

Hylar® 5000 HG

polyvinylidene fluoride

Hylar® 5000 HG 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 HG 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 HG 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 HG 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 HG 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/m³) (1984).

Thermal decomposition of Hylar® 5000 HG 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 HG 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

Material Status	• Commercial: Active
Availability	• Europe • North America
Features	• Clean/High Purity • Crystalline • Good Strength • Good Toughness • High Gloss • High Molecular Weight • Low Odor • Radiation (Gamma) Resistant • UV Resistant • Weather Resistant
Uses	• Coating Applications • Film
Appearance	• White
Forms	• Powder
Processing Method	• Coating

Physical

	Typical Value	Unit	Test method
Density / Specific Gravity ¹	1.75 to 1.77		ASTM D792
Water Absorption (Equilibrium)	0.040	%	ASTM D570
Moisture Content ²	< 0.50	%	
Purity - PVDF	> 99.5	%	

Thermal

	Typical Value	Unit	Test method
Melting Temperature	164 to 167	°C	ASTM D3418

Optical

	Typical Value	Unit	Test method
Gloss - 60°	40.0	min	ASTM D523

Hylar® 5000 HG

polyvinylidene fluoride

Fill Analysis	Typical Value	Unit	Test method
Melt Viscosity	1750 to 2050	Pa·s	ASTM D3835

Additional Information	Typical Value	Unit	Test method
Hegman Grind - Dispersion	5.50 to 6.00		ASTM D1210
Thermal Decomposition Temperature ³	382 to 393	°C	TGA

Notes

Typical properties: these are not to be construed as specifications.

¹ At 23/23°C

² Non-hygroscopic

³ 1% weight loss in air



Safety Data Sheets (SDS) are available by emailing us or contacting your sales representative. Always consult the appropriate SDS before using any of our products.

Neither Solvay Specialty Polymers nor any of its affiliates makes any warranty, express or implied, including merchantability or fitness for use, or accepts any liability in connection with this product, related information or its use. Some applications of which Solvay's products may be proposed to be used are regulated or restricted by applicable laws and regulations or by national or international standards and in some cases by Solvay's recommendation, including applications of food/feed, water treatment, medical, pharmaceuticals, and personal care. Only products designated as part of the Solviva® family of biomaterials may be considered as candidates for use in implantable medical devices. The user alone must finally determine suitability of any information or products for any contemplated use in compliance with applicable law, the manner of use and whether any patents are infringed. The information and the products are for use by technically skilled persons at their own discretion and risk and does not relate to the use of this product in combination with any other substance or any other process. This is not a license under any patent or other proprietary right.

All trademarks and registered trademarks are property of the companies that comprise the Solvay Group or their respective owners.

© 2019 Solvay Specialty Polymers. All rights reserved.