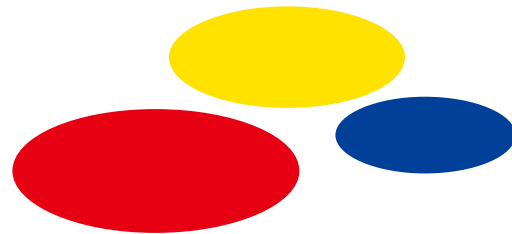


***Lumiflon® resins for Ultra
Durable coatings***



LUMIFLON®



Ben Runhaar
Product & Marketing Manager Lumiflon

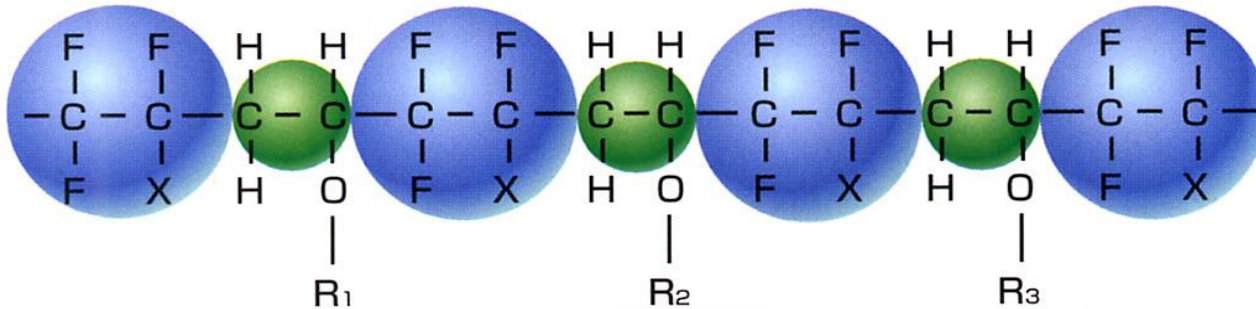
- **What is LUMIFLON**
 - Fluoropolymer resin
 - Coating?

- **Why use LUMIFLON**
 - durability
 - colorfulness

- **30 years Track records**



➤ **LUMIFLON®** = FEVE (Fluoro-Ethylene / Vinyl Ether copolymer)



Perfect Alternative Sequence

Fluoroethylene Segment

1. Weatherability
2. Durability
3. Chemical resistance

Vinyl Ether Segments

- R1 = Clarity, Gloss, Hardness
 R2 = Flexibility
 R3 = Crosslinking site (-OH)
 Solubility

Lumiflon is a key material for a coating system

Product



Company



Key Technology



Customer

PC makers



Paint makers



Paints/Coatings

Resins

= **Main Ingredient**



Pigments

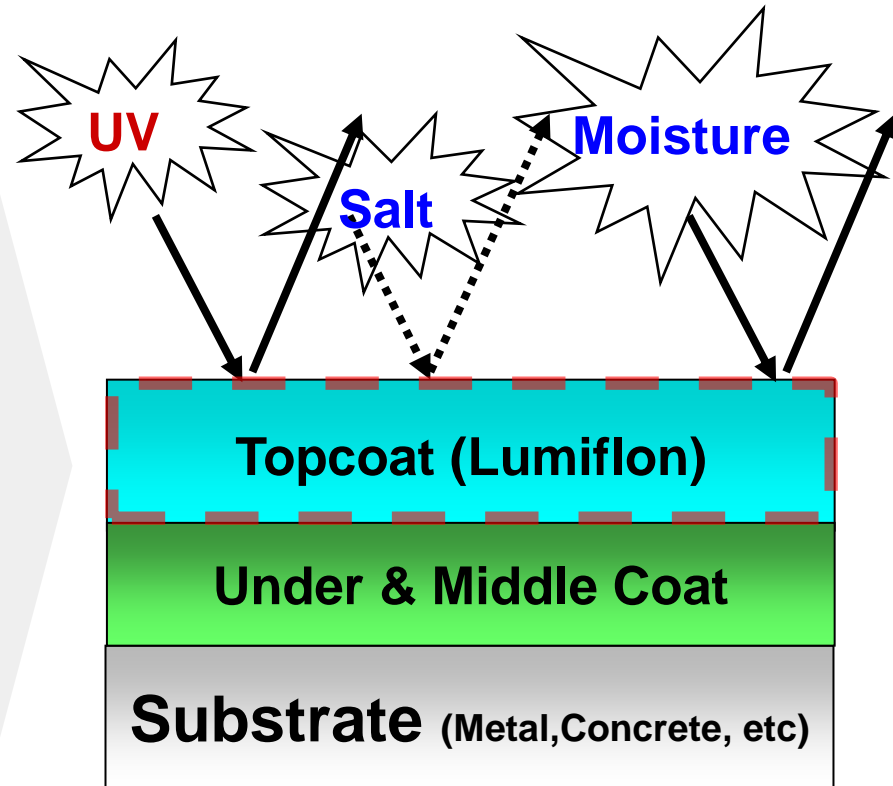
- * *Colorants*
- * *Extender Pigment*
- * *Metal Pigment*

Additives

- * *Dispersing Agent*
- * *Leveling Agent*
- * *Deformer Agent*
- * *Hardener*

Solvents

- * *Water*
- * *Xylene*
- * *Toluene*
- * *Mineral turpentine spirits*



- **Available as solvent, water-based and powder grade.**
 - Example: combine a coil coated panel with a powder coated window frame
- **Can be cured at room temperature up to 250°C**
 - You can perform onsite maintenance on a Lumiflon based system. (Bridge coatings, façade refurbishment)
- **Available for 1 and 2 K systems**
 - Crosslinking with isocyanate or melamine
- **Can be blended with other resins.**
 - Acrylic, Polyester, Polyurethane, etc
- **Compatible with a wide range of pigments**
- **Can achieve a wide gloss range (10 – 90 % at 60°)**



- **What is LUMIFLON**
 - fluoropolymer resin
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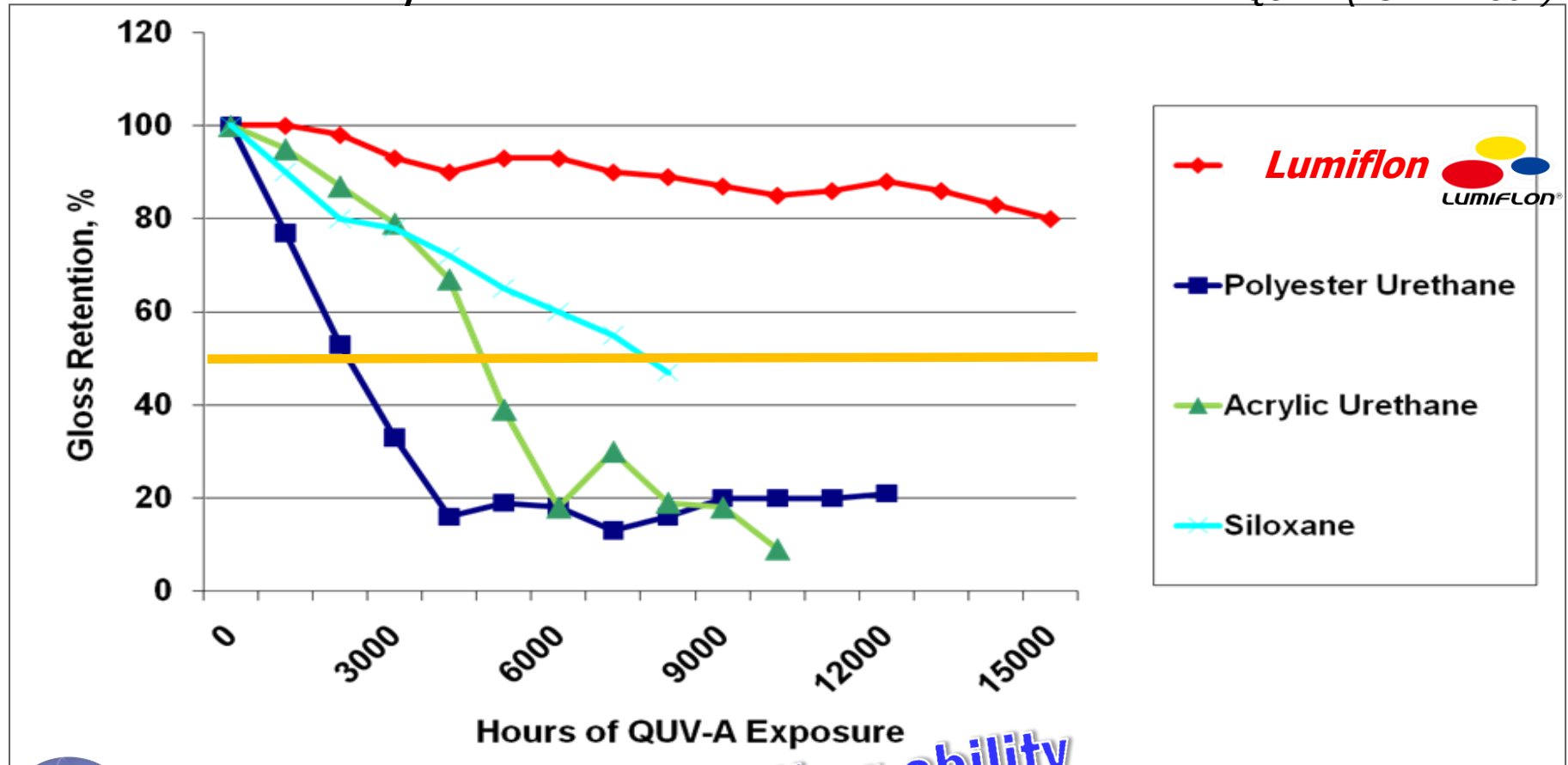
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➤ Accelerated Exposure Test

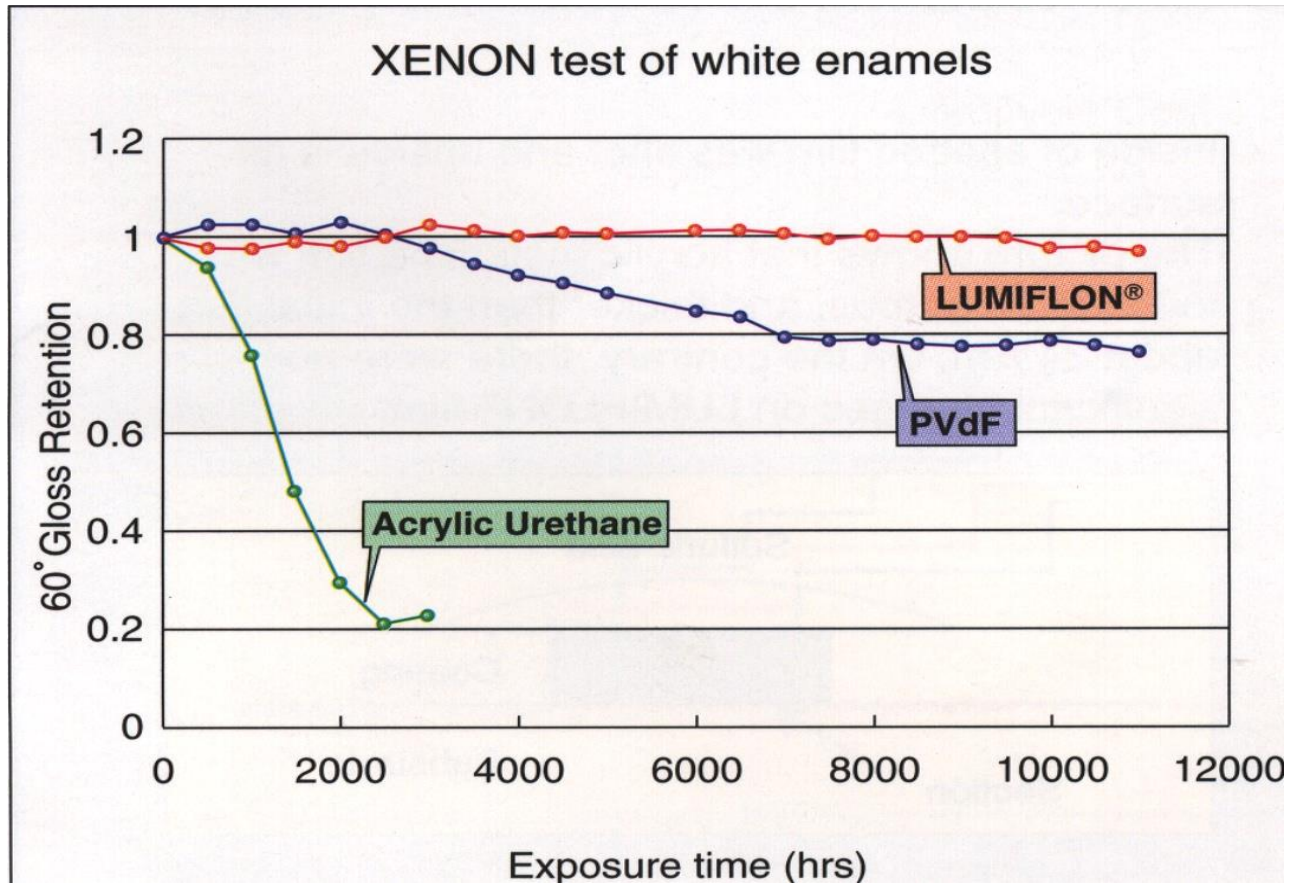
QUV-A (ASTM D4587)



Excellent Weather-ability



Weathering test result



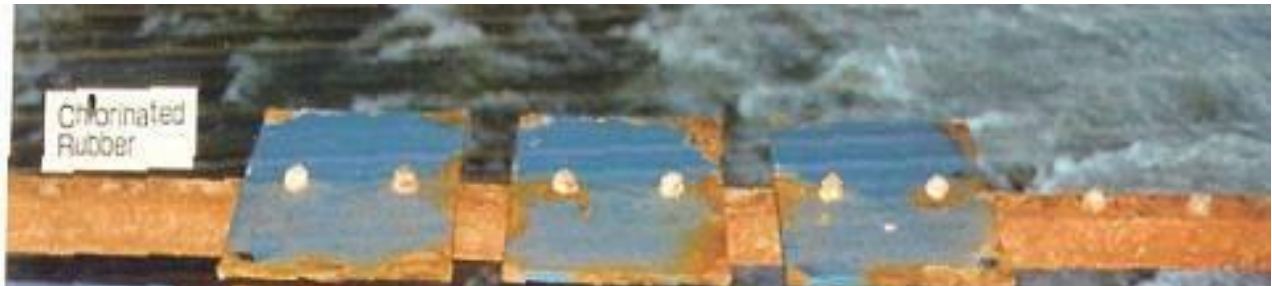
Lumiflon has superior weather-ability than PVdF

Proven Durability
in
Heavy Duty Coatings



➤ Test Panels exposed for 5 years near by the Pacific Ocean

Chlorinated rubber :
Partially Corroded



Alkyd :
Completely Corroded



Lumiflon :

Not Corroded !



➤ *Lumiflon® coated bridge over 26 years*

Tokiwa Bridge in Hiroshima, Japan



In 1988



In 1993



In 2007



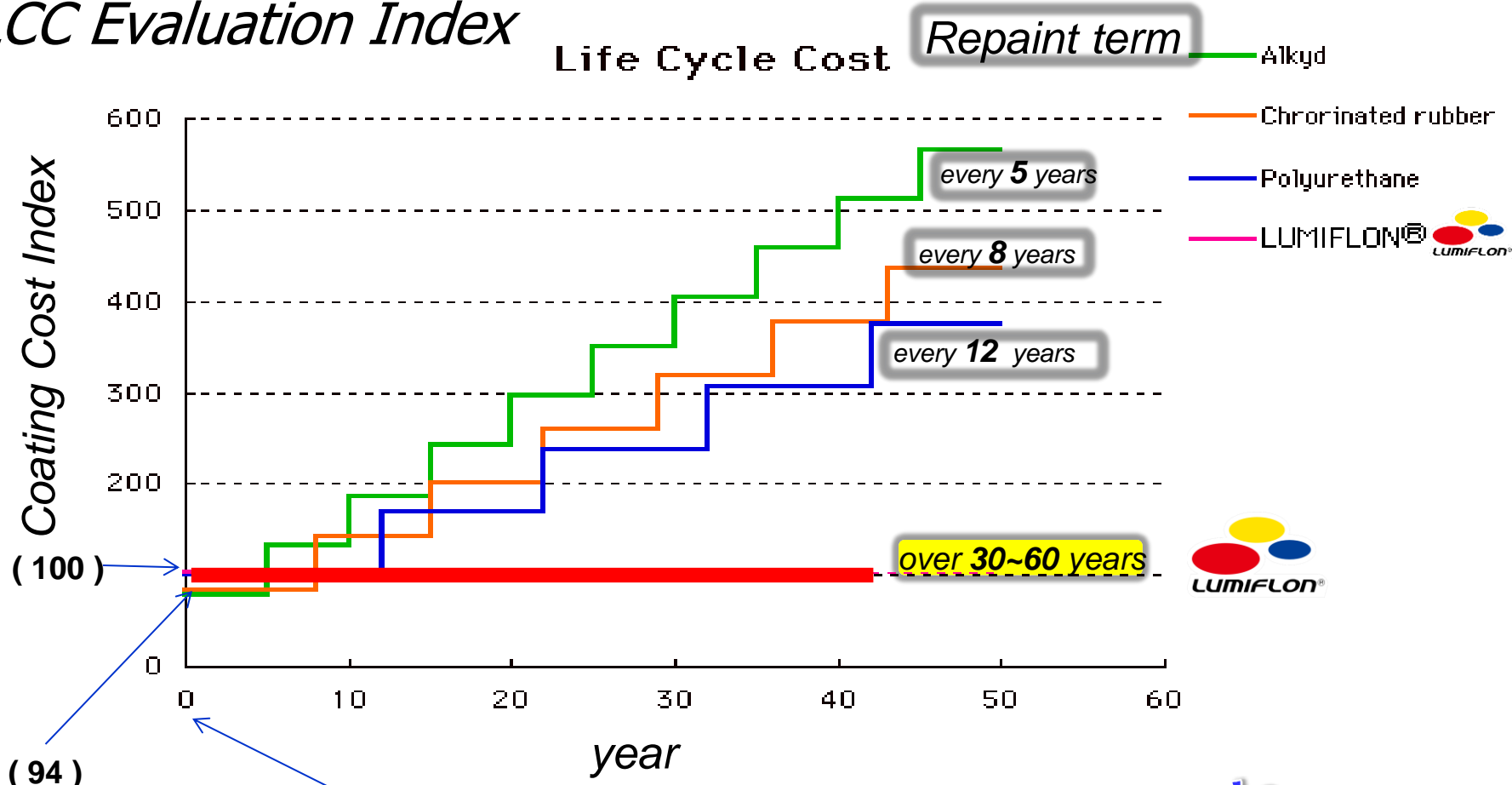
In 2014

	Gloss Retention	Color Change
Washed Surface	100%	2.3 ΔE
Unwashed Surface	92%	3.5 ΔE

Outstanding Gloss & Color Retention



➤ LCC Evaluation Index



(94)
Polyurethane

Initial Costs for Coatings

Lower Life Cycle Costs



Proven Colorfulness
in
Architectural Coating



Gloss:

- From low to high gloss
- 10 – 85 % at 60 degree
- >50% gloss retention after 10 years Florida

Colour:

- Compatible with a wide range of pigments
- Including organic pigments
- Delta E below 5 after 10 years Florida

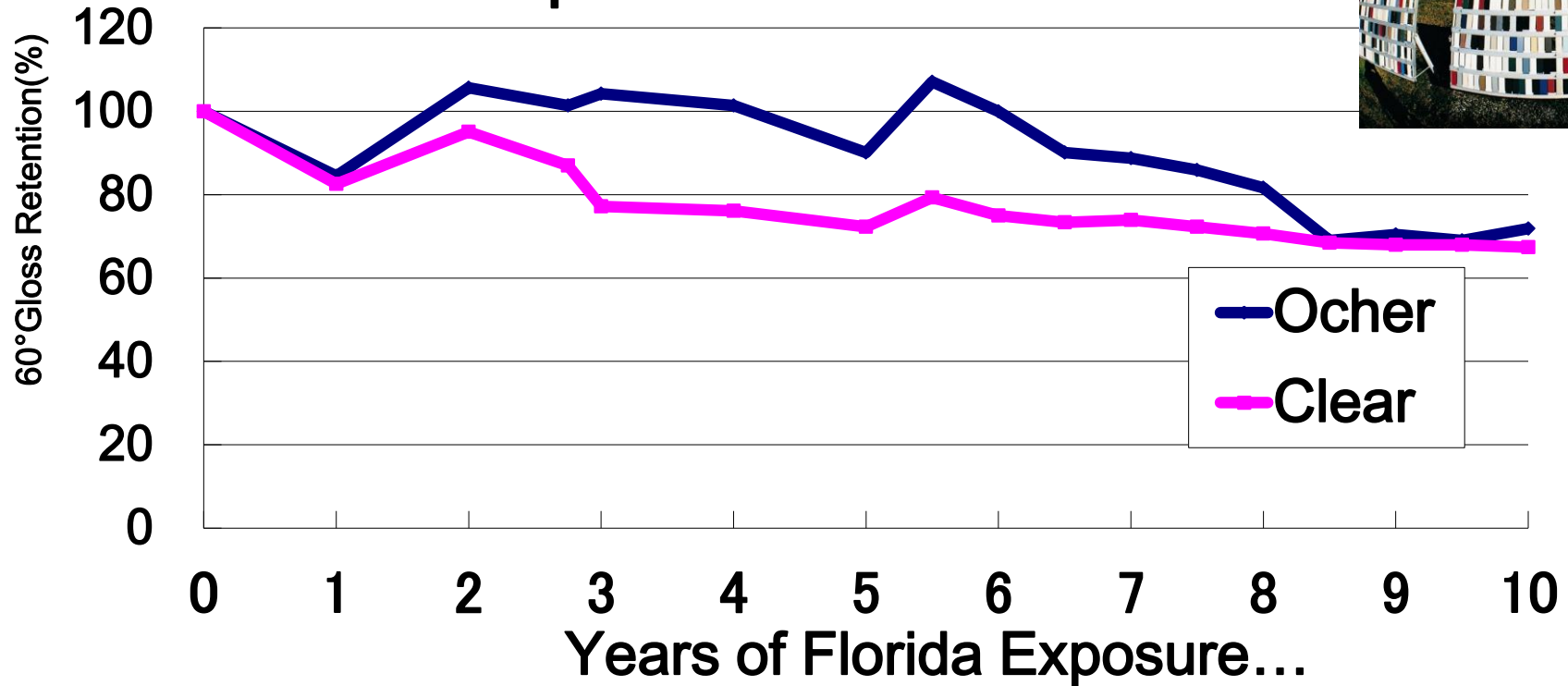


	1 year Florida	3 year Florida	5 year Florida	<u>10 year Florida</u>
Specifications/ Standards	Qualicoat I	Qualicoat II	AAMA 2604-02	Qualicoat III AAMA 2605-02
Gloss retention	Qualicoat: ≥ 50% GSB: ≥ 50%	≥ 50%	≥ 30%	≥ 50%
Color variation	Qualicoat: ≥ spec. GSB: ≥ spec.	Qualicoat: ≥ spec.	≤ 5 ΔE	≤ 5 ΔE
competitor	Polyurethane	PVdF 50%	PVdF 50%	PVdF 70%

LUMIFLON[®] coatings and panels meet the most severe specification, AAMA2605 and Qualicoat Class III



Natural Exposure Test in Florida



Lumiflon coated panel pass 10 year Florida test (AAMA2605, Qualicoat 3)

- **Who is AGC**

- **What is LUMIFLON**
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Notable & Prestigious Projects
by
Lumiflon[®] Coatings





Project: Burj Al Arab (1999)
Location: Dubai, UAE
Supplier: Alpolic





Project: Ferrari World
Location: Abu Dhabi, UAE
Supplier: Akzo Nobel and Beckers



Project: Vigo Hospital
Location: Vigo, Spain
Supplier: Monopol Colors

Project: IBG and Belastingdienst
Location: Groningen
Supplier: Alpolic



Project: Mahler 4
Location: Amsterdam
Supplier: Alpolic



Project: EYE Film Institute
Location: Amsterdam
Supplier: Alpolic





Project: Akashi Strait Bridge
Location: Kobe, Japan
Supplier: DNT, Nippon Paint, Kansai Paint

- Worlds' longest suspension bridge-

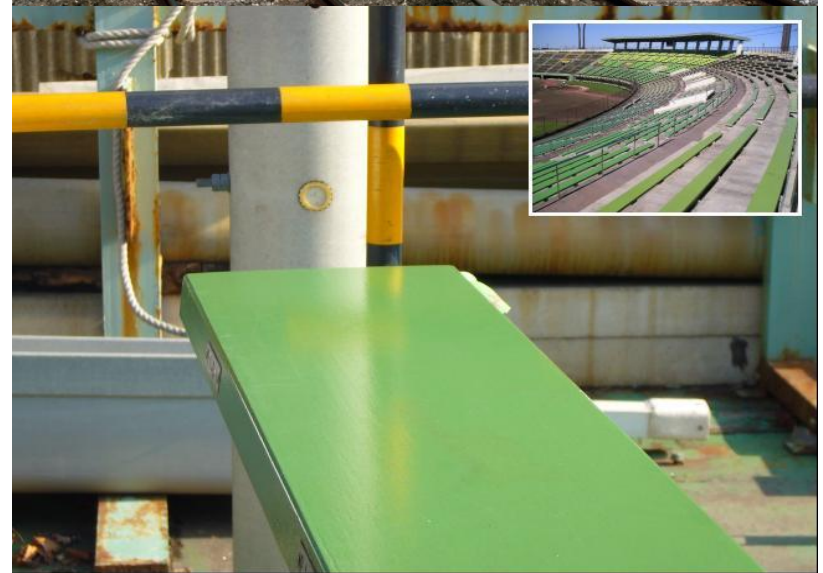
Project: Tokyo Skytree (634 m)
Location: Tokyo, Japan
Supplier: DNT





Project: Expo Bridge
Location: Milan, Italy
Supplier: Innoventions





- **FEVE(LUMIFLON) is flexible Fluoro-Resins which will allow you to create paints with Ultra Durability.**
 - Powder, Solvent and Water
 - Wide temperature curing range
 - Wide gloss and colour range
- **For over 25 years, FEVE coatings have been used extensively in Architectural and Heavy Duty applications.**
- **For Low Life Cycle Costs while retaining its appearance (colour, gloss) over long period of time.**



Questions?

Booth: 274

