

AGC Chemicals

AGC Inc.

Shin-Marunouchi Building 1-5-1 Chiyoda-ku Tokyo 100-8405, Japan
TEL +81-3-3218-5040
FAX +81-3-3218-7843
URL <http://www.agc-chemicals.com>

AGC Chemicals Americas, Inc.

55 East Uwchlan Ave. Suite 201, Exton, PA 19341, USA
TEL +1-610-423-4300
FAX +1-610-423-4301
URL <http://www.lumiflonusa.com>

AGC Chemicals Europe, Ltd. Commercial Centre

World Trade Center Zuidplein 80 1077 XV Amsterdam, Netherlands
TEL +31 (0) 20 880 41-70, -77
FAX +31 (0) 20 880 4188
URL <http://www.agcce.com>

AGC Chemicals Trading (Shanghai) Inc.

Room 2701-2705, Metro Plaza, 555 Lou Shan Guan Road, Chang Ning Ward, Shanghai, China Post Code: 200051
TEL +86-21-6386-2211
FAX +86-21-6386-5377 / 5378
URL <http://www.agcsh.com>

AGC Asia Pacific Pte., Ltd.

460 Alexandra Road, #32-01 PSA Building, Singapore, 119963
TEL +65-6273-5656
FAX +65-6271-3817
URL <http://www.agc-asiapacific.com>

AGC Chemicals (Thailand) Co., Ltd.

24th Floor, Bangkok Insurance Building 25 South Sathorn Road, Kwang Tungmahamek Khet Sathorn, Bangkok 10120
TEL +66-2-679-1600
FAX +66-2-677-3135
URL <http://www.acth.co.th>

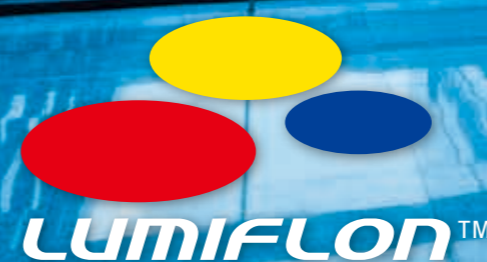
AGC Chemicals South America

Al. Ministro Rocha Azevedo, 38, 2° andar-conj. 201 CEP 01410-000-Sao Paulo, SP, Brasil
TEL +55-11 2574-5435
URL <http://www.agcbrasil.com>

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Fluorinated Resins for Ultra-Weatherable Coatings
LUMIFLON Powder Coating Resin

Your Dreams, Our Challenge

LUMIFLON Powder Coating Resin

Introduction

LUMIFLON™, developed in 1982, is a pioneering solvent-soluble fluoropolymer for coatings.

LUMIFLON™ FEVE technology supports and maintains the impressive beauty of world-famous architectural structures including buildings and bridges.

Coatings based on FEVE fluoropolymer resin technology retain their original color and gloss, outstanding chemical durability and weatherability over decades meeting the highest architectural standards of AAMA2605 and QUALICOAT III.

LUMIFLON™ FEVE flake resin grades are used to produce powder coatings, appreciated as eco-friendly.

LUMIFLON™ FEVE-based powder coatings emit no VOCs and have lower CO₂ emission compared to conventional solventbased liquid coatings.

LUMIFLON™ FEVE powder coatings are used in user-friendly, one-coat / one-bake systems with superior quality, durability, and weatherability.

LUMIFLON™ FEVE powder coatings eliminate the need for heavy metal containing primers.

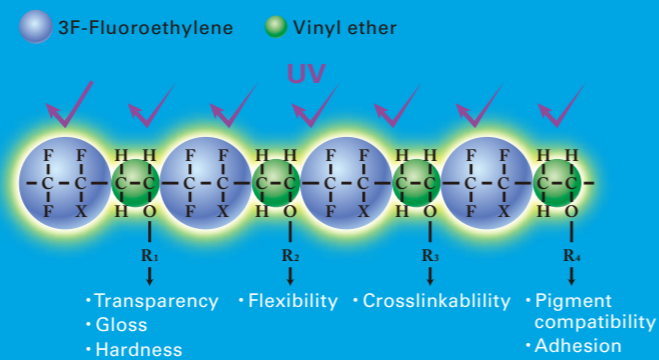
LUMIFLON™ FEVE powder coatings contribute positively to a sustainable environment. This brochure explores the technical background and some case studies where LUMIFLON™ FEVE powder coatings are on display.



FEATURES of LUMIFLON™ FEVE Resin

Polymer structure of LUMIFLON™

LUMIFLON™ is a fluoroethylene (FE) / vinyl ether (VE) copolymer (FEVE) consists of a sequence of fluoroethylene and several specific vinyl ether units that result in a near perfect, alternating structure. LUMIFLON™ FEVE polymers are completely amorphous allowing for film formation and cure at room temperature. The chemically stable fluoroethylene unit resists breakdown by UV radiation. It also protects the neighboring vinyl ether units from attack by the elements as well. The various vinyl ether units provide the polymer with properties including gloss, solvent solubility, pigment compatibility, and crosslinkability.



Weatherability

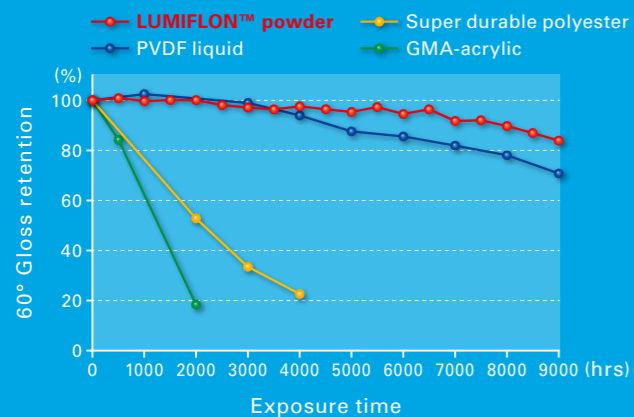
Structures coated with LUMIFLON™ FEVE fluoropolymer paint showcase the extreme performance and durability characteristics of this resin technology. Coatings based on LUMIFLON™ can meet the highest architectural standards such as AAMA2605 and QUALICOAT III.

Actual project



1986 → 30 years → 2016
(Tokiwa bridge in Japan, using solvent type of LUMIFLON™)

Accelerated test (QUV-B test)



Standard

Standard	QUALICOAT II	AAMA 2604	AAMA 2605 QUALICOAT III
Period for Florida exposure test	3 years	5 years	10 years
Gloss retention	≥ 50%	≥ 30%	≥ 50%
Color variation	QUALICOAT: ≥ spec.	≤ 5 ΔE	≤ 5 ΔE

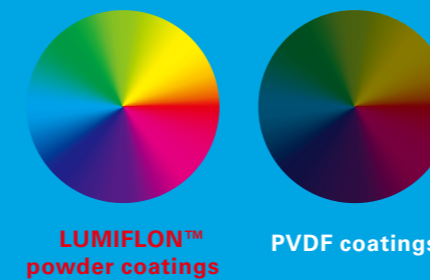
FEATURES of LUMIFLON™ FEVE Powder Coatings

Features

	LUMIFLON™ powder coatings	PVDF liquid coatings	
Weatherability	Excellent	Excellent	
Appearance	Color palette	Wide	Limited
	Gloss	Matte to high gloss	Mid gloss
Environmental impact	CO ₂ emission	Lower	Higher
	VOC	Near 0	High
	Reclaimable	Yes	No
Coating application	Coating method	Electrostatic spray	Conventional spray
	Coating layers	1	Minimum 2
	Curing temperature	180-200°C	230-250°C

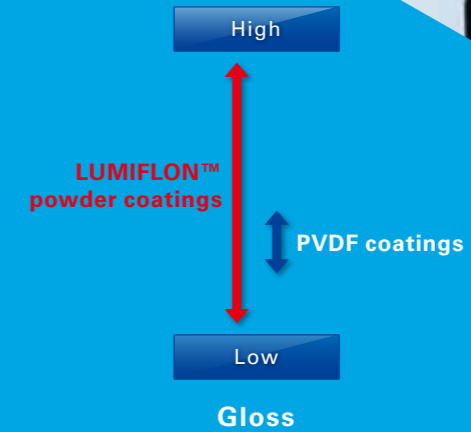
Appearance

LUMIFLON™ powder coating resins allow for coating finishes across the color spectrum from deep, matte blacks to glossy vivid reds, and semi-gloss metallics. The fully transparent FEVE resin allows for crisp, clean colors and the ability to tailor gloss, empowering the designer to customize the finish for a unique aesthetic. The excellent adhesion of LUMIFLON™ FEVE coatings to metal also offers a true metal look when a transparent or tinted FEVE coating is applied directly to the substrate.



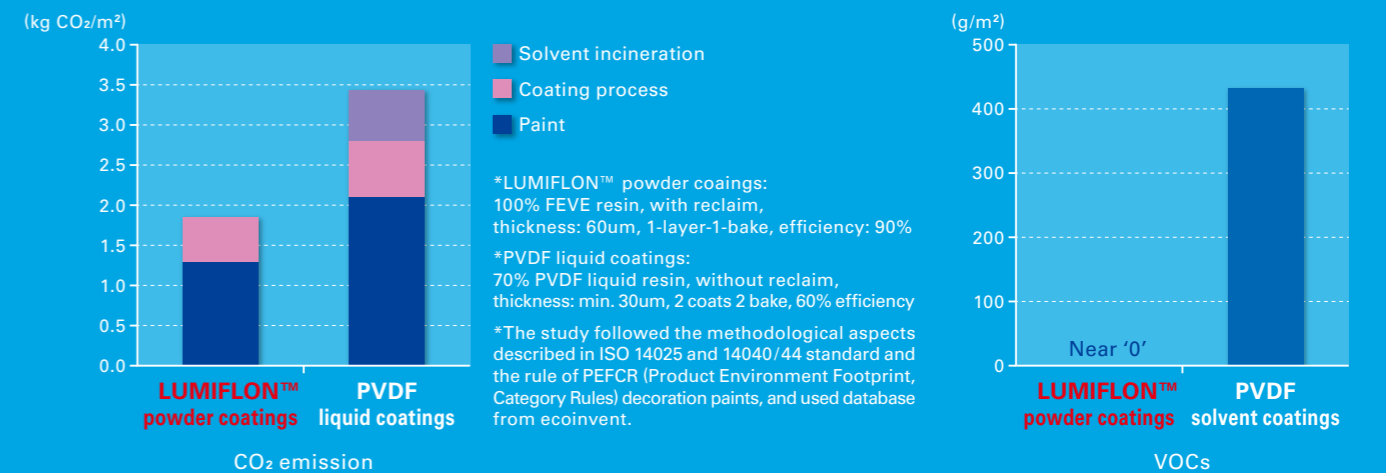
LUMIFLON™ powder coatings | PVDF coatings

Color range



Environmental friendliness

Powder coatings using LUMIFLON™ FEVE resins offer a reduced overall carbon footprint compared to liquid coating systems. FEVE powder coatings emit no VOCs and are reclaimable making them a highly efficient and eco-friendly choice. FEVE powder coatings can be part of and contribute to LEED credits on a project.



Applications

LUMIFLON™ powder coatings are primarily used on the exterior of architectural structures on curtain walls, window frames, and exterior panels.



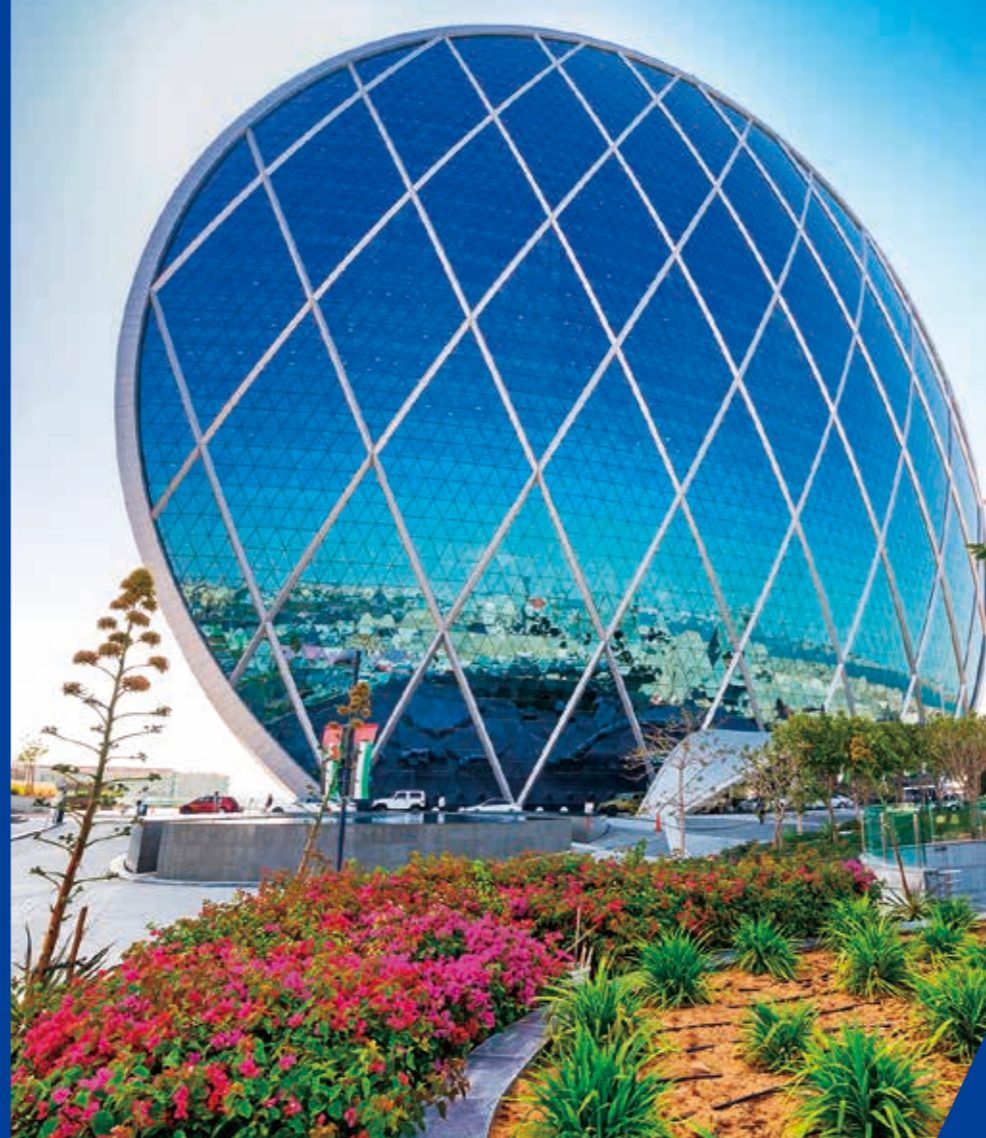
Curtain wall

Window frame

Louver

Aldar Headquarters

Project name: Aldar Headquarters
Location: Abu Dhabi, UAE
Year: 2010
Paint maker: AkzoNobel
Paint product: Interpon D3000
hyper-durable series



Marriott Hotel Sisli

Project name: Marriott Hotel Sisli
Location: Istanbul, Turkey
Year: 2014
Paint maker: Jotun Powder Coatings
Paint product: DURASOL



The Royal Children's Hospital

Project name: The Royal Children's Hospital
Location: Melbourne, Australia
Year: 2011
Paint maker: AkzoNobel
Paint product: Interpon D3000
hyper-durable series



30 Hudson Yards

Project name: 30 Hudson Yards
Location: New York, USA
Year: 2017
Paint maker: AkzoNobel
Paint product: Interpon D3000
hyper-durable series



Musashino Forest Sport Plaza

Project name: Musashino Forest Sport Plaza
 Location: Tokyo, Japan
 Year: 2016
 Paint maker: DAI NIPPON TORYO
 Paint product: Powder Flon



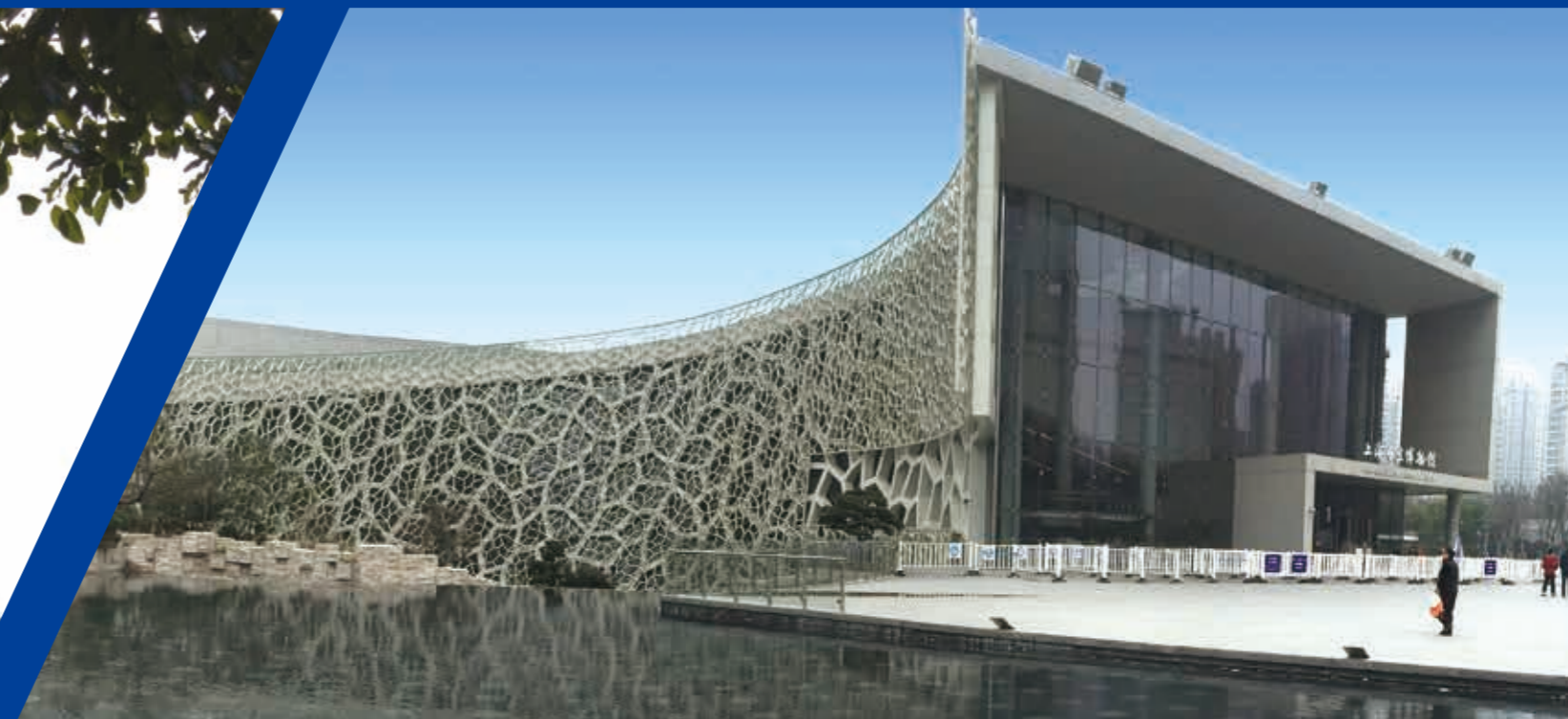
Ping An International Financial Center

Project Name: Ping An International Financial Center
 Location: Shenzhen, China
 Year: 2010
 Paint maker: Jotun Powder Coatings
 Paint product: DURASOL



L'Avenue

Project name: L'Avenue
 Location: Shanghai, China
 Year: 2013
 Paint maker: AkzoNobel
 Paint product: Interpon D3000 hyper-durable series
 Paint maker: Tiger Coatings
 Paint product: Tiger series 86



Shanghai Natural History Museum

Project name: Shanghai Natural History Museum
 Location: Shanghai, China
 Year: 2015
 Paint maker: AkzoNobel
 Paint product: Interpon D3000 hyper-durable series
 Paint maker: Tiger Coatings
 Paint product: Tiger series 86

LUMIFLON™ global projects

Starting with a local sport fishing club in New Zealand in 1991, LUMIFLON™ Powder Coatings have been used all over the world and are recognized as the highest performing products. LUMIFLON™ will support broad design options for beautiful and sustainable architectures.



Tauranga Sport Fishing Club (Tauranga / 1991)

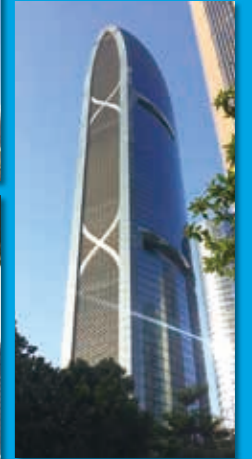
Ping An International Financial Center (Shenzhen / 2010)



Shanghai Natural History Museum (Shanghai / 2015)



Shanghai Star Global Port (Shanghai / 2013)



Pearl River Tower (Guangzhou / 2011)



The Springs Uptown (Shanghai / 2015)



L'Avenue (Shanghai / 2013)

THE AMERICAS



30 Hudson Yards (New York / 2017)



Richmond City Hall (California / 2004)

CHINA

JAPAN

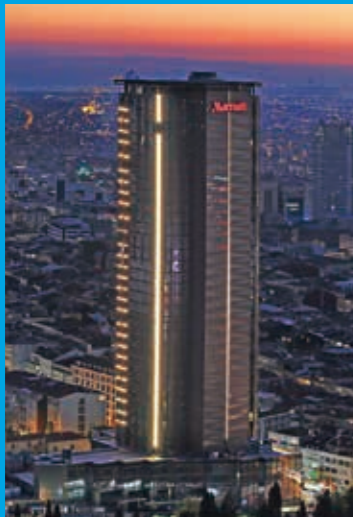
Shibuya Connecting Bridge (Tokyo / 2011)



EUROPE/ MIDDLE EAST

OCEANIA

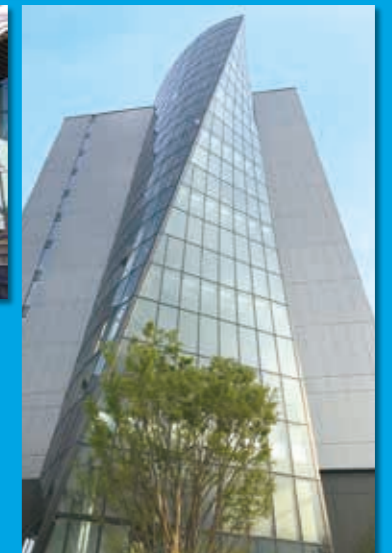
Marriott Hotel Sisli (Istanbul / 2014)



Aldar Headquarters (Abu Dhabi / 2010)



Musashino Forest Sport Plaza (Tokyo / 2016)



Japan sports associations' offices building (Tokyo / 2019)



Museum Voorlinden (Wassenaar / 2016)



Perth Arena (Perth / 2012)



The Royal Children's Hospital (Melbourne / 2011)