Product Information

VESTAMID® D16

MEDIUM-VISCOSITY PA612 RESIN

VESTAMID® D16 is a medium-viscosity Polyamide 612 compound for extrusion and injection moulding of e.g. monofilaments (toothbrush bristles).

The material based on PA612 absorbs only small amounts of water. Components made of this material therefore show excellent dimensional stability under changing ambient humidity.

VESTAMID® D16 is supplied as cylindrical granules in moisture-proof polyethylene containers ready for processing.

Pigmentation may affect values.

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

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile Modulus	**2200 / 1700**	MPa	ISO 527
Tensile Strength	**58 / -**	MPa	ISO 527
Yield stress	**58 / 53**	MPa	ISO 527
Yield strain	**4 / 16**	%	ISO 527
Stress at 50% strain	**41 / ***	MPa	ISO 527
Stress at break	**42 / ***	MPa	ISO 527
Nominal strain at break, εtB	**115 / >50**	%	ISO 527
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	**5 / 6**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-
Charpy notched impact strength, -30°C	**6 / 6**	kJ/m²	ISO 179/1eA
Type of failure	**C / C**	-	-

EVONIK Leading Beyond Chemistry

Flexural modulus, 23°C	**1980 / 1300**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**66 / 40**	MPa	ISO 178
Flexural strain at flexural strength, 23°C	**7 / 9**	%	ISO 178
Flexural stress at break, 23°C	**N / N**	MPa	ISO 178
Flexural strain at break, 23°C	**N / N**	%	ISO 178

Thermal properties	**dry / cond**	**Unit**	**Test Standard**
Melting temperature	**215 / ***	°C	ISO 11357-1/-3
Glass transition temperature	**45 / ***	°C	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	**65 / ***	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**150 / ***	°C	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	**215 / ***	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**180 / ***	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	**130 / ***	E-6/K	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	**120 / ***	E-6/K	ISO 11359-1/-2
Melting Temperature	**215**	°C	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Water absorption	**2.7 / ***	%	Sim. to ISO 62
Humidity absorption	**1 / ***	%	Sim. to ISO 62
Density	**1060 / -**	kg/m³	ISO 1183
Density	**1060**	kg/m³	ASTM D 792

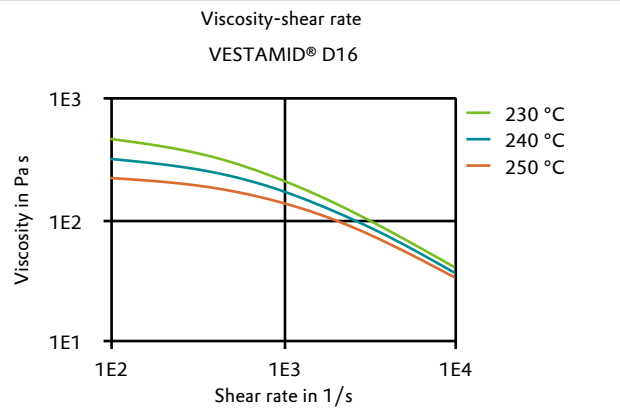
Burning Behav.	**dry / cond**	**Unit**	**Test Standard**
Burnin behav. at thickness h	**HB / ***	class	IEC 60695-11-10
Thickness tested	**3.2 / ***	mm	-
Burning behav. at 1.5 mm nom. thickn.	**HB / ***	class	IEC 60695-11-10
Thickness tested	**1.6 / ***	mm	-

Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 100Hz	**3.8 / 4.5**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.2 / 4.1**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**240 / 590**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**290 / 510**	E-4	IEC 62631-2-1
Volume resistivity, ρV	**>1E13 / 1E12**	Ohm*m	IEC 62631-3-1
Electric strength, AC, S20/S20	**28 / 27**	kV/mm	IEC 60243-1
Electric strength, AC, S20/P50	**28 / -**	kV/mm	Sim. to IEC 60243-1

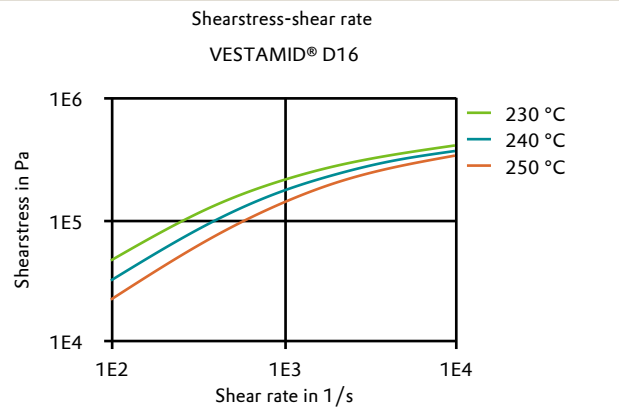
Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	**75 / ***	cm^3/10min	ISO 1133
Temperature	**240 / ***	°C	-
Load	**5 / ***	kg	-
Molding shrinkage, parallel	**1.3 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**1.4 / ***	%	ISO 294-4, 2577
Mold temperature	**80 / ***	°C	-
Melt temperature	**250 / ***	°C	-

Diagrams

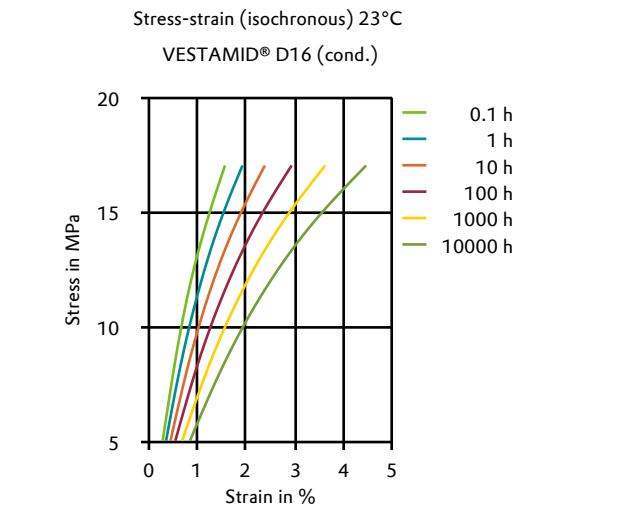
Viscosity-shear rate



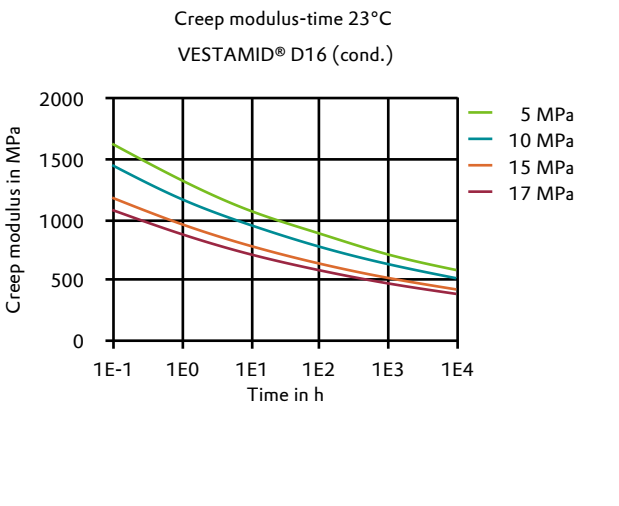
Shearstress-shear rate



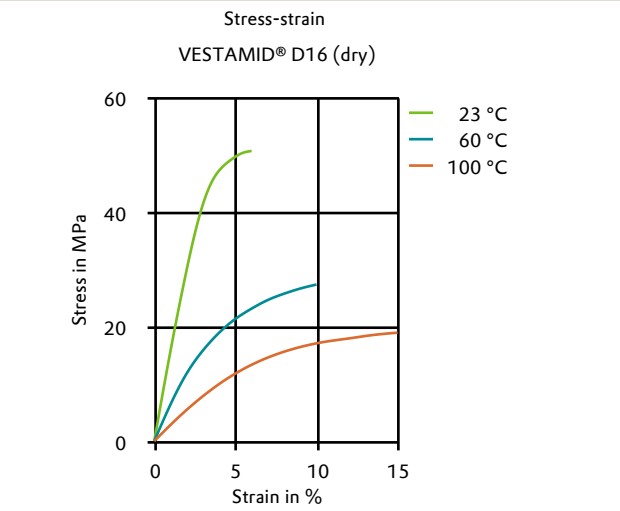
Stress-strain (isochronous) 23°C



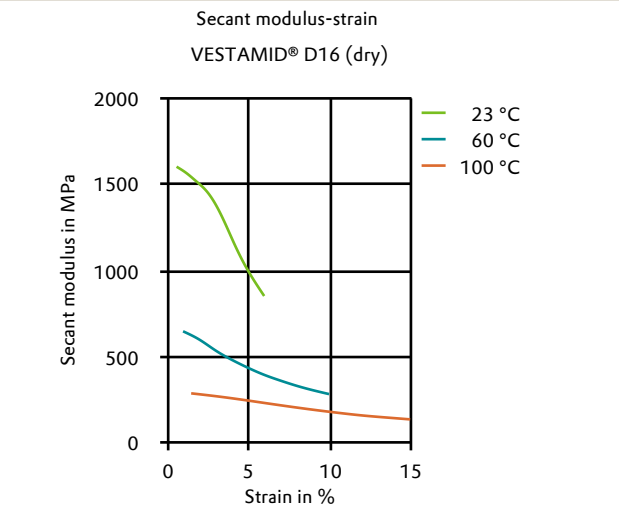
Creep modulus-time 23°C



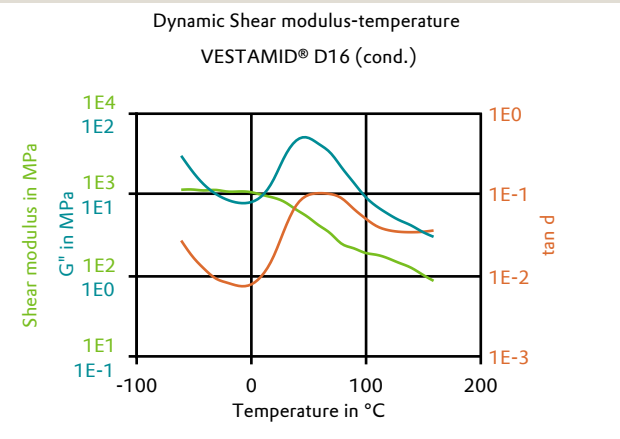
Stress-strain



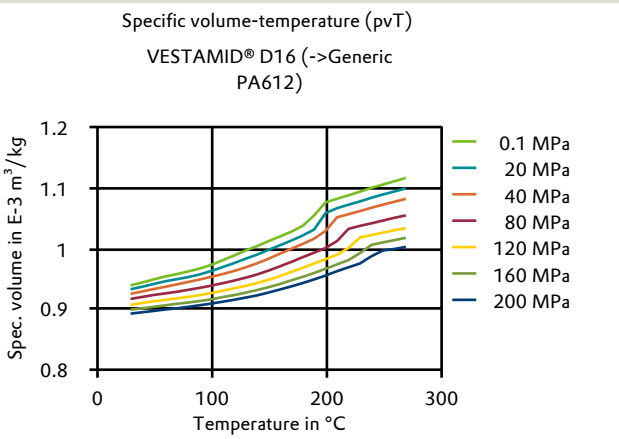
Secant modulus-strain



Dynamic Shear modulus-temperature



Specific volume-temperature (pvT)



Characteristics

Key Feature, Industrial Sector
Instustry and Building Construction, Sports and Lifestyle

Key Feature, Processing
Injection Molding, Extrusion

Key Feature, Optics
Translucent

Key Feature, Additives
Unfilled

Applications
Hygiene and cosmetics, Monofilament

Processing
Profile Extrusion

Key Feature, Certificate / Licence
Food contact

Delivery form
Pellets, Granules

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)

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)

Other

- ✔ Ethyl Acetate (23°C)
- ✔ Hydrogen peroxide (23°C)
- ✔ Water (23°C)

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Evonik Operations GmbH
Smart Materials
High Performance Polymers
45772 Marl / Germany
Tel: +49 2365 49-9878
evonik-hp@evonik.com

www.plastics-database.com

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