Product Information

VESTAMID® X7167

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

VESTAMID® X7167 NC is a heat stabilized PA12 compound containing a non-migrating flame retardant, free of halogen and phosphorous.

VESTAMID® X7167 NC complies with the requirements of FAR 25.853 or ABD 0031. The absence of halogens and phosphorous makes VESTAMID® X7167 NC especially suitable for interior parts in aircrafts, railways and ships.

This resin can be used for extrusion as well as for injection molding. Due to the presence of flame retardant melt temperature should not exceed 260 °C. We recommend melt temperatures of 210 - 230 °C.

VESTAMID® X7167 NC is supplied as cylindrical pellets, ready for use, 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.

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	**1700 / 1440**	MPa	ISO 527
Tensile Strength	**47 / 42**	MPa	ISO 527
Yield stress	**47 / 42**	MPa	ISO 527
Yield strain	**5 / 13**	%	ISO 527
Stress at 50% strain	**36 / 34**	MPa	ISO 527
Stress at break	**47 / 35**	MPa	ISO 527
Nominal strain at break, εtB	**200 / >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	**7 / 9**	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**	-	-
Flexural modulus, 23°C	**1760 / 1400**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**58 / 42**	MPa	ISO 178
Flexural strain at flexural strength, 23°C	**6 / 6**	%	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	**178 / ***	°C	ISO 11357-1/-3
Temp. of deflection under load A, 1.80 MPa	**50 / ***	°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	**175 / ***	°C	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	**150 / ***	°C	ISO 306
Melting Temperature	**178**	°C	ASTM D 3418

Physical properties	**dry / cond**	**Unit**	**Test Standard**
Water absorption	**1.5 / ***	%	Sim. to ISO 62
Humidity absorption	**0.6 / ***	%	Sim. to ISO 62
Density	**1050 / -**	kg/m³	ISO 1183
Density	**1050**	kg/m³	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 1.5 mm nom. thickn.	**V-2 / ***	class	IEC 60695-11-10
Thickness tested	**1.6 / ***	mm	-

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Oxygen index	**26 / ***	%	ISO 4589-1/-2
Limiting Oxygen Index	**26**	%	ASTM D 2863

Electrical properties	**dry / cond**	**Unit**	**Test Standard**
Relative permittivity, 50Hz	**- / 5**	-	IEC 62631-2-1
Relative permittivity, 100Hz	**- / 4.8**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.6 / 3.2**	-	IEC 62631-2-1
Dissipation factor, 50Hz	**- / 990**	E-4	IEC 62631-2-1
Dissipation factor, 100Hz	**- / 800**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**380 / 400**	E-4	IEC 62631-2-1
Volume resistivity, ρV	**1E12 / 2E12**	Ohm*m	IEC 62631-3-1
Surface resistivity, σC, circular electrodes	**- / >1E15**	Ohm per square	IEC 62631-3-2
Electric strength, AC, S20/S20	**34 / 36**	kV/mm	IEC 60243-1
Electric strength, AC, S20/P50	**28 / -**	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	**4.1 / ***	cm^3/10min	ISO 1133
Temperature	**230 / ***	°C	-
Load	**2.16 / ***	kg	-
Molding shrinkage, parallel	**0.6 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.9 / ***	%	ISO 294-4, 2577
Mold temperature	**80 / ***	°C	-
Melt temperature	**240 / ***	°C	-

Characteristics

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Key Feature, Industrial Sector
Aircraft and Aerospace, Electrical and Electronical, Instustry and Building Construction

Key Feature, Processing
Injection Molding, Extrusion

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

Key Feature, Additives
Lubricants, Flame retarding agent

Applications
General Purpose

Processing
Profile Extrusion

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

Color
Natural Color

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)

Other

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

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