VESTORAN® 1900

Polyphenylene Ether

Evonik Industries AG

Message:

Modified polyphenylene ether (PPE), high heat resistant, suitable for plastic/rubber composites manufactured by the K&K process
VESTORAN is the registered trademark of 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 1900 shows very small mold shrinkage. Therefore molded parts have a very low tendency to warp.
The impact modified compound is of low density and easy to process. Further properties are excellent impact strength, heat deflection under load and suitability for being coated with lacquers.
Moldings of VESTORAN 1900 are dimensionally stable and hydrolysis resistant even in hot water, but are more sensitive to organic solvents than semi-crystalline plastics.
VESTORAN 1900 is resistant to aqueous alkalines and acides, certain alcohols, and glycol solutions.
Colored material contains only cadmiumfree pigments.
VESTORAN 1900 is particularly suitable for the adhesion promoter-free manufacturing of plastic/ rubber composites by the Evonik Degussa GmbH-patented K&K process.

General Information			
UL YellowCard	E100203-217730		
Additive	Impact modifier		
Features	Good dimensional stability Impact modification Low density Low warpage Calcium content, low (to none) Impact resistance, good alkali resistance Alcohol resistance Heat resistance, high Hydrolysis resistance acid resistance Low shrinkage		
Forms	Particles		
Processing Method	Injection molding		
Physical	**Nominal Value**	**Unit**	**Test Method**
Density	1.04	g/cm³	ISO 1183
Melt Volume-Flow Rate (MVR) (300°C/21.6 kg)	40.0	cm³/10min	ISO 1133
Molding Shrinkage [1]			ISO 294-4
Vertical flow direction: 80°C, 2.00mm	0.80	%	ISO 294-4
Flow direction: 80°C, 2.00mm	0.90	%	ISO 294-4
Water Absorption (Saturation, 23°C)	0.40	%	ISO 62
Mechanical	**Nominal Value**	**Unit**	**Test Method**

Tensile Modulus	2000	MPa	ISO 527-2
Tensile Stress (Yield)	60.0	MPa	ISO 527-2
Tensile Strain			ISO 527-2
Yield	6.0	%	ISO 527-2
Fracture	50	%	ISO 527-2
Flexural Modulus	2400	MPa	ISO 178
Impact	**Nominal Value**	**Unit**	**Test Method**
Charpy Notched Impact Strength (23°C, Complete Break)	25	kJ/m^2	ISO 179/1eA
Charpy Unnotched Impact Strength (23°C, Partial Break)	250	kJ/m^2	ISO 179/1eU
Thermal	**Nominal Value**	**Unit**	**Test Method**
Heat Deflection Temperature			
0.45 MPa, not annealed	190	°C	ISO 75-2/B
1.8 MPa, not annealed	170	°C	ISO 75-2/A
Vicat Softening Temperature			
--	190	°C	ISO 306/A
--	185	°C	ISO 306/B
Electrical	**Nominal Value**	**Unit**	**Test Method**
Surface Resistivity [2]	1.0E+14	ohms	IEC 60093
Volume Resistivity	1.0E+13	ohms·cm	IEC 60093
Dielectric Strength	40	kV/mm	IEC 60243-1
Relative Permittivity			IEC 60250
100 Hz	2.60		IEC 60250
1 MHz	2.90		IEC 60250
Dissipation Factor			IEC 60250
100 Hz	8.0E-4		IEC 60250
1 MHz	1.6E-3		IEC 60250
Comparative Tracking Index			IEC 60112
Solution a [3]	200	V	IEC 60112
Solution a	225	V	IEC 60112
Flammability	**Nominal Value**	**Unit**	**Test Method**
Flame Rating			UL 94
0.800 mm	HB		UL 94
1.60 mm	HB		UL 94
Additional Information	**Nominal Value**		**Test Method**
Electrolytical Corrosion - Step	A1		IEC 60426
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	310 - 340	°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.	Roa
3.	100 drop value

Recommended distributors for this material

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