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.

For information about processing of VESTAMID®, please follow the general commendations about "Processing of VESTAMID® compounds".

FOR FURTHER INFORMATION PLEASE CONTACT US AT EVONIK-HP@EVONIK.COM
OR VISIT OUR PRODUCT AT WWW.VESTAMID.COM

Key Features

Industrial Sector
Sustainable, Industry and Engineering

LCA
Sustainable electricity

Processing
Injection molding

Delivery form
Pellets, Granules

Additives
Lubricant, Release agent, Unfilled

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	**525 / 450**	MPa	ISO 527
Tensile strength	**30 / -**	MPa	ISO 527
Yield stress	**30 / 28**	MPa	ISO 527
Yield strain	**27 / 26**	%	ISO 527

Stress at 50% strain	**27 / ***	MPa	ISO 527
Stress at break	**48 / ***	MPa	ISO 527
Nominal strain at break, εtB	**330 / >50**	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1h	*** / 380**	MPa	ISO 899-1
Tensile creep modulus, 0,5% Strain, 1000h	*** / 290**	MPa	ISO 899-1
Charpy impact strength, +23°C	**N / N**	kJ/m²	ISO 179/1eU
Charpy impact strength, -30°C	**N / N**	kJ/m²	ISO 179/1eU
Charpy notched impact strength, +23°C	**15 / 41**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**5 / 5**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**173 / ***	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**45 / ***	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**95 / ***	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**165 / ***	°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	**180 / ***	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**180 / ***	E-6/K	ISO 11359-1/-2
Melting Temperature	**173**	°C	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Density	**1030 / 1040**	kg/m³	ISO 1183
Humidity absorption	**0.5 / ***	%	Sim. to ISO 62
Density	**1030**	kg/m³	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	**1.6 / ***	mm	-
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**3.0 / ***	mm	-
Burning behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**0.8 / ***	mm	-
Hot Wire Ignition (HWI)	**4**	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	**0.8**	mm	-
Hot Wire Ignition (HWI)	**4**	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	**1.6**	mm	-
Hot Wire Ignition (HWI)	**3**	PL-Klasse	IEC 60695-2-20
HWI - thickness tested	**3.0**	mm	-

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Volume resistivity, ρV	**1E10 / 4E9**	Ohm*m	IEC 62631-3-1
Surface resistivity, σE	*** / 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	**33 / 31**	kV/mm	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	-

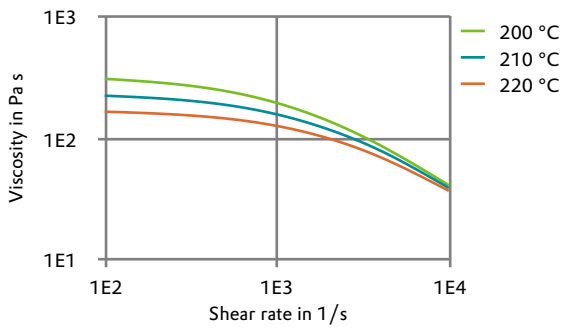
Melt volume-flow rate, MVR	**41 / ***	cm^3/10min	ISO 1133
Temperature	**230 / ***	°C	-
Load	**2.16 / ***	kg	-
Molding shrinkage, parallel	**1.6 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.5 / ***	%	ISO 294-4, 2577
Mold temperature	**80 / ***	°C	-
Melt temperature	**200 / ***	°C	-

Rheological calculation properties	Value	Unit	Test Standard
Density of melt	**860**	kg/m^3	-
Spec. heat capacity of melt	**3000**	J/(kg K)	-
Ejection temperature	**170**	°C	-
Min. mold temperature	**30**	°C	-
Max. mold temperature	**100**	°C	-
Min. melt temperature	**190**	°C	-
Max. melt temperature	**230**	°C	-

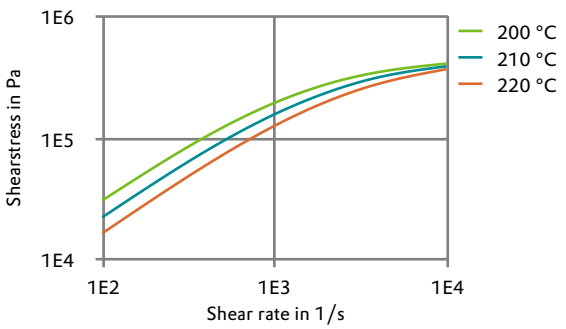
Test specimen production	Value	Unit	Test Standard
Injection Molding, melt temperature	**200**	°C	ISO 294
Injection Molding, mold temperature	**60**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294
Injection Molding, pressure at hold	**70**	MPa	ISO 294

Diagrams

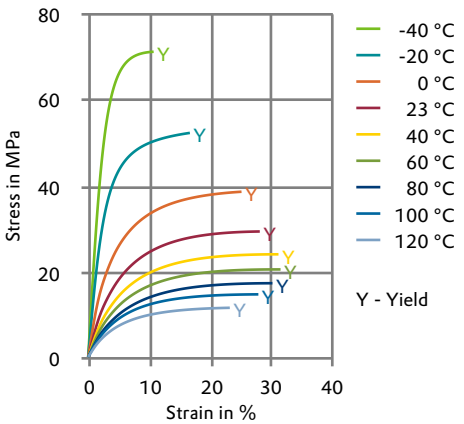
Viscosity-shear rate HKR



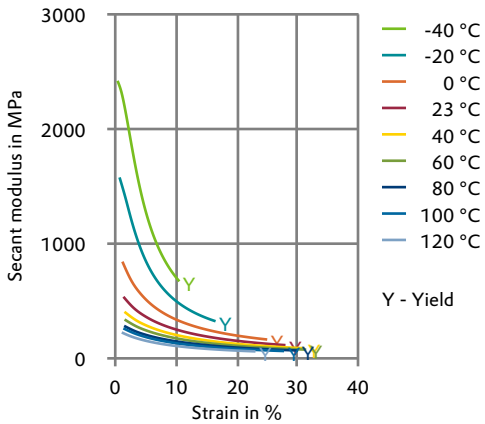
Shearstress-shear rate HKR



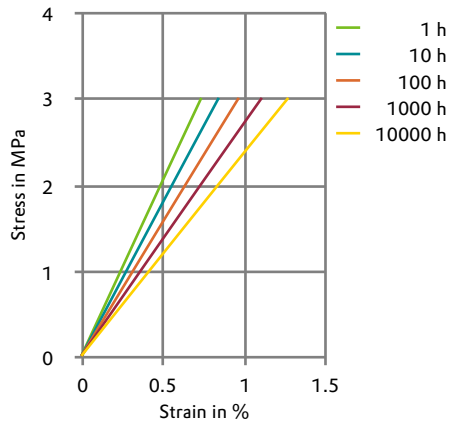
Stress-strain (dry)



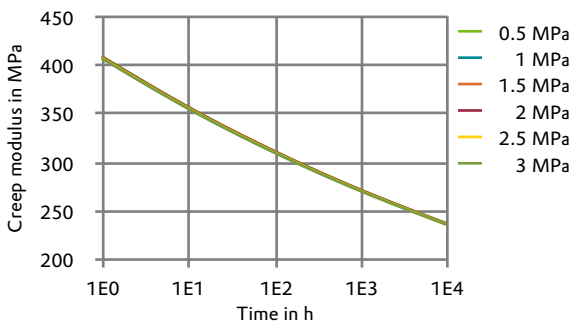
Secant modulus-strain (dry)



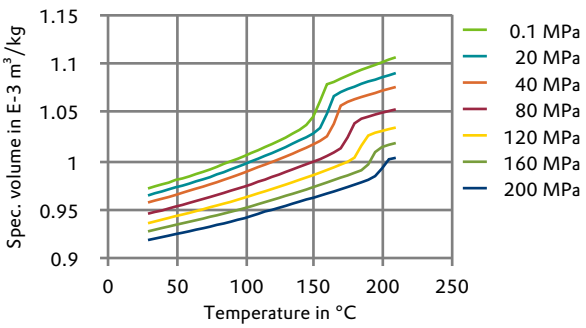
Stress-strain (isochronous) 23°C (cond.)



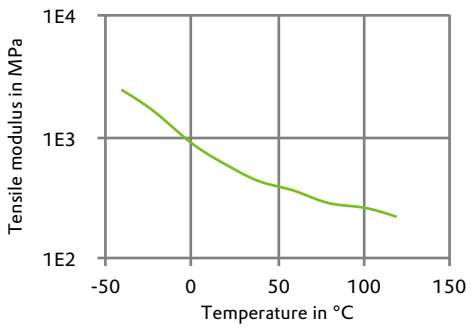
Creep modulus-time 23°C (cond.)



Specific volume-temperature (pvT)



Tensile modulus-temperature (dry)



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)

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