Hylar® 5000

Polyvinylidene Fluoride

Solvay Specialty Polymers

Message:

Hylar® 5000 is a crystalline high molecular weight powder form of polyvinylidene fluoride (PVDF) specifically designed for solvent-based coatings to provide improved gloss. It forms mechanically strong and tough films that have a broad useful temperature range. These films are highly resistant to most environmental conditions including gamma radiation and are essentially transparent to ultraviolet radiation. The weathering characteristics of Hylar® 5000 coatings lead to excellent performance for the long term.

Hylar® 5000 is available only via a licensing program that specifies the composition of Hylar® 5000 coatings. A properly formulated finish contains sufficient pigment to make the film totally opaque to ultraviolet radiation at the nominal one mil (0.001 inch) film thickness suggested.

SAFETY

Hylar® 5000 is stable at temperatures up to 600°F (316°C). When it is subjected to temperatures above 600°F (316°C) for extended periods of time, hydrogen fluoride (HF) begins to evolve, and at temperatures above 700°F (371°C) HF evolution becomes rapid. Hylar® 5000 exhibits excellent flame resistance; however, in case of fire, HF and traces of potentially toxic fluorocarbons can be formed. HF is corrosive, causes burns on contact, and has an American Conference Governmental Industrial Hygienists (ACGIH) Threshold Limit Value (TLV-TWA) of 3 ppm (2.5 mg/m^3) (1984).

Thermal decomposition of Hylar® 5000 to HF can also occur in a bake oven in the event that temperatures are not controlled properly. In the event of fire, use NIOSH approved self-contained breathing apparatus and skin protection to protect against volatile decomposition products. Hylar® 5000 can be disposed of in an approved land fill, but should not be incinerated unless permitted by applicable law and provision is made for absorption of HF.

General Information			
Features	Clean/High Purity		
	Crystalline		
	Good Strength		
	Good Toughness		
	Good UV Resistance		
	Good Weather Resistance		
	High Molecular Weight		
	Low to No Odor		
	Radiation (Gamma) Resistant		
Uses	Coating Applications		
	Film		
Appearance	White		
Forms	Powder		
Processing Method	Coating		
Physical	**Nominal Value**	**Unit**	**Test Method**
Specific Gravity [1]	1.75 to 1.77	g/cm^3	ASTM D792
Water Absorption (Equilibrium)	0.040	%	ASTM D570
1% wt Loss (TGA) [2]	382 to 393	°C	TGA
Moisture Content [3]	< 0.50	%	
Purity - PVDF	> 99.5	%	
Hegman Grind - Dispersion	5.50 to 6.00		ASTM D1210
Thermal	**Nominal Value**	**Unit**	**Test Method**

Melting Temperature	156 to 160	°C	ASTM D3418
Optical	Nominal Value		Test Method
Gloss (60°)	> 25		ASTM D2457
Fill Analysis	Nominal Value	Unit	Test Method
Melt Viscosity (232°C, 100 sec^-1)	2900 to 3300	Pa·s	ASTM D3835
NOTE			
1.	At 23/23°C		
2.	1% weight loss in air		
3.	Non-hygroscopic		

Recommended distributors for this material

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