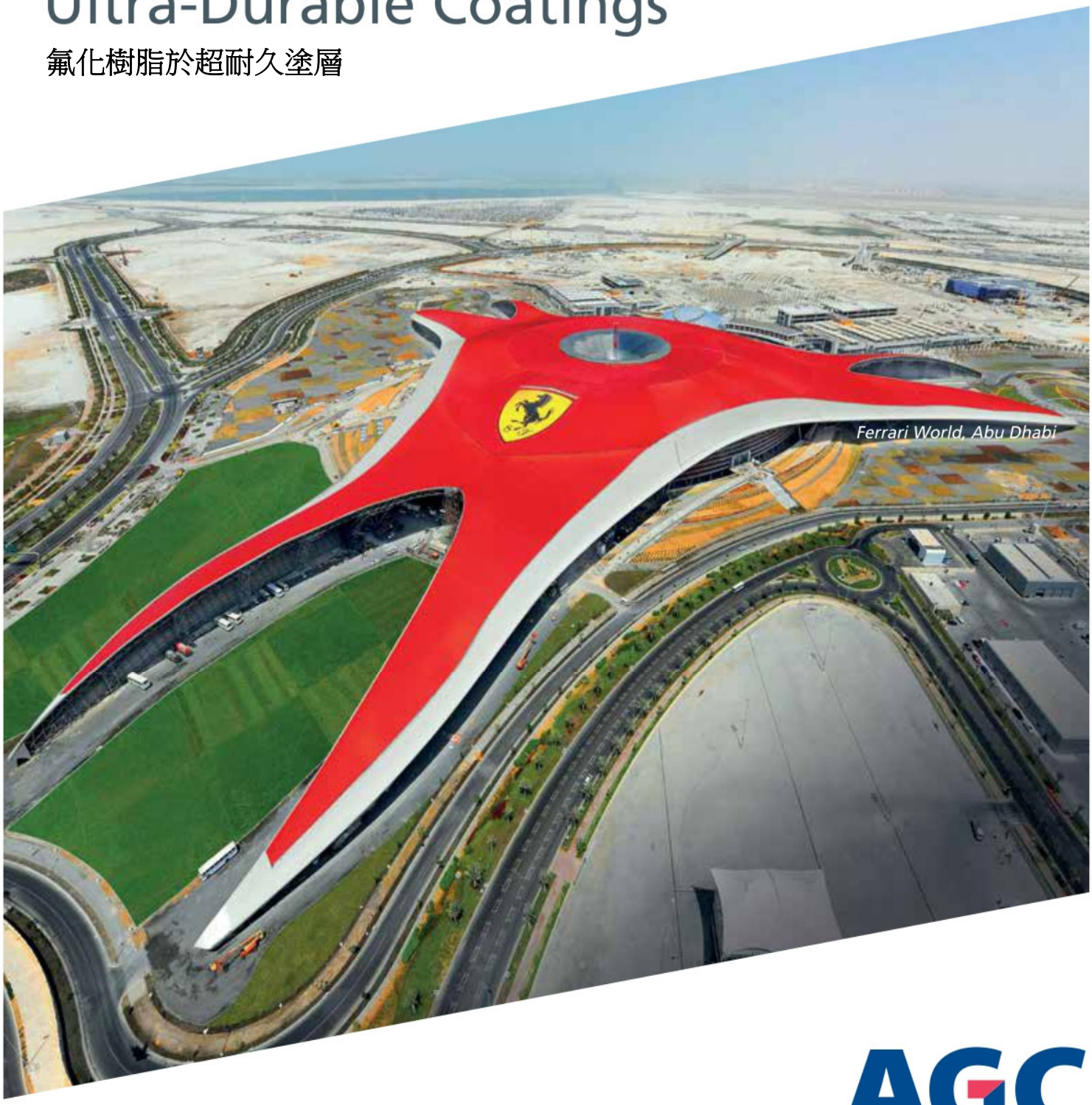
LUMIFLON™

BONNTILE HONG KONG LTD
邦盛建材香港有限公司

BONNFLON GT-SR

Fluorinated Resins for Ultra-Durable Coatings

氟化樹脂於超耐久塗層



AGC

Your Dreams, Our Challenge

High-Performance fluororesin paint that performs well in a variety of environments
高性能的氟樹脂塗料, 在各種環境中表現出色.

BONNFLON GT

What is Bonnflon GT (Great Tolerance)? 什麼是 Bonnflon GT (高耐受性)?

This is a high-performance fluororesin paint that offers long-lasting protection and preserves the beauty of the painted surface, thanks to the exceptional weather resistance of the fluororesin called “LUMIFLON”. Since its launch in 1983, BONNFLON has achieved a wide range of successful construction projects due to tis excellent durability. While ordinary paint typically deteriorates within 5 to 10 years, BONNFLON provides performance that lasts for a longer period, typically 15 to 20 years.

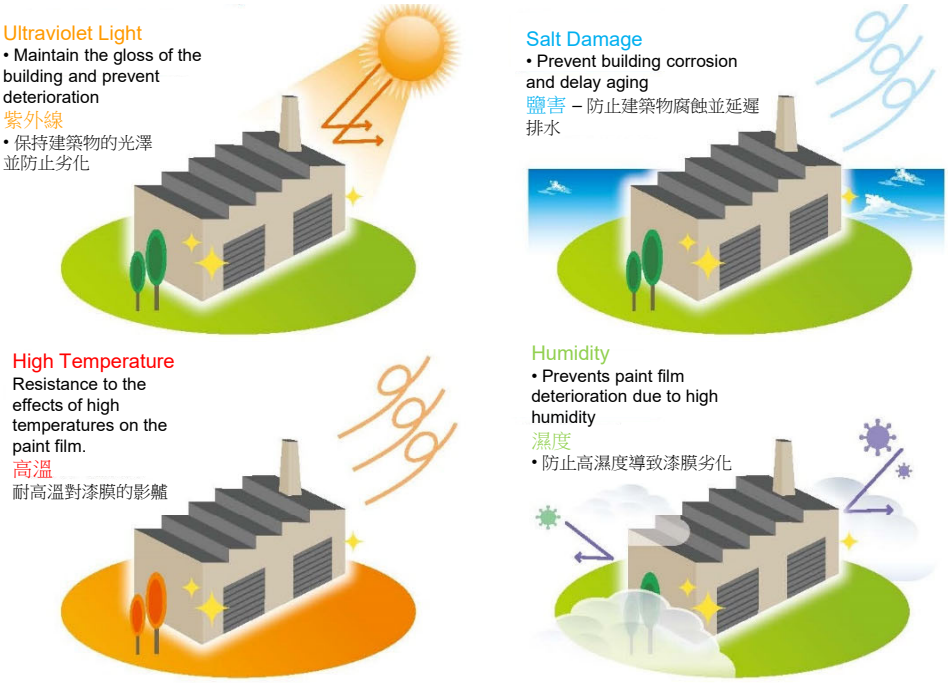
Previously, deterioration was commonly observed in special environments. However, we have successfully improved the titanium oxide to suppress its photocatalytic reaction. As a result, BONNFLON can now be used in harsh environments such as high temperatures, high humidity, coastal areas, and remote islands. This advancement allows us to enhance the performance of resin paint even further.

這是一種高性能的氟樹脂塗料, 由於氟樹脂”LUMIFLON”具有極高的耐候性, 它能够長時間保護基材並保持塗料的美觀. 自1983年發布以來, BONNFLON憑借基出色的耐久性在各種施工項目中取得了廣泛的應用成果. 普通塗料通常在5到10年內會發生劣化, 而BONNFLON則能提供長達15到20年的持久性能.

以前, 在特殊環境中常常會出現劣化問題, 但我們成功改進了二氧化鈦以抑制其光催化反應, 使得BONNFLON甚至可以在高溫, 高濕, 沿海地區和偏遠島嶼等惡劣環境下使用. 現在我們可以進一步提升樹脂塗料的性能.

Features of Bonnflon GT 特點

Japan experiences various environments depending on the four seasons. Furthermore, exposure environments vary depending on the region, and there are many situations in which buildings are placed in harsh environments. BONNFLON GT maintains high performance over long periods, not only in areas with high levels of UV rays and seasons with high temperatures and humidity, but also in snow and rain. Protect your building from any environment



日本因四季不同而經歷各種環境. 此外, 暴露環境也因地區而異, 建築物常處於苛刻的環境中. BONNFLON GT (Great Tolerance) 能夠在長時間內保持高性能, 不僅能抵抗高紫外線和高溫潮濕的環境, 也能承受雪和雨的考驗. 讓你的建築物適應任何環境, 保護它不受環境影響.

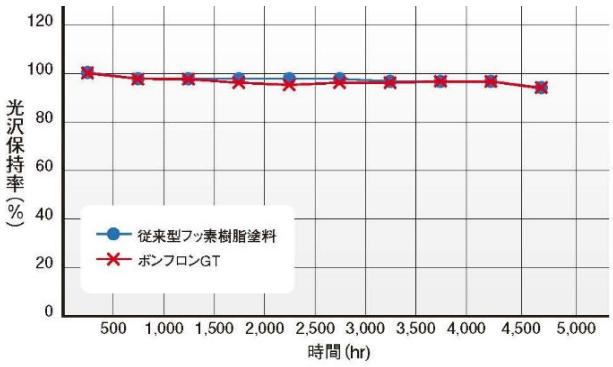
Performance Data of “BONNFLON GT” 性能數據

As a result of long-term exposure tests and accelerated weathering tests. Bonnflon GT has been proven to perform well in harsh environments.
By applying Bonnflon GT as the top coat, buildings can be protected for a long period of time even in harsh environments such as offshore or on remote islands.
通過長期暴露試驗和加速老化試驗結果, Bonnflon GT在惡劣環境中表現出色已經得到證實.
通過應用Bonnflon GT作為面層塗料, 建築物可以在惡劣環境中長時間保護, 例如近海區域或偏遠島嶼上.

Accelerated weathering test
(Tested by Sunshine Weather Meter)

The following are the test results from the conventional accelerated weathering test (Sunshine Weather Meter). BONNFLON GT and conventional fluoropolymer paints have shown equally good results.

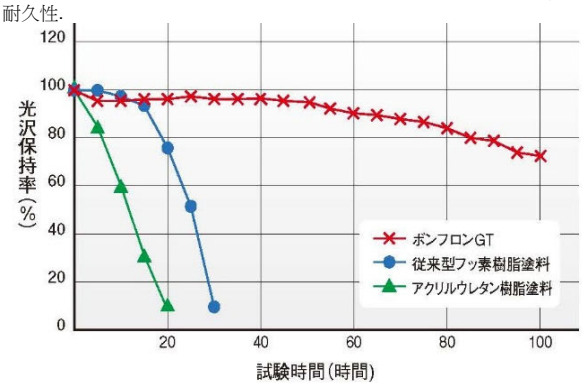
加速老化試驗
(由防光氣候儀進行測試)
以下是常規加速老化試驗 (陽光氣候儀) 的測試結果. BONNFLON GT 和傳統的氟樹脂塗料展現了同樣出色的結果.



Photocatalytic degradation accelerated weather resistance test
(Test with xenon lamp using hydrogen peroxide solution)

As shown in the data below, BONNFLON Gt shows a significant improvement in durability compared to conventional fluororesin paints even in the photocatalytic accelerated weathering test. From this fact, it can be said that it can demonstrate excellent durability even under harsh environments.

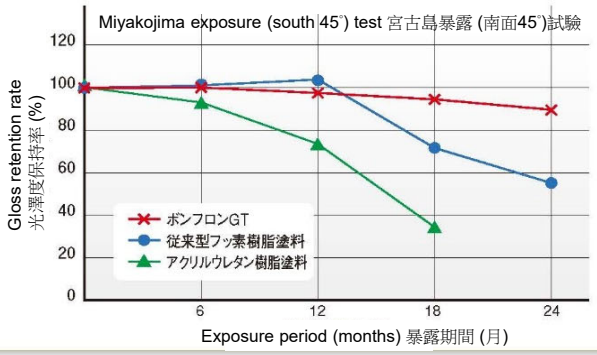
光催化降解加速耐候試驗
(使用過氧化氫液進行氙燈測試)
如下數據所示, 即使在光催化加速耐候試驗中, BONNFLON GT的耐久性也比傳統氟樹脂塗料有顯著提高. 由此可見, 它能在惡劣環境下展現出優異的耐久性.



Miyakojima exposure test
(Data at 45° south face)

Miyakojima is an extremely harsh exposure environment. For acrylic urethane resin paints, a significant decrease in gloss is observed after one year of exposure. Under this environment. BONNFLON GT retains nearly 90% of its gloss even after two years of exposure. This paint has been proven to be ideal for harsh environments with high temperatures, high humidity, and high ultraviolet rays.

宮古島暴露試驗
(45°南面的數據)
宮古島是一個極具挑戰性的暴露環境. 對於丙烯酸聚胺脂樹脂塗料來說, 一件暴露後光澤明顯下降. 然而, 在這種環境下, BONNFLON GT在暴露兩年後仍保持了近90%的光澤, 這種塗料已被證明非常適合高溫, 高濕度和高紫外線環境的極端環境.



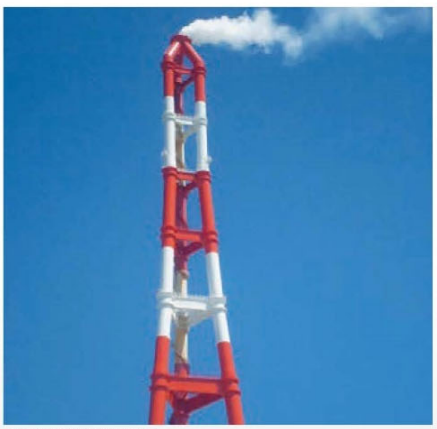
*Hydrogen peroxide xenon lamp accelerated weathering test
Unlike normal accelerated weathering tests, this test method forces photocatalytic deterioration of titanium oxide, which is used in white pigments. Please see the S-WOM test results for weather resistance performance under normal environments
*過氧化氫氙燈加速老化試驗
與普通的加速老化試驗不同, 這種試驗方法強制光催化降解白色顏料中使用的三氧化鈦. 請參閱S-WOM試驗結果, 了解在正常環境下的耐候性能.

Job Reference 工程記錄

It is effective in coastal areas (buildings close to the sea) and special environmental (Okinawa.etc)
它在沿海地區 (靠近海邊的建築物) 和特殊環境 (如沖繩等) 非常有效.


沖縄国際大学 5号館


神戸市総合教育センター


AGC鹿島工場煙突

BONNTILE HONG KONG LTD
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Performance of BONNFLON WATERBASE GT-SR Coating system

Testing Items 檢測項目	Result 結果	Test Method 測試方法
VOC content 含量	58 g/L	USEPA Method 24 美國環保署方法24
Spreading Rate 塗佈率	50m² / kg	BS3900:A169-86
Scrub Resistance 耐擦洗性	Trial 1, number of cycles to failure – 925 試驗 1, 失敗的循環次數	ASTM D2486-06 Method A
	Trial 2, number of cycles to failure – 956 試驗 1, 失敗的循環次數	
	Mean number of cycles to failure – 941 平均失效週期數	
Water resistance (Spot test for 4 hours at ambient) 耐水性 (環境下4小時點測)	No discernible change 無明顯變化	ASTM D1308-02 (Reapproved 重新批准2013)
Adhesion test 附著力測試	Classification 4B (Small flakes of the coating are detached at intersections, less than 5% of the area is affected). 4B 級 (塗層小片在交叉點脫落, 受影響面積小於5%)	ASTM D3359-97
Abrasion Resistance 抗磨性	0.9 L/µm	ASTM D968-05 (Reapproved 2010) Method A – Failing sand Abrasion Test ASTM D968-05 (2010重新核准) 方法A, 不合格砂磨試驗
Appearance 外觀	No change 不變	JIS K 5658 4.6
The specular gloss (60 degree) 鏡面光澤度 (60度)	80	JIS K 5658 4.8
Adhesion 附著力	10 points 分	JIS K 5658 4.10 5mm x 4 squares 方塊
Shock resistance 抗衝擊性	No change 沒有變化	JIS K 5658 4.9 weight 重量 300g height 高度 500mm
Acid resistance 耐酸性	No change 沒有變化	JIS K 5658 4.12 7 days of 5% sulfuric aci 硫酸
Alkaline resistance 耐鹼性	No change 沒有變化	JIS K 5658 4.13 7 days of 5% Sodium hydroxide 氫氧化納
Repeated warming and cooling resistance 耐反覆升溫和降溫	No change 沒有變化	JIS K 5658 4.14 10 cycles 循環
Accelerated weatherability 加速耐候性	No change 沒有變化	JIS K 5658 4.16 SWOM 4000 hours 小時
Water resistance 耐水性	After Immersion in water for 96 hours, the gloss retention was 94% and there was no change in the paint film. 水中浸泡96小時後光澤度保留率94%, 沒有變化漆膜.	JIS K5400 8.19
Heat resistance 耐熱性	The gloss retention was 84% and there was no change in the paint film. 保光率為84% 漆膜無變化	JIS K5600-6-3
Dirt resistance 耐污性	Colour change – 5 (Grey scale) 顏色變化 – 5 (灰階)	An unexposed control sample is brought to a site having the same coating system but with 1-year exposure. The dirt resistance of the coating is evaluated by comparing the visual difference (predominantly lightness difference) between the control and the 1-year exposure sample with the differences represented by the grey scale chart. 將一份未曝光的對照樣品帶到具有相同塗層系統但經過一年暴露的現場. 通過比較對照樣品與一年暴露樣品之間的視覺差異 (主要是亮度差異), 來評估塗層防塵性能. 差異由灰度表表示.

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Performance of BONNFLON WATERBASE GT-SR Coating system

Test required **測試要求**
1.Lead, Cadmium, Barium and Mercury content 鉛, 鎘, 鋇, 汞含量
2.Chromium VI content 六價鉻含量
3.Measurement of evolved formaldehyde from water reducible air-dry coatings 水稀釋風乾塗料中釋放甲醛的測量
4.Phthalates content 鄰苯二甲酸鹽含量 (including BBP, DBP, DEHP, DINP, DIDP, DNOP)
Test Method used **使用的測試方法**
1.Lead, Cadmium, Barium and Mercury content – USEPA Method 3051A / USEPA Method 6010 鉛, 鎘, 鋇和汞含量 – USEPA 方法 3051A/USEPA 方法 6010
2.Chromium VI content – USEPA Method 7196A 六價鉻含量
3.Measurement of evolved formaldehyde from water reducible air-dry coatings – ASTM D6191-97R03 水稀釋風乾塗料中釋放甲醛的測量
4. Ref.. CPSC-CH-C1001-09.3

Testing Items **測試項目**		**Result**
Lead content 鉛今量	% by wt.	<0.001
Cadmium content 鎘含量	% by wt.	<0.001
Barium content 硼含量	% by wt.	0.007
Mercury content 汞含量	% by wt.	<0.001
Chromium VI content 六價鉻含量	% by wt.	<0.001
Formaldehyde content 甲醛含量	% by wt.	<0.001
Phthalates content 鄰苯二甲酸鹽含量	% by wt.	<0.1
Benzyl butyl phthalate (BB)) 鄰苯二甲酸丁苄酯 (BB)		<0.1
Dibutyl phthalate (DBP) 鄰苯二甲酸二丁酯		<0.1
Di-(2-ethylhexyl) phthalate (DEHP) 鄰苯二甲酸二 (2-乙基己基) 酯		<0.1
Diisononyl phthalate (DINP) 鄰苯二甲酸二異壬酯		<0.1
Diisodecyl phthalate (DIDP) 鄰苯二甲酸二異癸酯		<0.1
Di-n-octyl phthalate (DNOP) 鄰苯二甲酸二正辛酯		<0.1

Job Reference/Case Study
Hong Kong Palace Museum
香港故宫文化博物館

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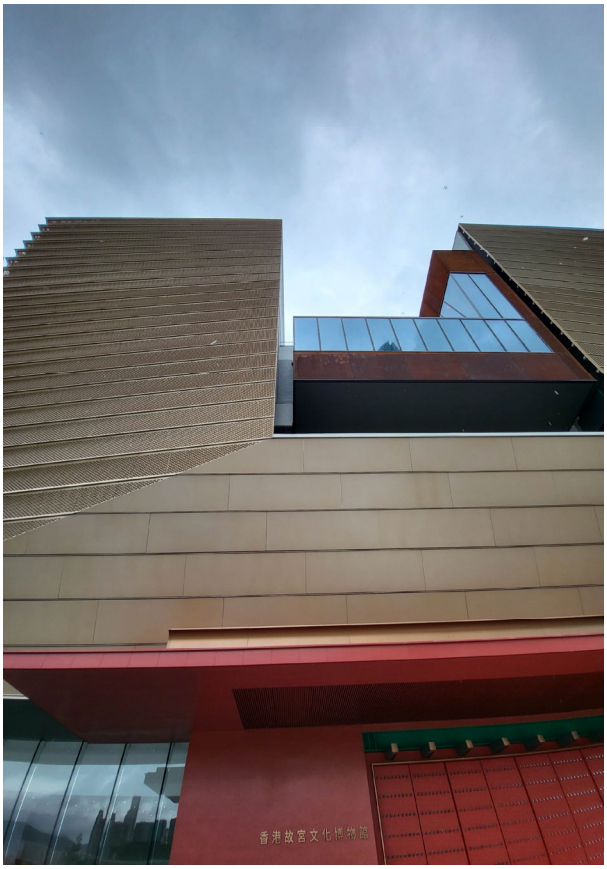
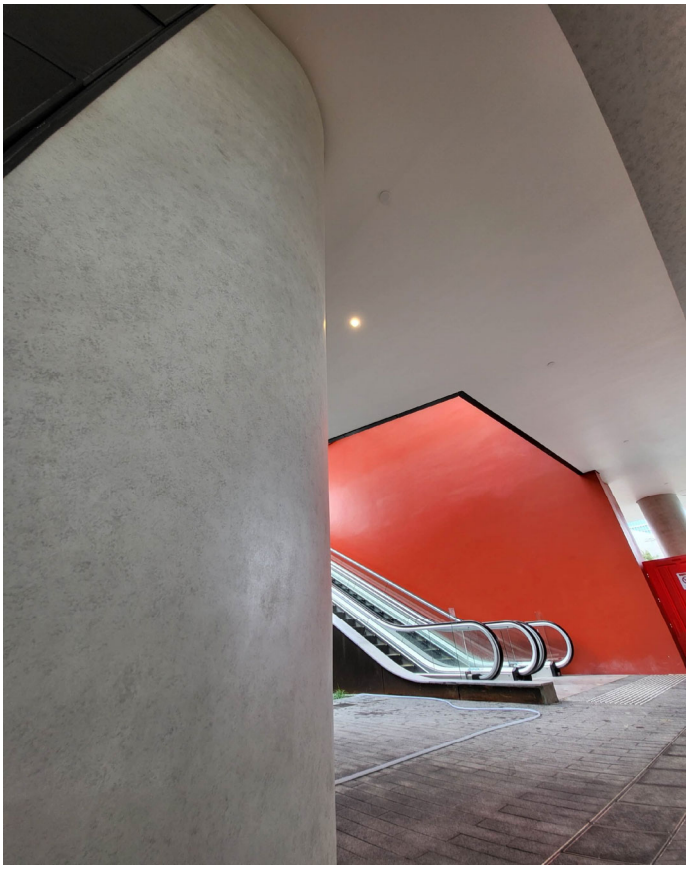
BONNFLON C GT-SR Coating System

The high anti ultra violet and high weatherability which is the basic performance of Fluoropolymer-resin paint will prevent the degradation of painting.

氟聚合物樹脂塗料的基本性能是高抗紫外綫和高耐候性，這將預防塗層的降解.





Job Reference/Case Study

Baptist Lui Ming Choi Secondary School

浸信會呂明才中學

BONNTILE HONG KONG LTD

邦盛建材香港有限公司

BONNFLON Roller Texture GT-SR Coating System

Excellent low stain coating

BONNFLON able the polluted material including oil components to low adherence from surface of the painting.

出色的低污染塗層

BONNFLON 能夠使包括油類成分在內的污染物低黏附於塗層表面.

Job Reference/Case Study
Bloom KKCA Academy
百卉九江書院

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BONNFLON Texture GT-SR Coating System

The product has great re-coating by nature, it is possible to recoat over the same type of painting and it's easy to repair.

該產品天生具有極佳的再塗層性能，可以在同一類型的塗料上再次塗覆，並且易於修復.

Job Reference/Case Study
The Henry Tan Sports Complex
陳亨利運動綜合大樓
BONNFLON Texture GT-SR Coating System

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Running cost becomes remarkably economical if you calculate the expense of every repainting cost comparing with acrylic silicone paints.
如果將每次重新塗漆的費用與丙烯酸硅漆進行比較, 運營成本將顯著變得經濟實惠.

Job Reference/Case Study
The Portofino, Sai Kung
栢濤灣, 西貢
BONNFLON Stucco GT-SR Coating System

BONNTILE HONG KONG LTD
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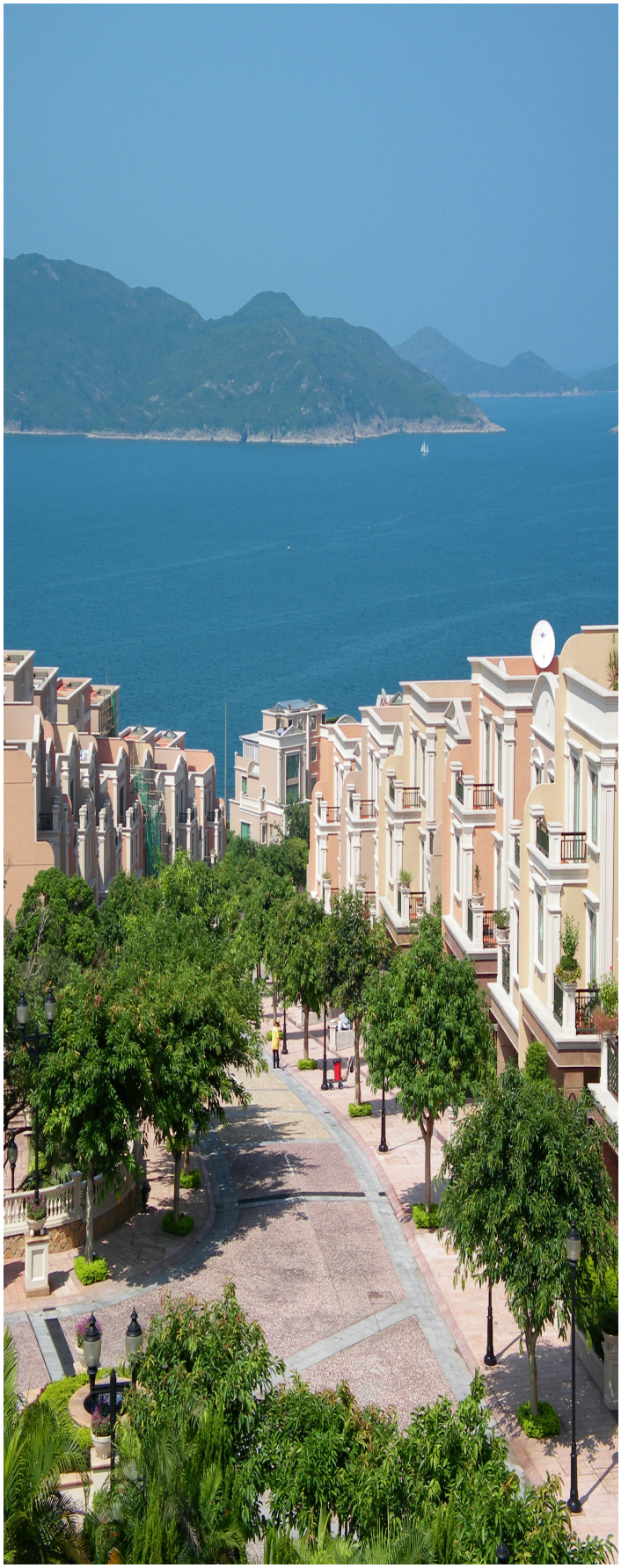
High weather ability: BONNFLON has kept the gloss over 90% after 4000 hours of exposure by S-WOM test.
高耐候性: BONNFLON經過4000小時的S-WOM測試暴露後, 保持了90%以上的光澤.



Job Reference/Case Study

BONNFLON Texture GT-SR Coating System

BONNFLON has the special property to the chemical medicine and every solvent like alkaline and acid BONNFLON will demonstrate great effects to the cruel area such as chemical factory or salt polluted area by the coast etc.

BONNFLON 具有對化學品和各種溶劑 (如碱性和酸性) 的特殊性能. BONNFLON在化工廠或海岸鹽污染區等惡劣環境中將展現出巨大的效果.

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VTC Student Dormitary, Tsing Yi 職業訓練局學生宿舍, 青衣

Kellett School, Kowloon 啓力學校

Crawford House 卡佛大廈

Gleneagles Hospital 港怡醫院

Macau Monetary Authority Building 澳門金融管理局大樓

Job Reference/Case Study

BONNFLON Stucco GT-SR Coating System

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邦盛建材香港有限公司

Performance of BONNFLON Coating System

BONNFLON has remarked high weatherability. Only 10% of gloss retention has lost by the 4000 hours of accelerated weather test by sunshine weather meter. This means 90% of gloss will be kept more than 20 years.

BONNFLON 具有顯著的高耐候性, 在經過4000小時的陽光天氣儀加速氣候測試後, 僅有10%的光澤保持度有所降低. 這意味着90%的光澤將保持超過20年

St. Paul's Co-Educational College Primary School 聖保羅男女中學附屬小學

The Portofino, Sai Kung 栢濤灣, 西貢

Job Reference/Case Study

BONNFLON Texture GT-SR Coating System

About super accelerated weathering test by Xenon lamp used hydrogen peroxide

It is different from normal accelerated weathering test, and its test method forces titanium oxide used white pigments to deterioration of photocatalytic.

關於使用過氧化氫的氙燈超加速氣候老化測試

這與普通的加速氣候老化測試不同, 其測試方法強制氧化鈦白粉使用白色顏料進行光催化降解.

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Victoria Shanghai Academy, Aberdeen 香港仔滬江維多利亞學校

Mega Box, Kowloon Bay

Che Wah Industrial Building, Kwai Chung 葵涌致華工業大廈

Job Reference/Case Study
BONNFLON Texture GT-SR Coating System

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The thoughts behind techniques devised for the reduction of stain stripes of coated surfaces by rain in order to reduce the soiling of coated surfaces by urban polluted rainfall of oily contaminants, it is necessary to transform the coated surfaces to become hydrophilic and evaporate oily contaminants.

為了減少塗層表面在雨水中的污染條紋, 以減少城市污染降雨中塗層表面的油性污染物的污染, 需要將塗層表面轉變為親水性, 並使油污染物蒸發.

Hotel Icon, Hung Hom 唯港薈, 紅磡

Peel Rise, The Peak

No.33 Cape Road, Chung Hom Kok 春磡角環角道33號

Rio Hotel, Macau 澳門利澳酒店