



Legacy, Performance, and Sustainability
LUMIFLON® FEVE Powder and Liquid Coatings

The logo for AGC, consisting of the letters "AGC" in a bold, blue, sans-serif font. A small red square is positioned between the "A" and the "G".

AGC

Your Dreams, Our Challenge

A Proven Legacy

Since 1982, LUMIFLON® FEVE resin technology has protected more than 150,000 structures worldwide across substrates including metal, glass, concrete, composites, and wood. Its use on airports, bridges, curtain walls, and cultural landmarks demonstrates unmatched durability, aesthetics, and long-term performance.

Lifecycle Cost Advantage

Recoat Frequency

- LUMIFLON FEVE: 30–60 years, reducing the number of major repaints to 1–2 cycles in 50 years compared to 4–5 cycles for standard systems.

Cost Savings

- Independent Life Cycle Cost (LCC) analyses confirm 30–40% lower total costs over 50 years.
- Lower labor, material, and downtime costs due to fewer recoats.

Energy & Labor Efficiency

- FEVE powder coatings cure at 30–50°C lower temperatures than comparable fluoropolymer powder technology which reduces application energy demand.
- One-coat/one-bake powder systems eliminate primer steps, further lowering labor and energy use.
- Longer coating life reduces maintenance frequency, meaning workers spend less time performing high-risk tasks such as recoating or accessing elevated or confined areas.

Performance & Structural Integrity

Weathering Resistance

- Gloss and color retention up to 60 years, far exceeding conventional polyurethane and polyester systems.
- South Florida exposure data: >80% gloss retention after 20 years versus <50% for standard polyesters.
- Resistance to UV degradation, chalking, and chemical attack preserves aesthetics and functionality.

Corrosion Protection

- Service life 2–3x longer than standard coatings in ISO C3–C5 corrosive environments.
- Barrier performance prevents corrosion initiators from penetrating primers, preserving steel, aluminum, and composites.

Mechanical Integrity

- Meets AAMA 2605 and QUALICOAT Class III standards for extrusion and coil coatings.
- Demonstrated adhesion and impact resistance under deformation without delamination.

Sustainability at a Glance

Application Efficiency

Compatible with powder, coil, and spray processes. Powder coatings achieve near-total use with 70–90% reclaimable overspray. Excellent adhesion to metals and can protect other non-metal surfaces.

VOC Emissions

Very low VOCs due to long service life and minimal maintenance. Powder systems <1% VOCs; water-based options designed for low-VOC use.

Carbon Footprint

Fewer recoats mean up to 47% lower CO₂ for façades and 38% lower for bridges over 100 years.

Service Life

Proven 30+ years of durability and up to 60 years expected (JPMA). Maintains gloss and corrosion resistance through 10,000+ hours of testing.

Cradle-to-Gate GWP

8 to 9 kg CO₂-eq per kg (solvent grade), EN 15804 basis.

Cradle-to-Gate ODP

7×10^{-8} to 8×10^{-8} kg CFC-11-eq per kg (solvent grade), EN 15804 basis.

Performance

Superior UV, chemical, and corrosion resistance. Self-cleaning surface reduces maintenance and preserves appearance.

System Options

Powder: one-coat/one-bake. Liquid: one- to three-coat, ambient-cure available. Applies by coil, spray, or architectural line.

Environmental Protection

Extremely low erosion minimizes particle release. Strong C–F bonds resist UV, chemicals, and moisture for long-term stability.



Chemistry
for a Blue Planet
AGC Chemicals

Contribution to Green Rating Systems (LEED v4)

Materials & Resources

Building Life-Cycle
Impact Reduction

Extended service life
reduces material use
and supports credit
achievement.

Sustainable Sites

Rainwater
Management

Emulsion-based FEVE
coatings improve runoff
quality by isolating
substrates.

Sustainable Sites

Heat Island Reduction

Clear FEVE topcoats maintain solar
reflectivity. White FEVE formulations
tested by CRRRC achieve Solar
Reflectance Index (SRI) >100,
qualifying as "cool roof" coatings.

Energy & Atmosphere

Minimum Energy
Performance

FEVE-coated facades and
roofs maintain envelope
performance, lowering heat
transfer and cooling loads.

Case Studies: Proven in Landmark Projects

San Diego International Airport, Terminal 2 (CA)

First LEED Platinum commercial
airport terminal in the U.S.
Exterior steel finished with
Themec Series 1071V Fluoronor
containing LUMIFLON FEVE.

Salt Lake City Public Safety Building (UT)

Achieved LEED Platinum and net-zero
energy status. ALPOLIC panels
finished with Valspar Valflon using
LUMIFLON FEVE contributed to
durability and sustainability goals.

Portland Japanese Garden, Cultural Crossing (OR)

Awarded LEED Gold. Custom Pure +
Freeform aluminum panels finished
with an 8-coat LUMIFLON system
provided both aesthetics and
long-term weatherability.

Conclusion: Building for the Future

LUMIFLON® FEVE coatings deliver a unique combination of:

- **Proven Legacy:** 40+ years of global application.
- **Performance:** UV stability, corrosion resistance, and gloss/color retention unmatched by conventional coatings.
- **Lifecycle Value:** 30-40% cost savings through reduced recoating and maintenance.
- **Sustainability:** VOC-free powder systems and waterborne systems with reduced embodied carbon and lifecycle impact.
- **Proven Applications:** Trusted on landmark projects that set standards in performance and green building certifications.

Whether specifying powder or liquid FEVE, architects, owners,
and manufacturers can ensure structures endure



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