



機能性塗料技術與應用

Functional coatings and their applications

自分層易潔塗料

Self-stratifying easy-cleaning coating

簡介 Introduction

自分層技術可應用於金屬與塑膠基材，作為易潔防污塗料並應用於彩鋼、鋁門窗等。
Self-stratifying antifouling technology provides easy-cleaning property for colored steel, aluminum doors & window, etc.

Sample	ITRI/MCL	Fluoropolymer	Blank polyester
Contact angle	111.0	94.0	63.5
Film formation	○	○	○
Antifouling test (ΔE^*)	0.09	1.62	25.71

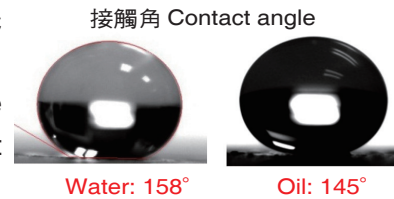
雙疏自潔塗料

Super-amphiphobic self-cleaning coating

簡介 Introduction

合成奈米粒子 / 微米結構之雙疏塗料，可作為自潔塗料且耐刷洗次數 >2000 次。

Super-amphiphobic material with nanoparticles/microstructure make up of self-cleaning coating that can withstand wet abrasion scrub higher than 2000 times.



環保無鉻金屬防蝕

Non-chromium anti-corrosion coating

簡介 Introduction

無鉻金屬防蝕塗料不含重金屬，具有環保、可彎折、硬度高、耐候性佳、防蝕性能優異等優點。Non-chromium anti-corrosion coating provides advantages such as environmentally friendly, flexible, high hardness, weather-resistant, and excellent anti-corrosion.

Sample	ITRI/MCL	ITRI/MCL-cross	Non-Cr: organic	Cr ⁶⁺	Blank
SST (5% white rust)	>412hr	>412hr	>140hr	>200hr	<24hr

低 VOC 重防蝕技術

Low-VOCs anti-corrosion coating

簡介 Introduction

低 VOC 重防蝕塗料具有低 VOC、高耐候、優異防蝕等優點，可應用於橋樑鋼材、工廠管線與設備等。Low-VOCs anti-corrosion coating takes advantages of low VOC, weather-resistance, and excellent anti-corrosion, and can be applied on bridge steel, pipeline, factory building, etc.

Sample	Commercial (solvent type)		ITRI/MCL (low VOCs)	
	solvent type & linear epoxy resin		Low VOC & branched epoxy resin	
Resin	solvent type & linear epoxy resin		Low VOC & branched epoxy resin	
Primer	Epoxy resin	Epoxy zinc rich primer	ITRI/MCL epoxy resin	ITRI/MCL epoxy zinc rich primer
SST test	90 hr	1610 hr	97 hr	1704 hr
VOC (g/L)	512		258	
Adhesion	100/100	100/100	100/100	100/100
Pullout strength (psi)	211	473	337	673

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