Product Information

VESTAMID® X7099

ESPECIALLY DEVELOPED FOR THE PRODUCTION OF PLASTIC-RUBBER COMPOSITES ACCORDING TO THE EVONIK INDUSTRIES K+K PROCESS

VESTAMID® X7099 NC is a PA 612 resin especially developed for the production of plastic-rubber composites.
Parts made from VESTAMID® X7099 can be, without the use of adhesives or adhesion promoters, covulcanized with rubbers, such as XNBR, HNBR, AEM or FPM ("direct-bonding to rubber").
As a partially crystalline resin VESTAMID® X7099 exhibits an outstanding chemical resistance, especially against fuels, oils and fats.
In comparison to resins based on PA 66 or PA 6 VESTAMID® X7099 has a distinctly lower water absorption.

VESTAMID® X7099 is supplied as cylindrical pellets ready for use in a moisture-proof packaging.

The use of colorants may affect property 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".

The values presented are typical or average values, they do not constitute a specification.

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

Key Features

Industrial Sector
Automotive and Mobility, Sustainable

Delivery form
Pellets, Granules

Sustainability
Sustainable electricity

Resistance to
Heat (thermal stability)

Processing
Injection molding

Additives
Glass fibers

LCA-values	dry	Unit	Test Standard
LCA name of certificate	VESTAMID® D GF	-	ISO 14040, 14044
LCA certifier	TÜV Rheinland	-	ISO 14040, 14044

Blue water consumption	**20.1**	kg	ISO 14040, 14044
Global Warming Potential incl. bio. C incl. LUC	**5.8**	kg CO_2 eq./kg	ISO 14040, 14044
Global Warming Potential excl. bio. C incl. LUC	**5.8**	kg CO_2 eq./kg	ISO 14040, 14044
Land use (ReCiPe 2016)	**0.1**	Annual crop eq. y	ISO 14040, 14044
GWP savings as compared to 2023 reference	**-2.0**	kg CO_2 eq./kg	ISO 14040, 14044

Mechanical properties ISO	**dry / cond**	**Unit**	**Test Standard**
Tensile modulus	**5800 / -**	MPa	ISO 527
Tensile strength	**125 / -**	MPa	ISO 527
Yield stress	**125 / -**	MPa	ISO 527
Yield strain	**3.9 / -**	%	ISO 527
Stress at break	**120 / -**	MPa	ISO 527
Nominal strain at break, tB	**4.4 / -**	%	ISO 527
Charpy impact strength, +23°C	**80 / -**	kJ/m²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy impact strength, -30°C	**60 / -**	kJ/m²	ISO 179/1eU
Type of failure	**C / -**	-	-
Charpy notched impact strength, +23°C	**10 / -**	kJ/m²	ISO 179/1eA
Type of failure	**C / -**	-	-
Charpy notched impact strength, -30°C	**7 / -**	kJ/m²	ISO 179/1eA
Type of failure	**C / -**	-	-
Flexural modulus, 23°C	**5200 / -**	MPa	ISO 178
Flexural stress at conv. deflection, 23°C	**165 / -**	MPa	ISO 178
Flexural strength, 23°C	**192 / -**	MPa	ISO 178
Flexural strain at flexural strength, 23°C	**5.5 / -**	%	ISO 178
Flexural stress at break, 23°C	**189 / -**	MPa	ISO 178
Flexural strain at break, 23°C	**5.8 / -**	%	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	**190 / ***	°C	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	**210 / ***	°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	**205 / ***	°C	ISO 306
Melting Temperature	**215**	°C	ASTM D 3418

Physical properties	dry / cond	Unit	Test Standard
Density	**1200 / -**	kg/m³	ISO 1183
Water absorption	**2 / ***	%	Sim. to ISO 62
Humidity absorption	**0.8 / ***	%	Sim. to ISO 62
Density	**1200**	kg/m³	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	**1E12 / -**	Ohm*m	IEC 62631-3-1
Relative permittivity, 100Hz	**4.4 / -**	-	IEC 62631-2-1
Relative permittivity, 1MHz	**3.9 / -**	-	IEC 62631-2-1
Dissipation factor, 100Hz	**650 / -**	E-4	IEC 62631-2-1
Dissipation factor, 1MHz	**430 / -**	E-4	IEC 62631-2-1
Dielectric strength, AC, S20/P50	**38 / -**	kV/mm	Sim. to IEC 60243-1

EVONIK
Leading Beyond Chemistry

Rheological properties	dry / cond	Unit	Test Standard
Molding shrinkage, parallel	**0.6 / ***	%	ISO 294-4, 2577
Molding shrinkage, normal	**0.9 / ***	%	ISO 294-4, 2577
Mold temperature	**80 / ***	°C	-
Melt temperature	**250 / ***	°C	-

Test specimen production	dry	Unit	Test Standard
Injection Molding, melt temperature	**260**	°C	ISO 294
Injection Molding, mold temperature	**80**	°C	ISO 294
Injection Molding, injection velocity	**200**	mm/s	ISO 294

Characteristics

Processing
K&K process

Special Characteristics
Semi-crystalline, High heat resistant

Color
Natural color

Additives
Heat stabilizer

Chemical Resistance
Grease resistance, Oil resistance, Fuel resistance, General chemical resistance

This information and all technical and other advice are based on Evonik's present knowledge and experience. However, Evonik assumes no liability for such information or advice, including the extent to which such information or advice may relate to third party intellectual property rights. Evonik reserves the right to make any changes to information or advice at any time, without prior or subsequent notice. Evonik disclaims all representations and warranties, whether express or implied, and shall have no liability for, merchantability of the product or its fitness for a particular purpose (even if Evonik is aware of such purpose), or otherwise. EVONIK SHALL NOT BE RESPONSIBLE FOR CONSEQUENTIAL, INDIRECT OR INCIDENTAL DAMAGES (INCLUDING LOSS OF PROFITS) OF ANY KIND. It is the customer's sole responsibility to arrange for inspection and testing of all products by qualified experts. Reference to trade names used by other companies is neither a recommendation nor an endorsement of the corresponding product, and does not imply that similar products could not be used.

® is a registered trademark of Evonik Industries AG or one of its subsidiaries

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

www.plastics-database.com