VESTORAN® X7342

Polyphenylene Ether

Evonik Industries AG

Message:

Modified polyphenylene ether (PPE), high heat resistant, 20 % glass-fiber reinforced
VESTORAN X7342 is the registered trademark of the Evonik Degussa GmbH for molding compounds containing poly-2,6-dimethyl-1,4-phenylene ether as polymeric constituent (poly-phenylene ether, PPE, also referred to as PPO).
As a material of amorphous structure, VESTORAN X7342 shows very small mold shrinkage. Therefore molded parts have a very low tendency to warp. Moldings of VESTORAN X7342 are dimensionally stable and hydrolysis resistant even in hot water, but are more sensitive to organic solvents than semi-crystalline plastics. VESTORAN X7342 is resistant to aqueous alkalines and acides, certain alcohols, and glycol solutions.
Due to the glass-fiber reinforcement the compound combines outstanding heat deflection temperature under load with high strength and rigidity. The even smaller shrinkage compared to non-reinforced VESTORAN depends on the orientation of the glass fibers in the molded part.

General Information			
UL YellowCard	E100203-217732		
Filler / Reinforcement	Glass fiber reinforced material, 20% filler by weight		
Features	Good dimensional stability Low warpage Rigidity, high High strength alkali resistance Alcohol resistance Heat resistance, high Hydrolysis resistance Low shrinkage amorphous		
Forms	Particles		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.19	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/21.6 kg)	40.0	cm³/10min	ISO 1133
Molding Shrinkage			ISO 294-4
80°C, 2.00 mm [1]	0.23	%	ISO 294-4
Vertical flow direction: 80°C, 2.00mm [2]	0.43	%	ISO 294-4
Vertical flow direction: 150°C, 2.00mm [3]	0.060	%	ISO 294-4
Flow direction: 150°C, 2.00mm [4]	0.050	%	ISO 294-4
Mechanical	**Nominal Value**	**Unit**	**Test Method**
Tensile Modulus	5900	MPa	ISO 527-2
Tensile Stress (Break)	100	MPa	ISO 527-2
Tensile Strain (Break)	2.5	%	ISO 527-2
Impact	**Nominal Value**	**Unit**	**Test Method**

Charpy Notched Impact Strength (23°C, Complete Break)	14	kJ/m²	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C, Complete Break)	45	kJ/m²	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	170	°C	ISO 75-2/B
1.8 MPa, not annealed	165	°C	ISO 75-2/A
Vicat Softening Temperature			
--	170	°C	ISO 306
--	180	°C	ISO 306/A
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity			IEC 60093
-- [5]	1.0E+14	ohms	IEC 60093
--	1.0E+15	ohms	IEC 60093
Volume Resistivity	1.0E+13	ohms·cm	IEC 60093
Dielectric Strength [6]	29	kV/mm	IEC 60243-1
Dissipation Factor			IEC 60250
100 Hz	8.0E-3		IEC 60250
1 MHz	1.0E-3		IEC 60250
Comparative Tracking Index			IEC 60112
Solution a [7]	150	V	IEC 60112
Solution a	175	V	IEC 60112
Injection	**Nominal Value**	**Unit**	
Drying Temperature	80.0 - 110	°C	
Drying Time	2.0	hr	
Rear Temperature	280	°C	
Middle Temperature	300	°C	
Front Temperature	320	°C	
Nozzle Temperature	310	°C	
Processing (Melt) Temp	300 - 330	°C	
Mold Temperature	80.0 - 90.0	°C	
Injection Pressure	80.0 - 160	MPa	
Back Pressure	0.500 - 1.00	MPa	
Screw L/D Ratio	20.0:1.0		
Screw Compression Ratio	2.0 : 1.0 - 3.0 : 1.0		
Vent Depth	0.050	mm	
Injection instructions			
Nozzle: Diameter min. 3 mmHolding pressure: 50 to 80% of injection pressureHydraulic back pressure: 5 to 10 bar, no decompression (specific back pressure 50 to 100 bar)			
NOTE			
1.	determined on 2 mm sheets with film gate at rim mold temperature 80°C		

2.	determined on 2 mm sheets with film gate at rim mold temperature 80°C
3.	Post shrinkage, determined on 2 mm sheets with film gate at rim after 4 h heat aging at 150°C
4.	Post shrinkage, determined on 2 mm sheets with film gate at rim after 4 h heat aging at 150°C
5.	Roa
6.	K20/P50
7.	100 drops value

Recommended distributors for this material

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