178
Flexural strength, 23°C	32 / 25	MPa	ISO 178
Flexural strain at flexural strength, 23°C	- / 9	%	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	173 / *	°C	ISO 11357-1/-3
Glass transition temperature, DSC	24 / *	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	45 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	115 / *	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	170 / *	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	130 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	140 / *	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	140 / *	E-6/K	ISO 11359-1/-2
Melting Temperature	173	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	1020 / -	kg/m ³	ISO 1183
Water absorption	1.2 / *	%	Sim. to ISO 62
Humidity absorption	0.6 / *	%	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	1E10 / -	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	7 / -	-	IEC 62631-2-1
Relative permittivity, 1MHz	4.2 / -	-	IEC 62631-2-1
Dissipation factor, 100Hz	1900 / -	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	1100 / -	E-4	IEC 62631-2-1

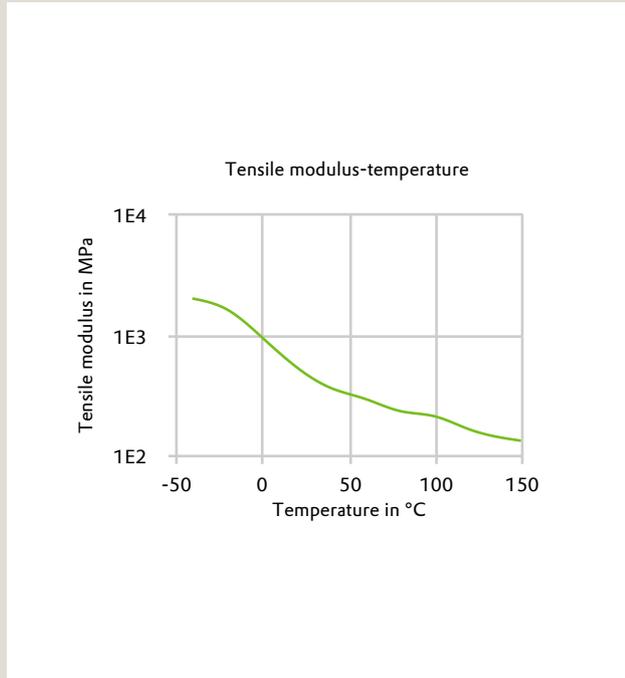
Dielectric strength, AC, S20/P50	27 / -	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	600 / -	-	IEC 60112
Assessment of the insulation group	I	-	DIN EN 60664-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	8 / *	cm ³ /10min	ISO 1133
Temperature	230 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	0.8 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.4 / *	%	ISO 294-4, 2577
Mold temperature	60 / *	°C	-
Melt temperature	240 / *	°C	-

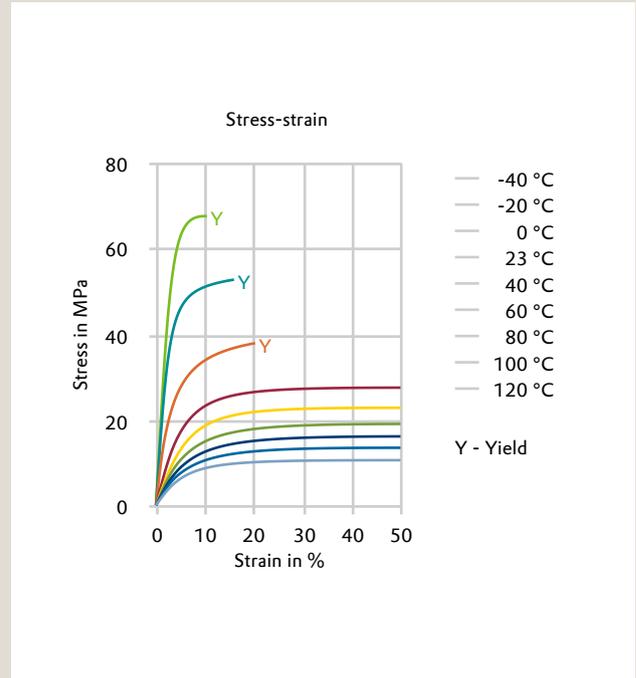
Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	220	°C	ISO 294
Injection Molding, mold temperature	60	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294
Injection Molding, pressure at hold	70	MPa	ISO 294

Diagrams

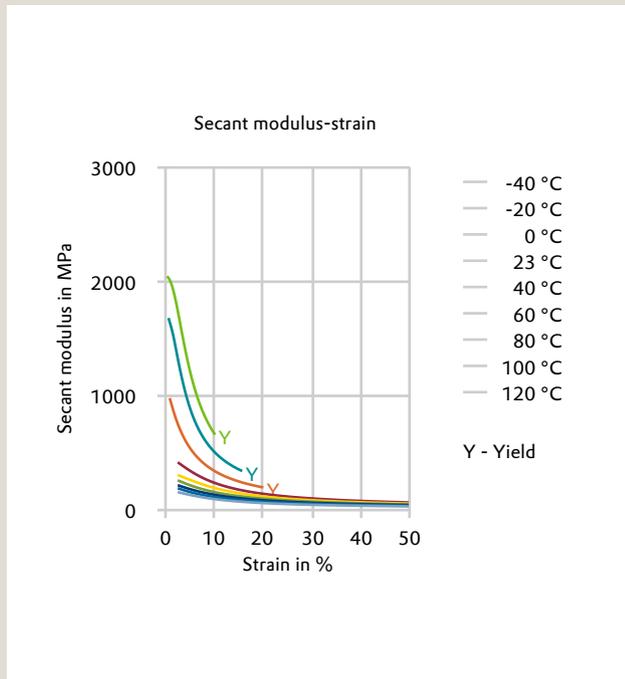
Tensile modulus-temperature



Stress-strain



Secant modulus-strain



Characteristics

Applications

Tube and hose

Processing

Profile extrusion

Special Characteristics

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

Features

Low coefficient of friction

Additives

Plasticizer, Impact resistant, Light stabilizer, Heat stabilizer

Chemical Resistance

General chemical resistance

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)

Rheological calculation properties

	dry	Unit	Test Standard
Min. mold temperature	30	°C	-
Max. mold temperature	100	°C	-
Min. melt temperature	200	°C	-
Max. melt temperature	240	°C	-