VESTAMID®

Product Information

VESTAMID® L1723 BK 9.7624

LOW-VISCOSITY, PLASTICIZED PA12 RESIN FOR INJECTION MOULDING

VESTAMID® L1723 BK 9.7624 has been developed especially for the production of strip clips and cable ties.

This partially crystalline polyamide 12 bases compounds have a very low water absorption. Therefore products produced from VESTAMID® L1723 BK 9.7624 maintain their dimensions in environments with varying humidity levels, while maintaining a high tenacity, a low coefficient of friction and good chemical resistance.

VESTAMID® L1723 BK 9.7624 is supplied as cylindrical granules, ready for processing in moisture-proof packaging.

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
Sustainable, Industry and Engineering

Sustainability
Sustainable electricity

Processing
Injection molding

Delivery form
Pellets, Granules

Additives
Lubricant, Release agent, 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	**76100 / 65300**	psi	ISO 527
Tensile strength	**4350 / -**	psi	ISO 527
Yield stress	**4350 / 4060**	psi	ISO 527
Yield strain	**27 / 26**	%	ISO 527
Stress at 50% strain	**3920 / ***	psi	ISO 527
Stress at break	**6960 / ***	psi	ISO 527
Nominal strain at break, tB	**330 / >50**	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1h	*** / 55100**	psi	ISO 899-1
Tensile creep modulus, 0,5% Strain, 1000h	*** / 42100**	psi	ISO 899-1
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	**7.14 / 19.5**	ftlb/in²	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**2.38 / 2.38**	ftlb/in²	ISO 179/1eA
Type of failure	**C / C**	-	-

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**343 / ***	°F	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**113 / ***	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**203 / ***	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**329 / ***	°F	ISO 306

Vicat softening temperature B, 50 N, 50 K/h	**266 / ***	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**0.0001 / ***	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**0.0001 / ***	in/in/°F	ISO 11359-1/-2
Melting Temperature	**343**	°F	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1.03 / 1.04**	g/cm³	ISO 1183
Humidity absorption	**0.5 / ***	%	Sim. to ISO 62
Density	**1.03**	g/cm³	ASTM D 792

Burning Behav.	**dry / cond**	**Unit**	**Test Standard**
UL Yellow Card available	yes / *	-	-
Burning behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0618 / ***	in	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.1181 / ***	in	-
Burning behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.0315 / ***	in	-
Hot Wire Ignition (HWI)	**4**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.0319**	in	-
Hot Wire Ignition (HWI)	**4**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.0618**	in	-
Hot Wire Ignition (HWI)	**3**	PLC	IEC 60695-2-20
HWI - thickness tested	**0.1181**	in	-

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, V	**1E10 / 4E9**	Ohm*m	IEC 62631-3-1
Surface resistivity, E	*** / 2E13**	Ohm	IEC 62631-3-2
Relative permittivity, 100Hz	**10 / 14**	-	IEC 62631-2-1

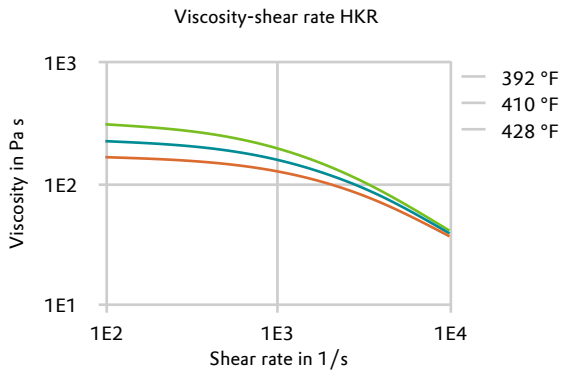
Relative permittivity, 1MHz	**3.7 / 4.7**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**1600 / 1400**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**1200 / 1700**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/S20, t. 1 mm	**838 / 787**	kV/in	IEC 60243-1
CTI, test solution A, 50 drops value	**600 / 600**	-	IEC 60112
Assessment of the insulation group	**I**	-	DIN EN 60664-1

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**160 / ***	cm^3/10min	ISO 1133
Temperature	**230 / ***	°C	-
Load	**5 / ***	kg	-
Melt volume-flow rate, MVR	**41 / ***	cm^3/10min	ISO 1133
Temperature	**446 / ***	°F	-
Load	**4.76 / ***	lb	-
Molding shrinkage, parallel	**1.6 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.5 / ***	%	ISO 294-4, 2577
Mold temperature	**176 / ***	°F	-
Melt temperature	**392 / ***	°F	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**392**	°F	ISO 294
Injection Molding, mold temperature	**140**	°F	ISO 294
Injection Molding, injection velocity	**7.87**	in/s	ISO 294
Injection Molding, pressure at hold	**10200**	psi	ISO 294

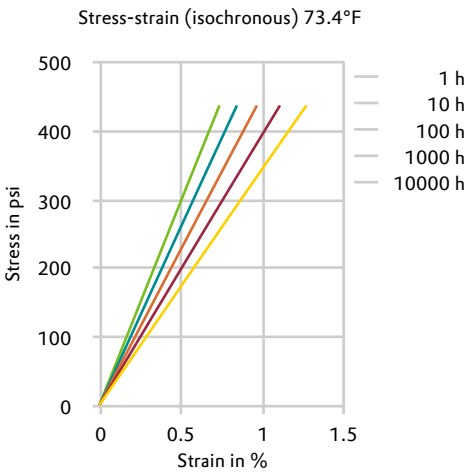
Diagrams

Viscosity-shear rate HKR

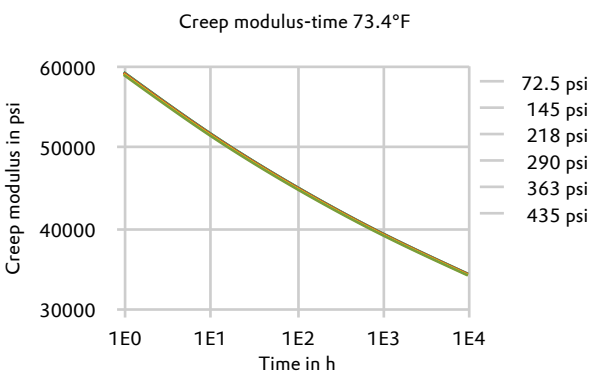


Shearstress-shear rate HKR

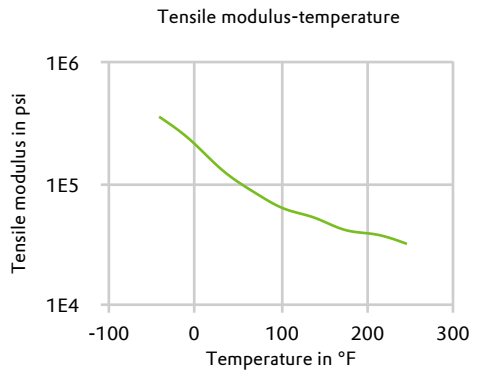
Stress-strain (isochronous) 73°F



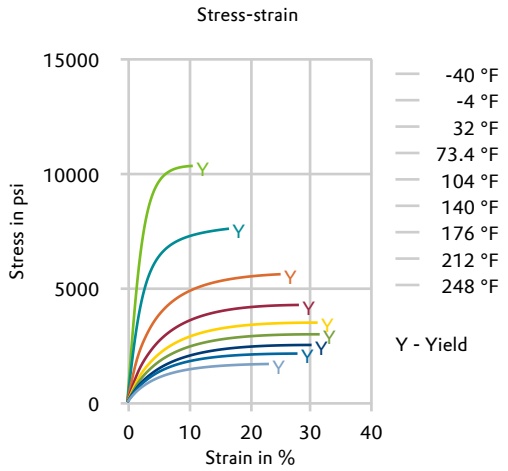
Creep modulus-time 73°F



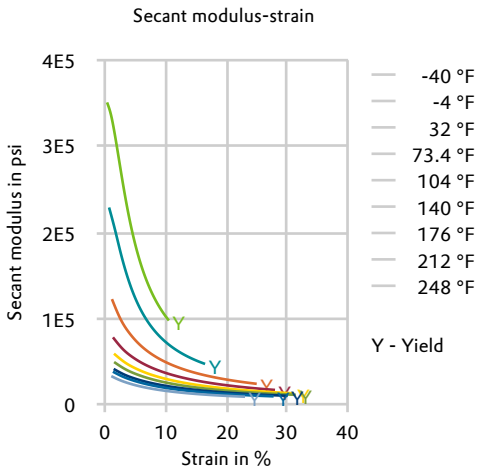
Tensile modulus-temperature



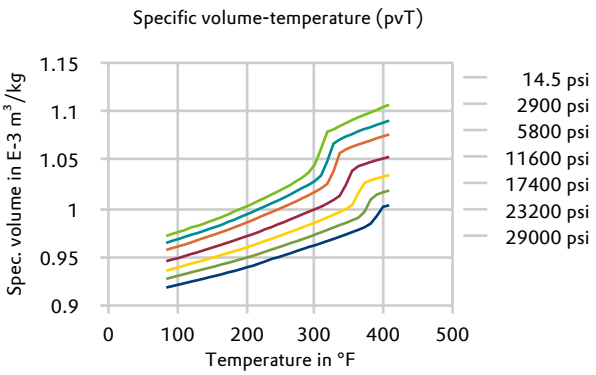
Stress-strain



Secant modulus-strain



Specific volume-temperature (pvT)



VESTAMID®

Characteristics

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

Additives
Release agent, Plasticizer, Heat stabilizer, Processing aids

Color
Black

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
Density of melt	**53.7**	lb/ft³	-
Spec. heat capacity of melt	**1.13**	BTU/(lb·F)	-
Ejection temperature	**338**	°F	-
Min. mold temperature	**86**	°F	-
Max. mold temperature	**212**	°F	-
Min. melt temperature	**374**	°F	-
Max. melt temperature	**446**	°F	-