

Product Information

VESTAMID® D22

HIGH-VISCOSITY PA 612 RESIN



VESTAMID® D22 is a high-viscosity Polyamide 612 compound for extrusion and injection moulding of e.g. films, monofilaments (abrasive 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® D22 is supplied as cylindrical granules in moisture-proof polyethylene containers ready for processing.

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

Delivery form

Pellets, Granules

Sustainability

Sustainable electricity

Additives

Unfilled

Processing

Injection molding, Extrusion

LCA-values

	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® D	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044
Blue water consumption	9.9	kg	ISO 14040, 14044

Global Warming Potential incl. bio. C incl. LUC	7.2	kg CO ₂ eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	7.2	kg CO ₂ eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	0	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	-0.8	kg CO ₂ eq./kg	ISO 14040, 14044

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile modulus	2200 / 1700	MPa	ISO 527
Tensile strength	59 / -	MPa	ISO 527
Yield stress	59 / 49	MPa	ISO 527
Yield strain	4 / 20	%	ISO 527
Stress at 50% strain	44 / *	MPa	ISO 527
Stress at break	62 / *	MPa	ISO 527
Nominal strain at break, tB	260 / >50	%	ISO 527
Tensile creep modulus, 0,5% Strain, 1h	* / 1800	MPa	ISO 899-1
Tensile creep modulus, 0,5% Strain, 1000h	* / 600	MPa	ISO 899-1
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	5 / 10	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Charpy notched impact strength, -30°C	7 / 6	kJ/m ²	ISO 179/1eA
Type of failure	C / C	-	-
Flexural modulus, 23°C	2050 / -	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	70 / -	MPa	ISO 178
Flexural strength, 23°C	83 / -	MPa	ISO 178
Flexural strain at flexural strength, 23°C	6.5 / -	%	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	60 / *	°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	211 / *	°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
Density	1060 / 1060	kg/m ³	ISO 1183
Water absorption	2.7 / *	%	Sim. to ISO 62
Humidity absorption	1 / *	%	Sim. to ISO 62
Density	1060	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	>1E13 / 3E12	Ohm*m	IEC 62631-3-1
Surface resistivity, E	* / >1E15	Ohm	IEC 62631-3-2
Relative permittivity, 100Hz	3.8 / 5	-	IEC 62631-2-1
Relative permittivity, 1MHz	3 / 3.7	-	IEC 62631-2-1
Dissipation factor, 100Hz	230 / 650	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	290 / 550	E-4	IEC 62631-2-1

Dielectric strength, AC, S20/S20, t. 1 mm	27 / 27	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

Optical properties	dry	Unit	Test Standard
Color b	0.9	-	CIE

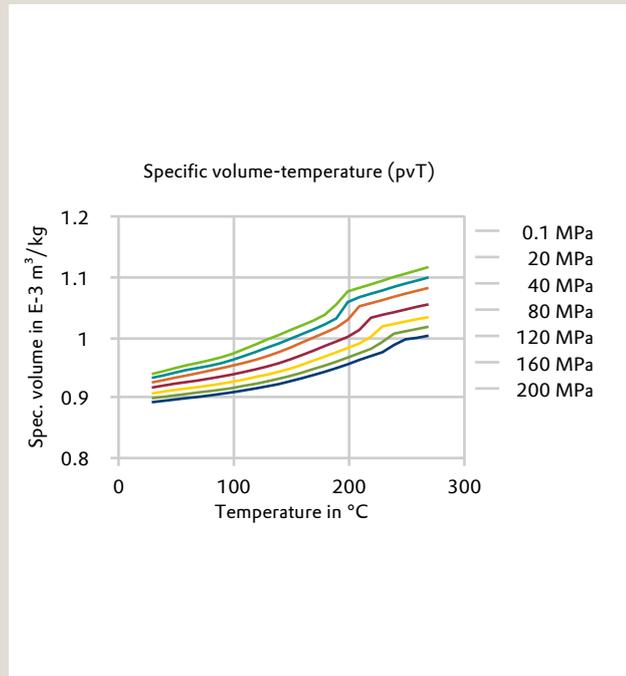
Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	60 / *	cm ³ /10min	ISO 1133
Temperature	275 / *	°C	-
Load	5 / *	kg	-
Molding shrinkage, parallel	1.4 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	1.7 / *	%	ISO 294-4, 2577
Mold temperature	80 / *	°C	-
Melt temperature	260 / *	°C	-

Polymer analytics	dry / cond	Unit	Test Standard
Viscosity number	220 / *	cm ³ /g	ISO 307, 1157, 1628

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	270	°C	ISO 294
Injection Molding, mold temperature	80	°C	ISO 294
Injection Molding, injection velocity	200	mm/s	ISO 294
Injection Molding, pressure at hold	70	MPa	ISO 294

Diagrams

Specific volume-temperature (pvT)



Characteristics

Processing

Profile extrusion

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)

Rheological calculation properties

	dry	Unit	Test Standard
Min. mold temperature	30	°C	-
Max. mold temperature	100	°C	-
Min. melt temperature	250	°C	-
Max. melt temperature	290	°C	-