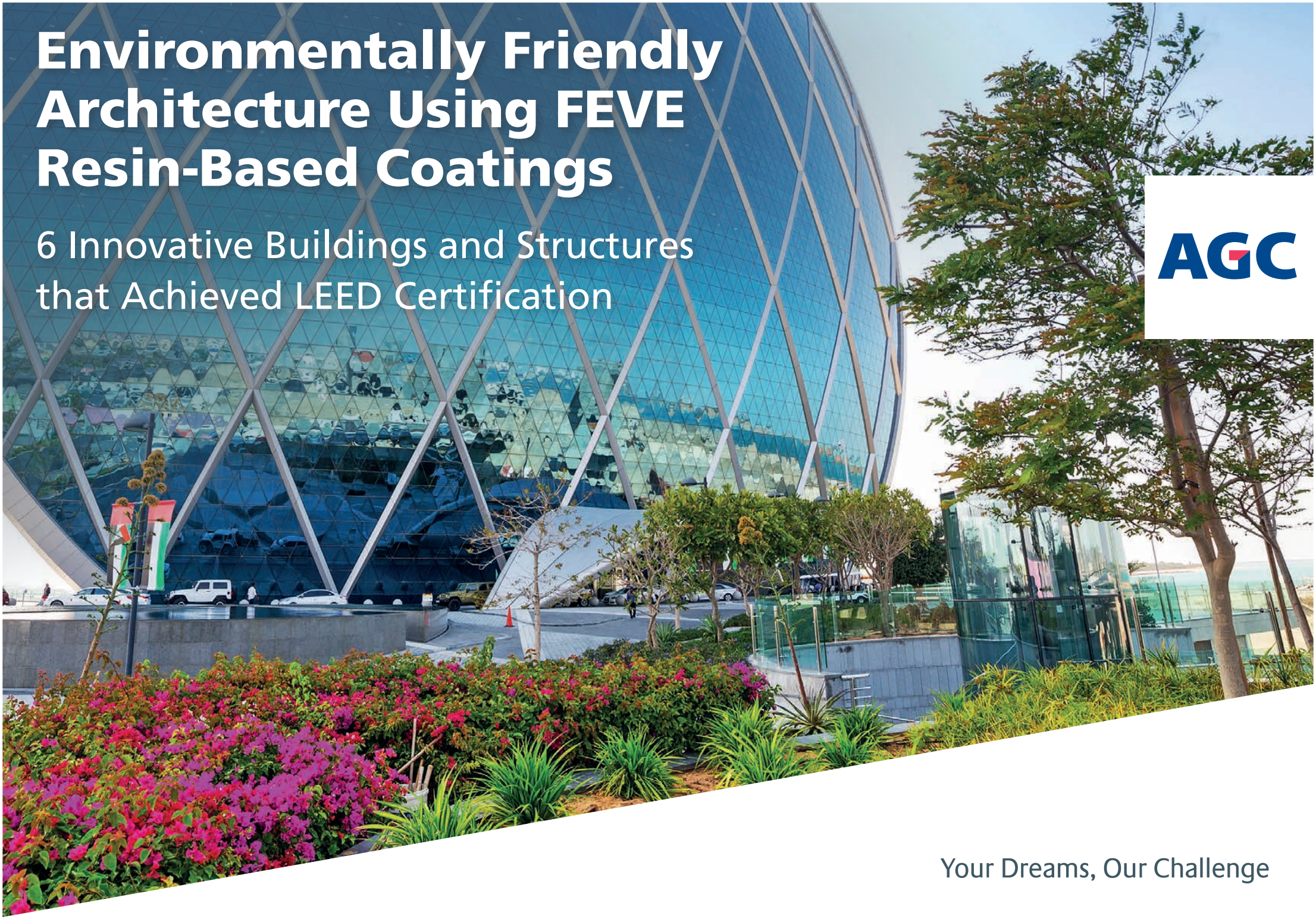
Environmentally Friendly Architecture Using FEVE Resin-Based Coatings

6 Innovative Buildings and Structures that Achieved LEED Certification



AGC

Your Dreams, Our Challenge

Innovative Structures
Emphasize Sustainability

Architects, engineers and builders looking for more sustainable building materials turn to coatings formulated with fluoroethylene vinyl ether (FEVE) resins. That's because they provide outstanding weatherability and longevity, but contain little to no volatile organic compounds (VOCs) or hazardous air pollutants (HAPs). FEVE resin-based coatings are a key part of environmentally friendly designs. They also ***contribute to Leadership in Energy and Environmental Design (LEED) certification***, the world's most widely used green building rating system and a globally recognized symbol of sustainability achievement.

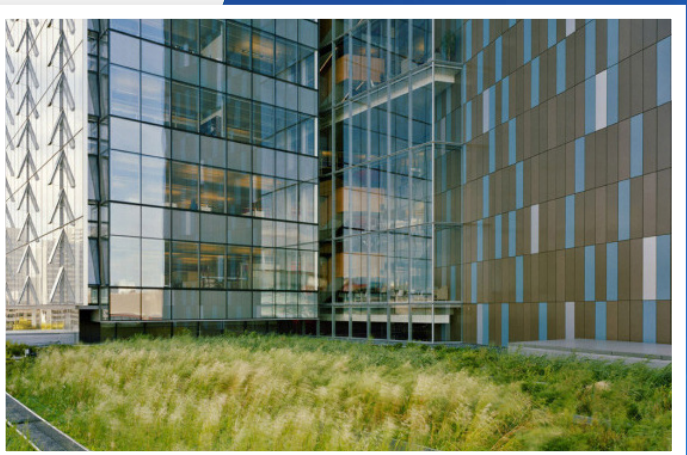
LEED

FEVE resins do not require a solvent and can be used in formulations to meet AAMA 2605, the American Architectural Manufacturers Association's specification for high-performance exterior architectural coatings. FEVE-based coatings can be applied to steel, aluminum, concrete and many other substrates that need protection from environmental corrosion, which makes them ideal for stadiums, theaters, hospitals, airports, office buildings and more.

FEVE resins ensure long-lasting building exteriors and facades, often 30 years or more. This means the structures don't need to be repainted often, reducing their lifelong environmental impact. The resins also protect the structures from UV light, wind and rain, which substantially decreases their life-cycle costs compared to other coatings on the market today. And architects don't need to compromise aesthetics to achieve environmental benefits, because FEVE resins can be used to make both clear and pigmented coatings in more than 230 colors in high-gloss to matte finishes.

FEVE resins can be used to make both clear and pigmented coatings.

FEVE-based coatings help buildings and structures qualify for LEED credits, such as:



Materials and Resources Credit
—Building Life-Cycle Impact Reduction

This credit requires demonstrating reduced materials usage through life-cycle assessment. The life of materials coated with a FEVE-based system far outlast those using lower-quality coatings.

Sustainable Sites Credit
—Rainwater Management

Using emulsion-based FEVE coatings in place of standard roof coatings improves the quality of stormwater from roofs. This is because water does not come in contact with the underlying roof surface. FEVE coatings are very stable and do not bond with water molecules.

FEVE-based systems far outlast those using lower-quality coatings.

Sustainable Sites Credit
—Heat Island Reduction

Using a clear FEVE coating on an existing roof coating helps maintain its solar reflectivity, reducing the heat island effect. FEVE resins also reduce dirt accumulation on a roof, helping to maintain effectiveness of the reflective roof system.

Energy and Atmosphere Credit
—Optimize Energy Performance

FEVE coatings on roofs and curtain walls perform at optimal levels after years of exposure to the elements. This means that less heat transfers through the envelope, reducing the cooling load.

Innovation in Design Credit

FEVE resin-based coatings have many innovative custom applications. They are durable and versatile enough to provide unique design touches including vibrant color and high gloss. They can also be cured at room temperature and applied on site.

Following are just a few examples of innovative structures using FEVE-based coatings as part of their sustainability strategy.

Supporting Las Vegas City Hall Sustainability Goals

Las Vegas City Hall in Las Vegas, Nevada, was designed with many energy optimization features. "Solar trees" harness electricity from the desert sun. Fritted windows diffuse sunlight to reduce the workload on the air conditioning system. The emphasis on sustainability extends to the steel struts that are used throughout the building's exterior.

Americana Powder Finishing ***applied IFS Coatings' IFS500 FP coatings enriched with LUMIFLON FEVE fluoropolymer resin to the steel surfaces***. The weatherability properties of this coating exceed AAMA 2605 10-year exposure requirements, eliminating the need to recoat. This helps to lower the building's life-cycle costs.

The FEVE-based coatings are extremely weather, abrasion and erosion resistant, and have high gloss and color retention. They have been tested and proven to retain these properties for more than 30 years.

Image courtesy of Americana Powder Finishing.

LEED Platinum, Net Zero Salt Lake City Public Safety Building

The public safety building in Salt Lake City, Utah, is a sustainable development that carries a LEED Platinum rating. Also, it is the nation's first net-zero public safety building, meaning the energy it consumes equals the amount it produces.

GSBS Architects and MWL Architects selected building products based on their ability to meet both design and environmental goals. The building uses sophisticated daylighting and climate control systems to support the sustainability of the structure. It also uses window, curtain wall and sun-shading systems.

The building is enveloped in 23,000 square feet of ALPOLIC FR Mica Platinum aluminum composite panels, which were fabricated and installed by LCG Facades. The panels are ***finished with two coats of FEVE-based Valspar Valflon***, which lasts up to 30 years. This is more than twice as long as other coatings, greatly reducing the need to recoat.

LEED Platinum Certified Mercedes-Benz Stadium

Mercedes-Benz Stadium, home of the NFL's Atlanta Falcons, is the first sports stadium in North America to become LEED Platinum certified. The sustainable structure, designed by HOK Architects, features a retractable roof and a facade built with ALPOLIC metal composite panels.

Sports stadiums are constantly exposed to high traffic, water, UV radiation, chemicals and pollution. These corrosive elements compromise the building's exterior. The ALPOLIC composite panels were ***treated with a LUMIFLON-based coating*** to protect them from degradation.

As a result, the panels are extremely durable and will retain their color and gloss for decades. And their low-VOC status contributed to the structure's sustainable design.

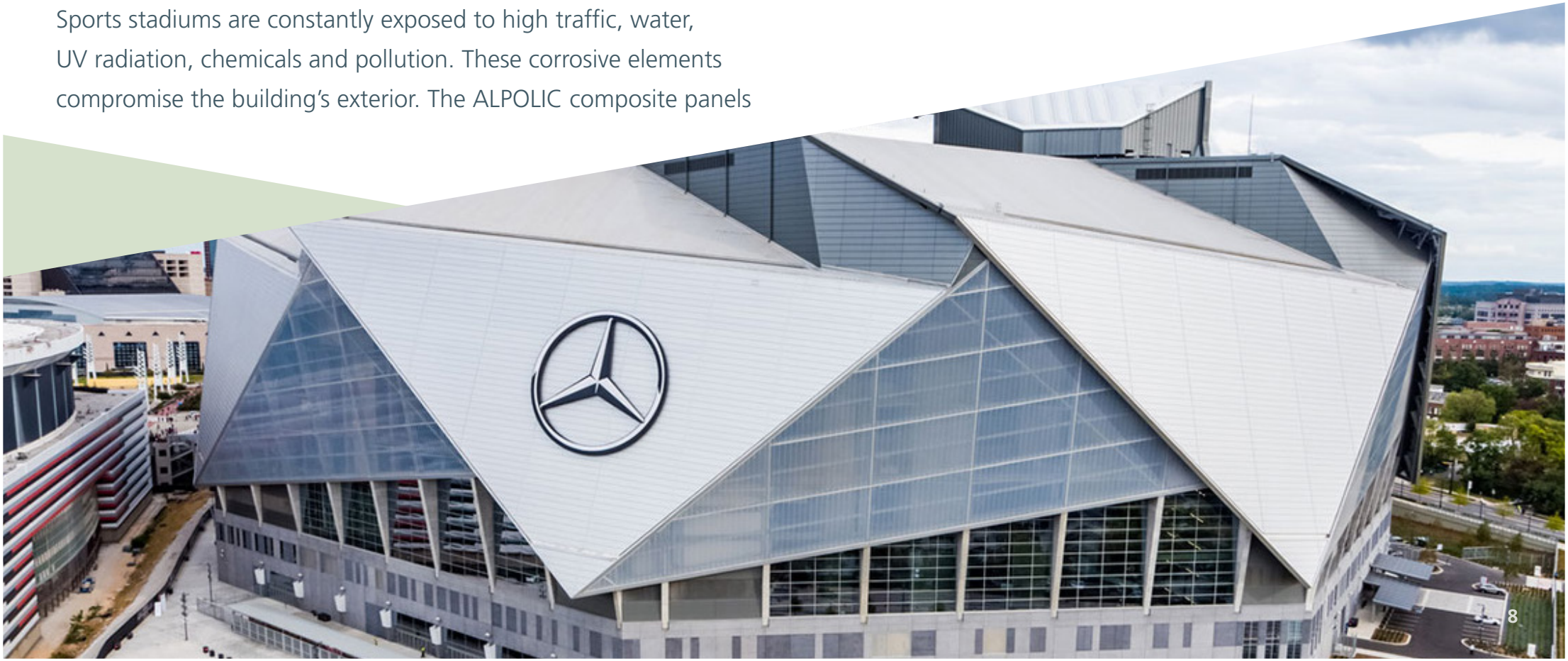


Image courtesy of Alucobond and Gerry Kopelow.

Canada's First LEED Platinum Office Tower

Manitoba Hydro is Canada's first LEED Platinum certified office tower. It was designed to promote energy efficiency, a healthy workspace and building sustainability. The building's exterior is covered with 32,500 square feet of Alucobond aluminum composite panels that change from gray to various shades of blue. These panels are ***top-coated with LUMIFLON FEVE resin, adding to the building's sustainability***.

This architectural coating resin exceeds AAMA 2605 specifications, providing superior resistance to humidity, chemicals, ultraviolet degradation, chalking, color fading and reduced gloss. Because it is so long lasting, there's no need for frequent maintenance or recoating, which reduces air pollution and lowers the building's life-cycle cost.

Image courtesy Tnemec and San Diego International Airport.

LEED Platinum San Diego Airport

The San Diego International Airport terminal has achieved a LEED Platinum rating because it uses alternative energy sources and green building materials. It also features a high-performance, low-VOC coating system on all exterior exposed steel, including canopies and two sky bridges.

The steel surfaces were prepared to SSPC-SP6/NACE No. 3 Commercial Blast Cleaning standards and shop primed with Tnemec's proprietary zinc-based primer. Following the primer coat, the surfaces received an intermediate coat of Tnemec's Epoxoline.

The steel substrate was finished with a Tnemec Series 1071V ***Fluoronar topcoat with LUMIFLON FEVE resin to provide long-lasting protection*** against UV light, water and other corrosive elements.

Not only does this coating system fulfill the stringent LEED guidelines for green buildings, it also outperforms coating systems such as PVDF. The topcoat helps the steel surfaces retain their high gloss and color for decades.

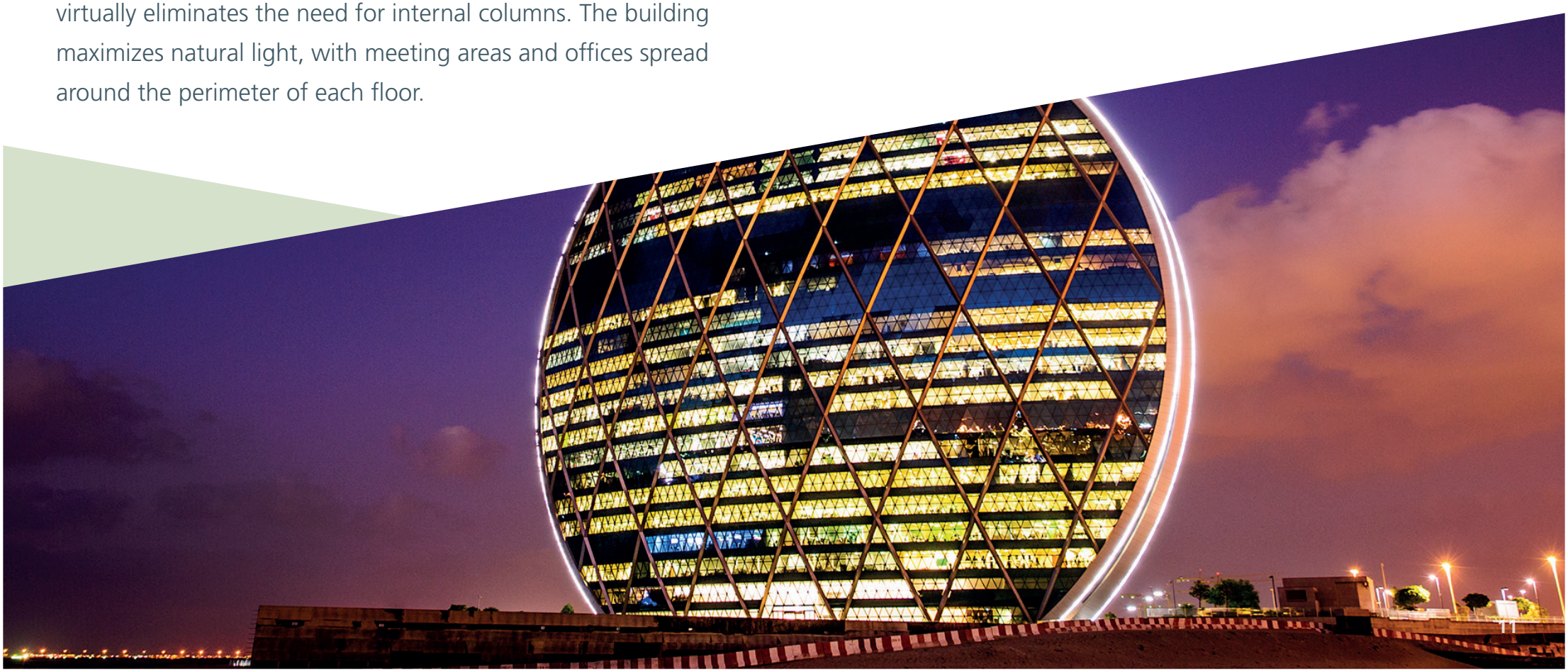
LEED Silver Aldar Headquarters

This 23-story corporate headquarters is one of the first eco-friendly buildings in Abu Dhabi, United Arab Emirates. It was developed in line with the US Green Building Council LEED rating system and qualifies for LEED Silver rating.

This iconic, fully glazed structure is completely circular, which virtually eliminates the need for internal columns. The building maximizes natural light, with meeting areas and offices spread around the perimeter of each floor.

The building is made up of recyclable materials like steel, concrete and glass, and includes a district cooling plant, as well as energy saving lighting and water systems. The building's design is extremely energy efficient, and classified as 82%.

The ALPOLIC metal composite panels are coated with LUMIFLON FEVE resins and Akzo Nobel's Interpon D3000, a LUMIFLON-enriched powder coating. This provides ultra-durability in Abu Dhabi's severe conditions, minimizing the environmental footprint.



These are just a few examples of LUMIFLON FEVE contributing to environmentally friendly architectural structures. Thanks to their low-VOC and HAP properties, weatherability and longevity, these coatings contribute to LEED certification and sustainability.

These resins are used on some of the most remarkable structures in the world, even those that are located in severe environments. Fluoropolymer resin-based coatings are highly durable with outstanding weatherability, so they last far longer than other coatings and reduce consumption of additional resources.

Buildings and structures coated with ***FEVE-based resins maintain their bright, pristine appearance*** and look as good as new for decades. The unique resin technology efficiently protects against UV rays, oxidation, humidity, corrosion and acid rain.

FEVE-based coatings can be used on a variety of substrates and applied using different techniques, providing the ***highest quality*** for all building design elements such as coil coated aluminum panels, powder coated window frames and spray coated railings.

LUMIFLON FEVE resins are the first solvent-soluble fluoropolymer coating resin that is curable at room temperature and elevated temperatures. This makes them suitable for field application.

Call AGC fluoropolymer experts today to discuss your architectural project:
800-424-7833.

LUMIFLON® FEVE-based coatings are highly durable with outstanding weatherability, so they last far longer than other coatings and reduce consumption of additional resources. Buildings and structures coated with FEVE-based resins maintain their bright, pristine appearance and look as good as new for decades. The unique resin technology efficiently protects against UV rays, oxidation, humidity, corrosion and acid rain.

LUMIFLON®
FEVE RESIN

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