

Product Information

VESTAMID® X7229

HIGH VISCOSITY, SELF-EXTINGUISHING PA12 COMPOUND, FREE OF HALOGEN AND PHOSPHORUS



VESTAMID® X7229 NC is a heat-stabilized and plasticized PA 12 compound containing a non-migrating flame retardant, free of halogen and phosphorus. VESTAMID® X7229 NC complies with the requirements of FAR 25.853 or ABD 0031.

Due to the halogen- and phosphorus-free flame retardants, VESTAMID® X7229 NC is especially suitable for interior parts in aircrafts, railway vehicles and ships. It can be used for extrusion as well as for injection molding.

Due to the flame retardants, melt temperature should not exceed 260°C. We recommend melt temperatures of 210-230°C.

VESTAMID® X7229 NC is supplied as cylindrical pellets ready for processing in moisture-proof bags.

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.

Mechanical properties ISO	dry / cond	Unit	Test Standard
Tensile Modulus	980 / -	MPa	ISO 527
Tensile Strength	36 / -	MPa	ISO 527
Yield stress	36 / -	MPa	ISO 527
Yield strain	17 / -	%	ISO 527
Stress at 50% strain	32 / -	MPa	ISO 527
Stress at break	38 / -	MPa	ISO 527
Nominal strain at break, εB	>50 / -	%	ISO 527
Charpy impact strength, +23°C	N / -	kJ/m ²	ISO 179/1eU
Charpy impact strength, -30°C	N / -	kJ/m ²	ISO 179/1eU
Charpy notched impact strength, +23°C	11 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-

Charpy notched impact strength, -30°C	5 / -	kJ/m ²	ISO 179/1eA
Type of failure	C / -	-	-
Flexural modulus, 23°C	770 / -	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	23 / -	MPa	ISO 178
Flexural strain at flexural strength, 23°C	8.6 / -	%	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	175 / *	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	40 / *	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	130 / *	°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	150 / *	°C	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	80 / *	E-6/K	ISO 11359-1/-2
Melting Temperature	175	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Water absorption	1.4 / *	%	Sim. to ISO 62
Humidity absorption	0.6 / *	%	Sim. to ISO 62
Density	1060 / -	kg/m ³	ISO 1183
Density	1060	kg/m ³	ASTM D 792

Burning Behav.	dry / cond	Unit	Test Standard
Burnin behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	3.2 / *	mm	-
Burning behav. at thickness h	V-2 / *	class	IEC 60695-11-10
Thickness tested	0.8 / *	mm	-
Burning behav. at 1.5 mm nom. thickn.	V-2 / *	class	IEC 60695-11-10

Thickness tested	1.6 / *	mm	-
Oxygen index	24 / *	%	ISO 4589-1/-2
UL 94 Flame rating	V-2	-	UL 94
Limiting Oxygen Index	24	%	ASTM D 2863

Electrical properties	dry / cond	Unit	Test Standard
Relative permittivity, 1MHz	5 / -	-	IEC 62631-2-1
Dissipation factor, 1MHz	1700 / -	E-4	IEC 62631-2-1
Volume resistivity, pV	1E11 / -	Ohm*m	IEC 62631-3-1
Electric strength, AC, S20/P50	27 / -	kV/mm	Sim. to IEC 60243-1
CTI, test solution A, 50 drops value	600 / -	-	IEC 60112

Rheological properties	dry / cond	Unit	Test Standard
Melt volume-flow rate, MVR	26.3 / *	cm ³ /10min	ISO 1133
Temperature	220 / *	°C	-
Load	10 / *	kg	-
Molding shrinkage, parallel	0.6 / *	%	ISO 294-4, 2577
Molding shrinkage, normal	0.8 / *	%	ISO 294-4, 2577

Polymer analytics	dry / cond	Unit	Test Standard
Moisture content	0.04 / -	Gew.-%	ISO 15512

Characteristics

Key Feature, Industrial Sector
Aircraft and Aerospace

Key Feature, Processing
Injection Molding, Extrusion

Key Feature, Resistance to
Heat (Thermal Stability), Fire / Burn

Special Characteristics
halogen-free, phosphorus-free, Heat-stabilized, High viscosity

Features
Non-migrating Ingredients

Color
Natural Color

Key Feature, Electrical

Isolating

Key Feature, Additives

Flame retarding agent, Unfilled

Processing

Profile Extrusion

Additives

Flame retarding agent, Heat stabilizer

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)

VESTAMID®

Other

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