

Product Information

VESTODUR® X9400

GLASS FIBER-REINFORCED, MODIFIED POLYBUTYLENE TEREPHTHALATE COMPOUND WITH DECREASED SHRINKAGE



VESTODUR® X9400 NC is a 10% glass fiber-reinforced, polymer-modified polybutylene terephthalate compound. Moldings of this compound show decreased shrinkage.

The compound is suitable for parts that are subjected to high mechanical or thermal loads. Compared with commonly used glass fiber-reinforced PBT compounds with similar stiffness parts of VESTODUR® X9400 have in particular a high surface quality.

VESTODUR® X9400 is supplied as cylindrical pellets in polyethylene packaging.

For information, please follow the general recommendations in our flyer "VESTODUR® Polybutylene terephthalate - Compounds".

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.

Key Features

Industrial Sector
Industry and Engineering

Processing
Injection molding

Delivery form
Pellets, Granules

Resistance to
Heat (thermal stability)

Additives
Glass fibers

Mechanical properties ISO

Tensile modulus

dry

653000

Unit

psi

Test Standard

ISO 527

Tensile strength

14900

psi

ISO 527

Yield stress	14900	psi	ISO 527
Yield strain	4	%	ISO 527
Stress at break	14800	psi	ISO 527
Nominal strain at break, tB	4	%	ISO 527
Charpy impact strength, +23°C	23.8	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy impact strength, -30°C	21.4	ftlb/in ²	ISO 179/1eU
Type of failure	C	-	-
Charpy notched impact strength, +23°C	2.38	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Charpy notched impact strength, -30°C	2.38	ftlb/in ²	ISO 179/1eA
Type of failure	C	-	-
Flexural modulus, 23°C	573000	psi	ISO 178
Flexural stress at conv. deflection, 23°C	18900	psi	ISO 178
Flexural strength, 23°C	21300	psi	ISO 178
Flexural strain at flexural strength, 23°C	5.3	%	ISO 178
Flexural stress at break, 23°C	20500	psi	ISO 178
Flexural strain at break, 23°C	6.1	%	ISO 178

Thermal properties	dry	Unit	Test Standard
Melting temperature	424	°F	ISO 11357-1/-3
Glass transition temperature, DSC	151	°F	ISO 11357-1/-2
Temp. of deflection under load A, 1.80 MPa	230	°F	ISO 75-1/-2
Temp. of deflection under load B, 0.45 MPa	392	°F	ISO 75-1/-2
Vicat softening temperature A, 10 N, 50 K/h	430	°F	ISO 306
Vicat softening temperature B, 50 N, 50 K/h	354	°F	ISO 306
Coeff. of linear therm. expansion, 23°C to 55 °C, parallel	1.67E-5	in/in/°F	ISO 11359-1/-2
Coeff. of linear therm. expansion, 23°C to 55 °C, normal	2.22E-5	in/in/°F	ISO 11359-1/-2

Melting Temperature	424	°F	ASTM D 3418
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Physical properties	dry	Unit	Test Standard
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Density	1.35	g/cm ³	ISO 1183
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Density	1.35	g/cm ³	ASTM D 792
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Burning Behav.	dry	Unit	Test Standard
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Burning behav. at 1.5 mm nom. thickn.	HB	class	IEC 60695-11-10
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Thickness tested	0.0630	in	-
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Rheological properties	dry	Unit	Test Standard
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Molding shrinkage, parallel	0.3	%	ISO 294-4, 2577
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Molding shrinkage, normal	0.4	%	ISO 294-4, 2577
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Mold temperature	176	°F	-
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Melt temperature	500	°F	-
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Test specimen production	dry	Unit	Test Standard
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Processing conditions acc. ISO	7792	-	ISO-2
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Injection Molding, melt temperature	500	°F	ISO 294
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Injection Molding, mold temperature	176	°F	ISO 294
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Injection Molding, injection velocity	7.87	in/s	ISO 294
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Injection Molding, pressure at hold	10200	psi	ISO 294
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Characteristics

Special Characteristics

High heat resistant, Low warpage / Low shrinkage

Additives

Heat stabilizer

Color

Natural color

Chemical Media Resistance

Acids

- ✓ Acetic Acid (5% by mass) (23°C)
- ✓ Citric Acid solution (10% by mass) (23°C)
- ✗ Hydrochloric Acid (36% by mass) (23°C)
- ✗ Nitric Acid (40% by mass) (23°C)
- ✓ Sulfuric Acid (38% by mass) (23°C)
- ✓ Sulfuric Acid (5% by mass) (23°C)

Bases

- ✗ Ammonium Hydroxide solution (10% by mass) (23°C)

Alcohols

- ✓ Isopropyl alcohol (23°C)
- ✓ Methanol (23°C)
- ✓ Ethanol (23°C)

Hydrocarbons

- ✓ iso-Octane (23°C)

Ketones

- ✗ Acetone (23°C)

Ethers

- ✓ Diethyl ether (23°C)

Mineral oils

- ✓ SAE 10W40 multigrade motor oil (23°C)
- ✓ Insulating Oil (23°C)

Standard Fuels

- ✓ Standard fuel without alcohol (pref. ISO 1817 Liquid C) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (23°C)
- ✓ Diesel fuel (pref. ISO 1817 Liquid F) (90°C)

Salt solutions

- ✓ Sodium Chloride solution (10% by mass) (23°C)
- ✓ Sodium Hypochlorite solution (10% by mass) (23°C)

✓ Sodium Carbonate solution (20% 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	122	°F	-
Max. mold temperature	248	°F	-
Min. melt temperature	464	°F	-
Max. melt temperature	536	°F	-