

Hylar®



SOLVAY

asking more from chemistry®

Hylar® 5000 PVDF

for Architectural Coatings

**SPECIALTY
POLYMERS**



The Ultimate in Coating Performance and Durability

Hylar® 5000 Surpasses AAMA 2605 Specifications

Metal in today's architectural designs is used in diverse applications for the fabrication of structural and accent components.

70 % Hylar® 5000 factory-applied coatings provide the ultimate protection for:

- Composite panels
- Metal roofs
- Curtain walls
- Facades
- Extrusions
- Column covers
- Louvers
- Decorative components

These coatings ensure a long-lasting, rich, colorful, durable finish and gloss with relatively no visible signs of aging despite years of relentless sun, temperature extremes, and harsh environmental conditions.

Superior performance coatings formulated with 70 % Hylar® 5000 PVDF resin provide long-life protection against the harsh effects of UV radiation, chemical and airborne pollution, severe weather, and environmental conditions such as salt spray or windborne sand.



A building investment – whether you build it, maintain it, or own it – represents a significant asset. You can protect this asset and add years of service to its life by choosing architectural coatings containing 70% Hylar® 5000 PVDF. Made from UV-resistant fluoropolymer resins, PVDF coatings have successfully outperformed all other metal coatings for over 40 years, while closely maintaining their original color and beauty.

Why is Hylar® 5000 PVDF Ideal for Architectural Coatings?

The combination of carbon-fluorine bonds, common to all fluoropolymer materials, with carbon-hydrogen atoms gives polyvinylidene fluoride (PVDF), its extremely stable structure. Hylar® 5000 PVDF is inherently inert and has the ability to withstand long-term UV and gamma radiation, resulting in excellent color and gloss retention without chalking. PVDF also resists acids, alkalis and oils. 70 % Hylar® 5000 PVDF coatings are also resistant to dirt pickup, however, an annual maintenance cleaning is recommended.

Hylar® 5000 PVDF is used as a base resin for long-life finishing systems. Whether coil coated or sprayed, it is readily applied to metal substrates such as aluminum, aluminized steel, galvanized steel, and Galvalume®.

Hylar® 5000 PVDF Cost Performance – Value That Pays Off

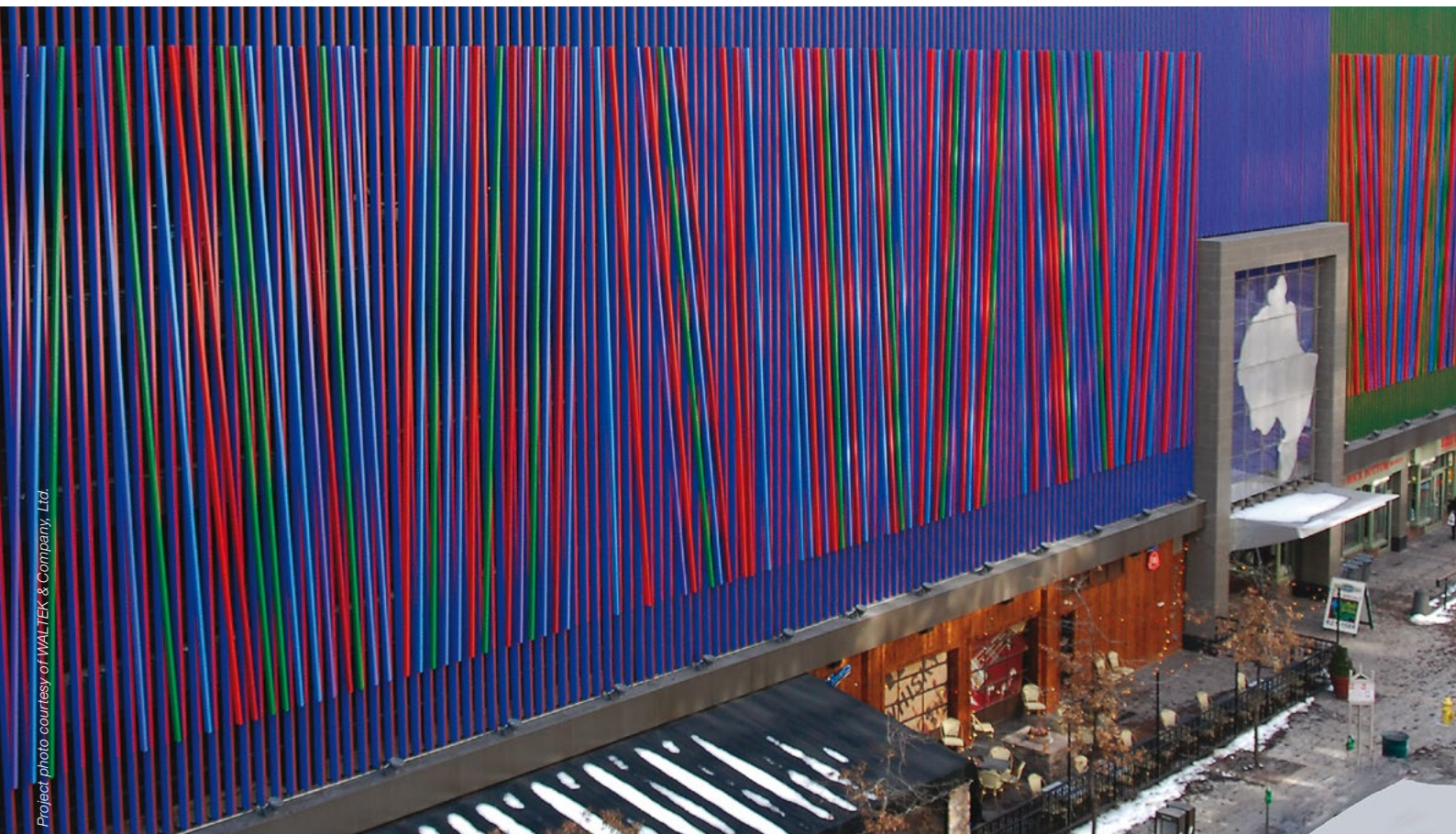
Beautiful structures benefiting from the protection of Hylar® 5000 PVDF coatings can be found throughout the world, from North America to Europe, Asia to the Mid-East. A wide range of buildings including monumental, commercial, industrial, residential, and institutional have all enjoyed a service life well beyond expectation. Hylar® 5000 has protected them from environmental attack and aging. Hylar® 5000 PVDF coatings can be formulated into a rainbow of colors and finishes to glorify the palette of every architectural designer.

40 Years of Unparalleled Results

Other architectural coatings may have the look of a Hylar® 5000 PVDF coating when new. Resin and other coating manufacturers often claim that their non-PVDF coatings will perform as well as PVDF coatings. But when exposure comparisons are evaluated, the inherent long-life characteristics of 70 % Hylar® 5000 PVDF coatings outperform high performance polyester, polyester, acrylics, plastisols, thick film urethanes, anodized metal, and FEVE coatings. Hylar® 5000 coatings, blended at the optimal ratio of 70 % PVDF to 30 % acrylic, maintain their color fastness and gloss longer than all other architectural coatings. Performance of Hylar® 5000-based coatings surpasses AAMA 2605 requirements.

The question for architectural specifiers and building owners is simple: when Hylar® 5000 PVDF coatings will deliver up to 40 years of consistent service, why would anyone choose a coating that will need replacement 3 to 4 times during the building's lifetime?

While other coatings may cost less initially, they cannot compare to the superior cost performance of a 70 % Hylar® 5000 PVDF coating. Buildings protected by PVDF coatings for over 40 years are still in place retaining their new-like appearance. The re-coating costs of other systems, over the life of the structure, make Hylar® 5000 coating a smart choice. The value Hylar® 5000 brings to the building investment – long service life, beauty and ease of maintenance – makes it the wise choice for all involved.

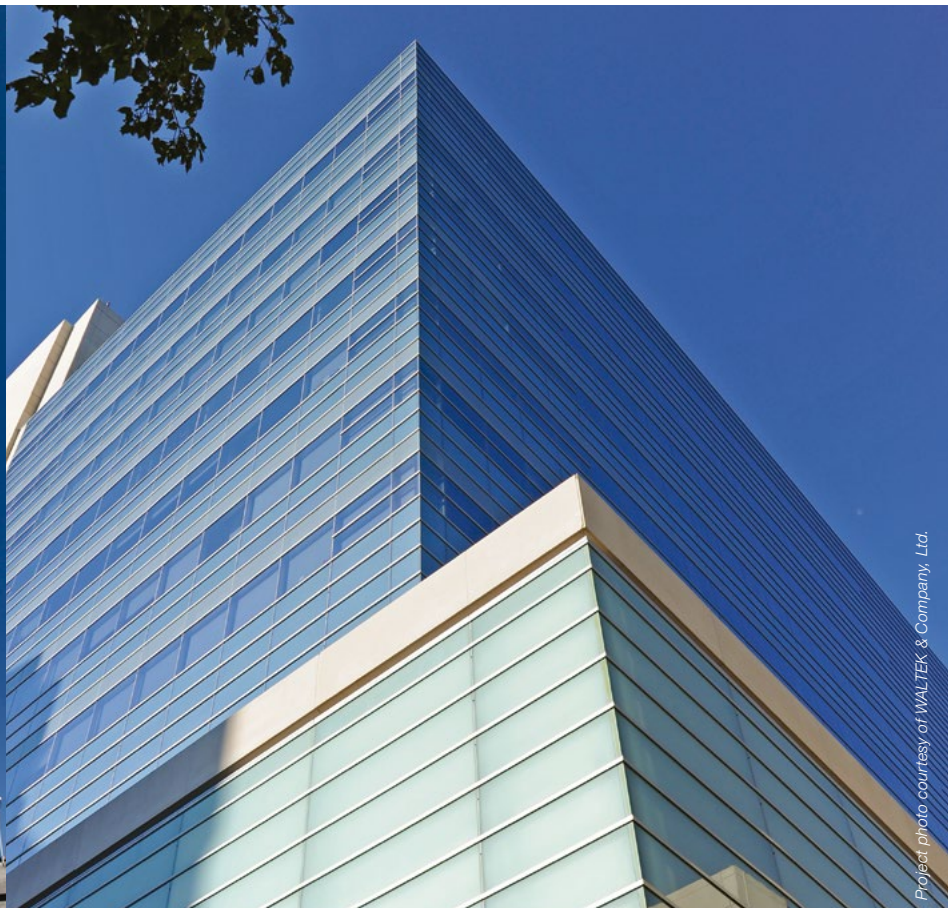


Project photo courtesy of WALTER & Company, Ltd.

Performance Test

AAMA 2605

Minimum film thickness	1.2 mils
Crosshatch adhesion	Dry, wet and boiling 100 %
Direct impact resistance	0.1 inch deformation, minor crack/no pick-off
HCl resistance (10 %)	15-minute spot, no blister or color change
Mortar resistance	24-hour surface contact, no adhesion or residue
Detergent resistance	72-hour immersion, no change or loss of adhesion
Humidity resistance	4,000 hours 100% humidity #8 blister size maximum
Salt spray resistance scribed	4,000 hours 5 % solution, minimum 7 on scribe, 8 on field
Pencil hardness	F (minimum)
Abrasion resistance (1/mil)	40 (minimum)
Nitric acid vapor resistance	30-minute exposure, <5 ΔE color change
Window cleaner resistance	24-hour spot test, no visual change
Weathering	10 yrs Florida: <5 ΔE maximum color change; 50 % gloss retention minimum; 8 chalk minimum (6 on whites); 10 % film erosion maximum



Project photo courtesy of WALTER & Company, Ltd.

Painting the Future Green

PVDF coatings are a proven way to reduce energy usage and costs. PVDF coatings stay attractive longer than any other architectural coating because they resist environmental forces that can attack lesser products. And because they keep their good looks and protect their substrates, the investment in PVDF pays off year after year.

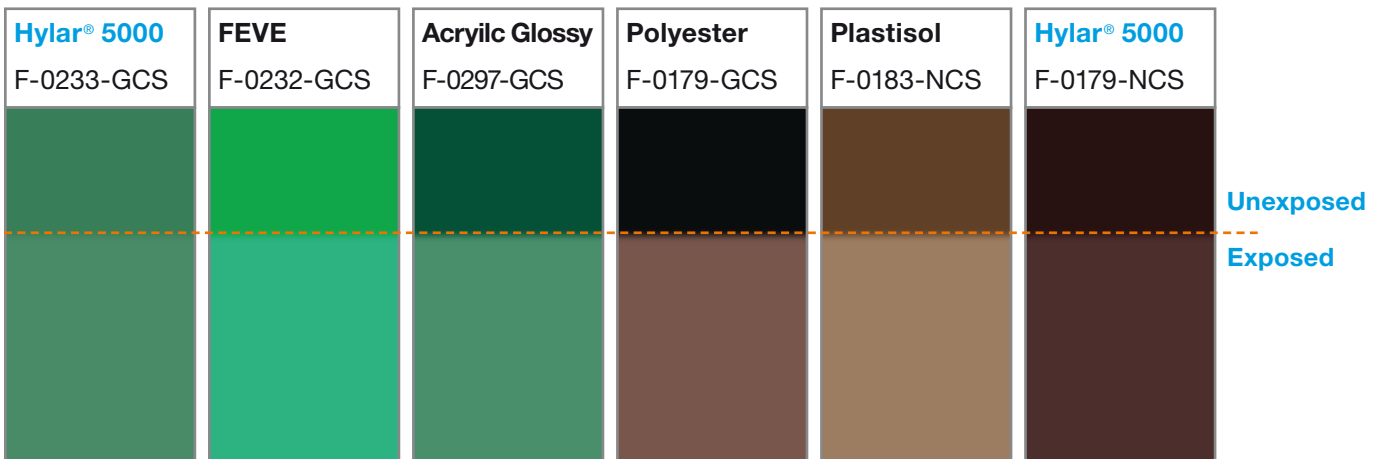
Cool Metal Roofs

Hylar® 5000 is a critical component of coatings used in cool metal roofing systems, formulated with special inorganic pigments by Solvay Specialty Polymers licensees into paint systems that have high solar reflectance. The increased reflectance of infrared radiation reduces surface temperature and heat load via conduction into the building. Cooling requirements can be dramatically cut back as a result, leading to up to 40% lower utility costs and possible equipment cost savings due to reduced cooling capacity. Lower electricity consumption results in reduced emissions and improvements in the environment.

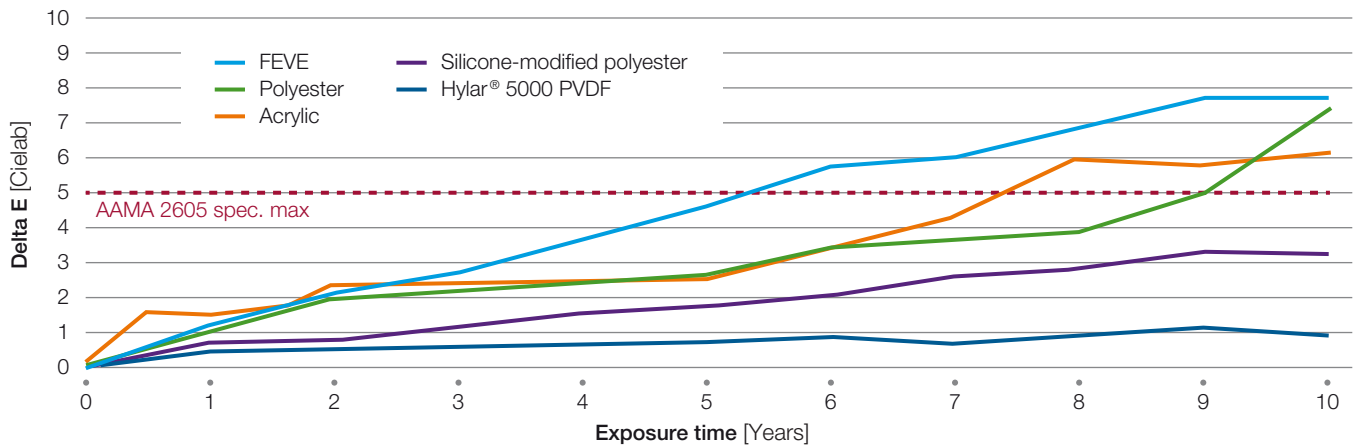
Cool metal roofs painted with Hylar® 5000 PVDF paint systems retain their solar reflectance longer than other paint systems due to superior resistance to photochemical degradation and excellent dirt shedding. Choosing a cool metal roofing paint system with Hylar® 5000-based coatings will retain a building's aesthetics, energy efficiency and its value for many years. Use of cool metal roofs with a Hylar® 5000-based finish can contribute multiple points toward LEED certification of new construction or renovation projects. More information on this topic is available at www.coolmetalroofing.org.

Exposure Proves Hylar® 5000 is Superior

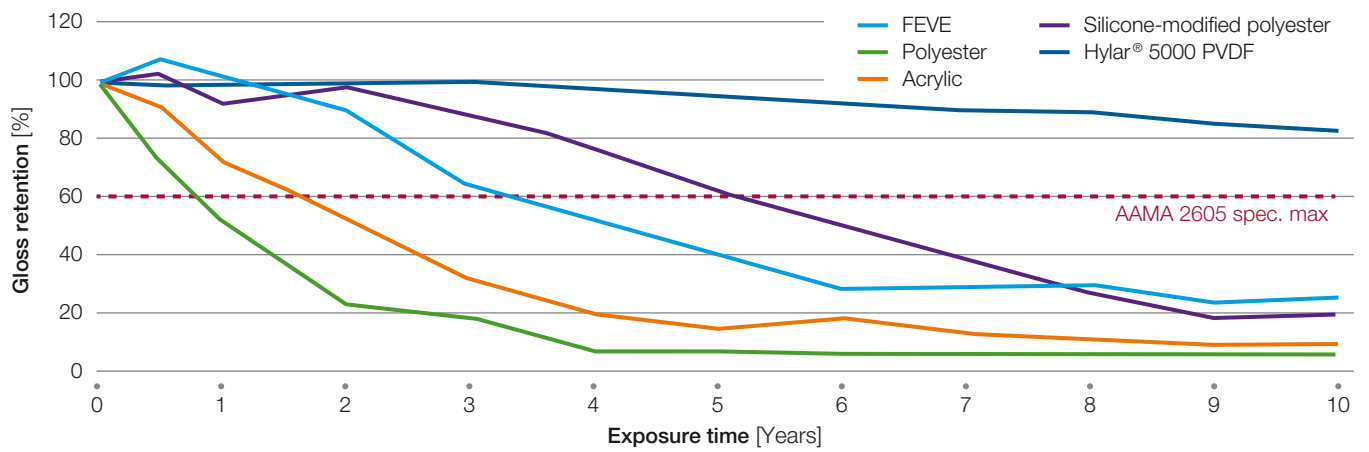
The panels shown below were exposed for ten years at an independent test-fence facility in southern Florida, positioned at a 45° angle facing south. By comparing the difference in the upper, covered portion of each panel to the exposed section beneath, it is easy to see the superior weatherability of Hylar® 5000-based coatings over other resin systems.



Color Change 45° South Florida Exposure



Gloss retention 45° South Florida Exposure



Project photo courtesy of MALTEK & Company, Ltd.



Solvay Specialty Polymers: World Leader in PVDF Resins

Hylar® 5000 is a product of Solvay Specialty Polymers which traces its PVDF expertise to its Pennwalt Corporation and Ausimont legacy. Solvay Specialty Polymers produces a significant proportion of the world's PVDF coatings for architectural coatings. We are a member of Solvay, an international group active in chemistry, headquartered in Brussels. Among the benefits of our deep portfolio is a diversified global presence as well as an integrated value chain from raw materials to finished products.

Architectural coatings formulated with 70 % Hylar® 5000 resin:

- 40+ years of durability
- Available in coil and spray applied formulation from licensees
- Superior performance
- Chemically resistant
- Unmatched color and gloss retention
- Wide range of colors
- Unparalleled cost performance
- Non-chalking
- UV resistant
- Environmentally responsible
- Surpasses AAMA-2605
- Excellent post-forming (OT bend)
- May be applied to numerous substrates
- Ease of maintenance

A Rigorous Qualification Process

To ensure exceptional quality and integrity, Hylar® 5000 coatings are available only through approved licensees. License applicants must submit to a rigorous two-year qualification process which ensures their production capabilities, quality assurance procedures, and technical expertise. Only the best coating producers become Hylar® 5000 licensees. To obtain a list of worldwide licensees and to learn more about the long-lasting protection of Hylar® 5000, contact Solvay Specialty Polymers at (800) 221-0553 or visit www.SolvaySpecialtyPolymers.com.

Specifying Hylar® 5000

To specify Hylar® 5000 write: Finish type: A factory applied, baked on finish containing 70 % Hylar® 5000 PVDF resin, supplied by a Solvay Specialty Polymers Hylar® 5000 licensee and applied by an applicator approved by the paint manufacturer. This coating shall be certified to meet AAMA 2605 performance specifications and certified by the paint manufacturer to contain Hylar® 5000 resin.

A list of global licensed paint manufacturers using Hylar® 5000 can be found at www.SolvaySpecialtyPolymers.com.

Comparative Properties and Performance Chart

Coil Coating Topcoats, Generic Coating Type (Topcoat Only)

Properties	Polyester			
	Plastisol	Solution Acrylic	Interior Use Only	Exterior Use
Impact resistance	5	2	3-5	3
Mar resistance	3	4	4	4
Metal marking resistance	3	4	4	4
Resistance to pressure mottling in coil	3	4	4	4
Solvent (MEK) resistance	N/A	4	3-5	5
Grease and oil resistance	4	3	3-5	4
Stain resistance	3	4	3-5	4
Resistance to acidic/caustic conditions	5	3	3-5	4
Resistance to water immersion	4	4	4	3
Humidity resistance	4	4	4	4
Abrasion resistance	5	3	3-5	4
Resistance to industrial pollution	5	3	3	3
Corrosion resistance (salt spray)	4	3	4	4
Flexibility/drawability	5	2	3-5	3
Dry heat resistance	5	3	4	4
Gloss retention, 10 years Florida, 45° south	2-3	3	N/A	3-4
Chalk, 10 years Florida, 45° south	2-3	3	N/A	3-4
Color retention, 10 years Florida, 45° south	2-3	3	N/A	3-4

5 = Excellent, 4 = Very Good, 3 = Good, 2 = Fair, 1 = Poor
 Courtesy of the National Coil Coating Association, www.coilcoating.org



Photo courtesy of WALTEK & Company, Ltd.

Silicone Polyester	Polyvinylidene Fluoride (PVDF)	Acrylic Latex	Polyurethane	ASTM Method
3	4	3	4	D2794
4	3	3	3	D3363, D2197
4	3	4	3	No method
4	3	3	3	D3003
5	3	4	3	D5402
4	4	3	3	D5402, D1308
4	4	3	3	No method
3	4	3	3	D2248, D1308
4	4	4	3	D870
4	4	2	3	D1735, D2247, D4585, G60
3	4	2	4	D4060, D968
3	4	3	3	D1308, G87
4	3	3	4	B117, G85
2	4	3	4	D2794, D3281, D4145, D522, D4146
4	4	4	5	No method
4	5	3-4	3-4	G7, D1014, D523
4	5	3-4	3-4	G7, D1014, D4214
4	5	3-4	3-4	G7, D1014, D2244





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

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