

WHAT IS GIX

GIX is an alloy of zinc, aluminum and magnesium hot-dip coated on steel plate, designed for all applications requiring high corrosion resistance. The alloy plating of GIX is composed of the optimum aluminum and magnesium ratio, proven over a long period of time. GIX is the product of top-level plating technology of Dongkuk Steel, which has excellent surface appearance and 5~7 times higher corrosion resistance compared to the existing GI.

Core Advantages



Corrosion resistance

Due to the effect of alloyed magnesium and aluminum, GIX maintains sacrificial corrosion of zinc method in stabled condition and performs excellent corrosion resistance, definitely in the surface of the plating and even in the scratched part and cross section, which are caused by the bending process and field installation.



Workability

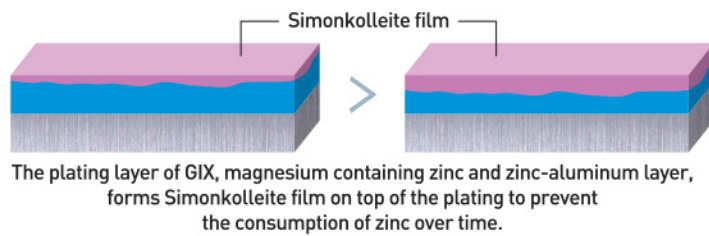
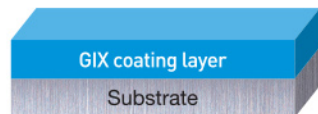
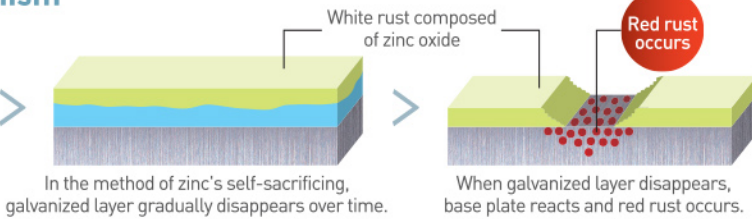
GIX is superior to GI in various processes, such as roll forming, press, and welding. It can be applied directly to the processing and assembling work environment designed for existing GI.



Paintability

GIX has strong adhesion between plating layer and paint. Excellent performance is delivered, when it is used as a base plate for powder coating after processing and PCM colored steel plate for construction interior and exterior.

GIX Corrosion Prevention Mechanism



GIX Corrosion Test Results

Type	GIX			GI		
Flat Surface Corrosion Resistance Test Result ※ Testing Method : According to ASTM B117-73	• Plating Amount : 180g			• Plating Amount : 180g		
Corrosion Resistance on Cross Section Test Result	• Plating Amount : 180g / Thickness : 0.8T			• Plating Amount : 180g / Thickness : 0.8T		
Corrosion Resistance on OT Bending Processed Part Test Result	• Plating Amount : 120g			• Plating Amount : 120g		

Domestic

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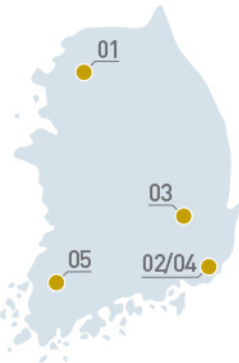
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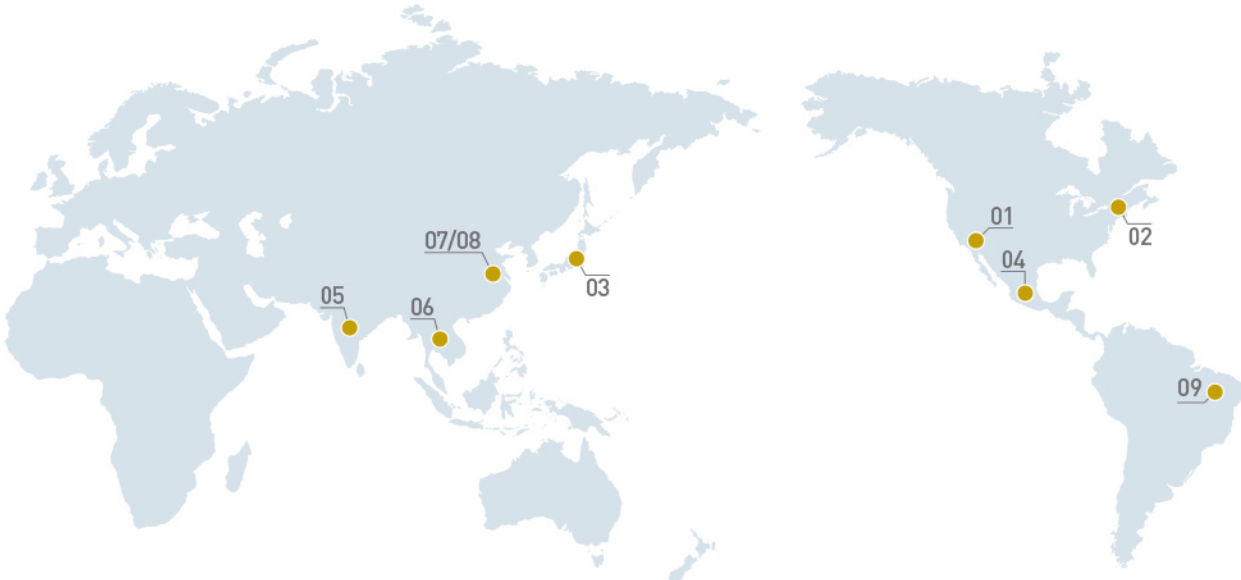
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01

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09

Corporation in Brazil
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Luxteel® BIO

Luxteel® BIO

Anti Bacterial PCM with high corrosion resistance, designed for hygiene sensitive application



Product Overview

Luxteel BIO inhibits the growth of germs, virus, and fungi thanks to its superb microbicidal and antibacterial properties that come from a special metal ceramic antimicrobial agent and additive. Luxteel BIO is differentiated by additional features such as resistance against germs in everyday life including E. coli 0157, staphylococcus, and Pseudomonas aeruginosa and antifungal, deodorizing, and anti-graffiti properties. The underlying plate of Luxteel BIO uses highly corrosion-resistant magnesium alloy coated GIX, aluminum-zinc alloy coated GL, and zinc coated GI, and meets demanding durability requirements in operating rooms, pharmaceutical companies, food, and semiconductor factories. Also, the special complex filler which is highly protective against microbes is used instead of conventional complex filler with a limited range of color and gloss, enabling to embody a wide range of colors, patterns, and even dimensions on the surface.

Core Advantages



Semipermanent microbicidal effect

Available for semipermanent usage as its antimicrobial and antifungal properties are not influenced by cleaning solutions with active oxygen of ceramic antimicrobial and microbicidal properties from metal ions.



Deodorizing and antifungal effect

Pores in special ceramic absorbs germs, fungi, organic material, ammonia gas, and odor.



Safe for human health

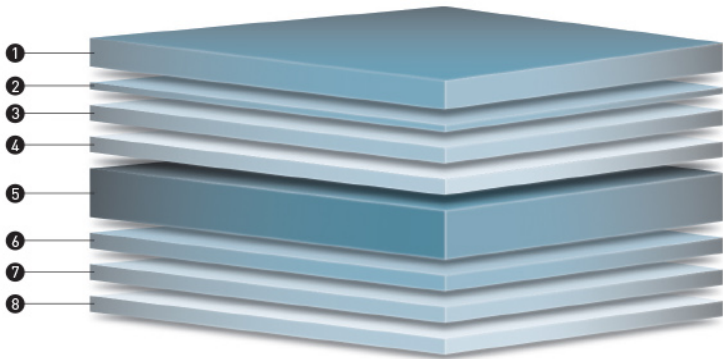
Highly stable due to special ceramic additive mixtures that are proven perfectly safe for human health.



Graffiti resistance

Anti-graffiti property allows for clean management of the exterior and provides a superb antibacterial function.

Coating System



- 1 Food grade(USDA) polyester with antibacterial powder top coat polyester(PE) 15~20µm
- 2 Good corrosion resistance primer(5µm)
- 3 Chemical treatment
- 4 Alloy layer
- 5 GIX / GL / GI
- 6 Alloy layer
- 7 Chemical treatment
- 8 Back Service

* Pattern print applicable on demand

Technical Specifications

Luxteel® BIO Premium

Item	Results	Remarks
Color	Limited	White & Light color
Non Volatile Matter	64.0 ± 5.0%	Cabinet oven, 105°C x 3Hrs
Solid Volume Content	45.4 ± 5.0%	Theoretical
Viscosity	110 ± 10sec	Ford cup #4, at 25°C
Solid Gravity	1.35 ± 0.10	Gardner cup, at 20°C
Solvent Gravity	0.89 ± 0.02	Theoretical
Dry film Gravity	1.90 ± 0.10	Theoretical
Dry film Thickness	5 + 20µm 5 + 15µm	Recommended
Peak Metal Temperature	421 / 435[°F]	Recommended

Product Comparison

Luxteel® BIO Premium

Structures	5+15µm
Character-istics	Semipermanent microbicidal effect Deodorizing and antifungal effect Safe for human health (USDA) Graffiti resistance (Option)
Certification Mark	 FITI (Certification of antimicrobial properties)
Guaranteed Years	 12 years (Perforation and peel-off)
Colors	Possible to apply solid colors, patterns, and textures

Luxteel® BIO Microban

Item	Results	Remarks
Color	Limited	White & Light color
Non Volatile Matter	66.0 ± 5.0%	Cabinet oven, 105°C x 3Hrs
Solid Volume Content	48.6 ± 5.0%	Theoretical
Viscosity	110 ± 10sec	Ford cup #4, at 25°C
Solid Gravity	1.36 ± 0.10	Gardner cup, at 20°C
Solvent Gravity	0.90 ± 0.02	Theoretical
Dry film Gravity	1.85 ± 0.10	Theoretical
Dry film Thickness	5 + 20µm	Recommended
Peak Metal Temperature	421 / 435[°F]	Recommended

Luxteel® BIO Microban

Structures	5+20µm
Character-istics	Semipermanent microbicidal effect Deodorizing and antifungal effect Safe for human health (USDA) Graffiti resistance (Option)
Certification Mark	 MICROBAN
Guaranteed Years	 12 years (Perforation and peel-off)
Colors	Possible to apply solid colors, patterns

Performance Characteristics

Technical Data		
Gloss(60°)	Typical 20 - 80	ASTM D523
MEK Rubbing	Min. 100	ASTM D5402
Flexibility (T-Bend)	2T with no loss of adhesion	ASTM D4145
CCET [Erichsen 6mm]	No loss of adhesion	
Impact Resistance (9J)	No loss of adhesion	ASTM D2794
Pencil Hardness	F to 2H	ASTM D3363
Acid Resistance [5% HCl]	24Hrs - No blister	ASTM D1308
Alkali Resistance [5% NaOH]	24Hrs - No blister	ASTM D1308
Humidity Resistance	* Galvalume® or HDG (1,000hrs) - No field blisters * Aluminum (2,000hrs) - No field blisters	ASTM D2247
Salt Spray Resistance	* Galvalume® or HDG (1,000hrs) - Creep from scribe ≤ 1/8 inch (3mm), None or few #8 blisters * Aluminum (2,000hrs) - Creep from scribe ≤ 1/8 inch (3mm), None or few #8 blisters	ASTM B117
QUV (1,000Hrs)	* White Color : ΔE 3 l * The Others : ΔE 5 l	ASTM G154
Antibiosis	* List of bacteria used in the tests - Bacteria 1 : Staphylococcus aureus ATCC27853 - Bacteria 2 : Escherichia coli ATCC8739 * Antimicrobial effect : Antimicrobial activation higher than 2.0 log	

Certifications



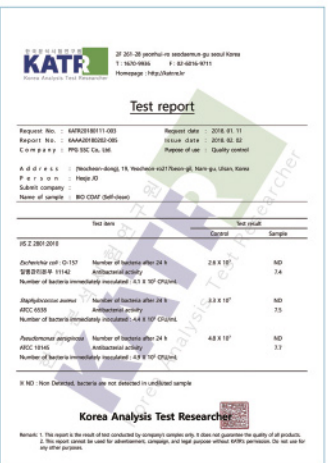
Microban certification



Antifungal

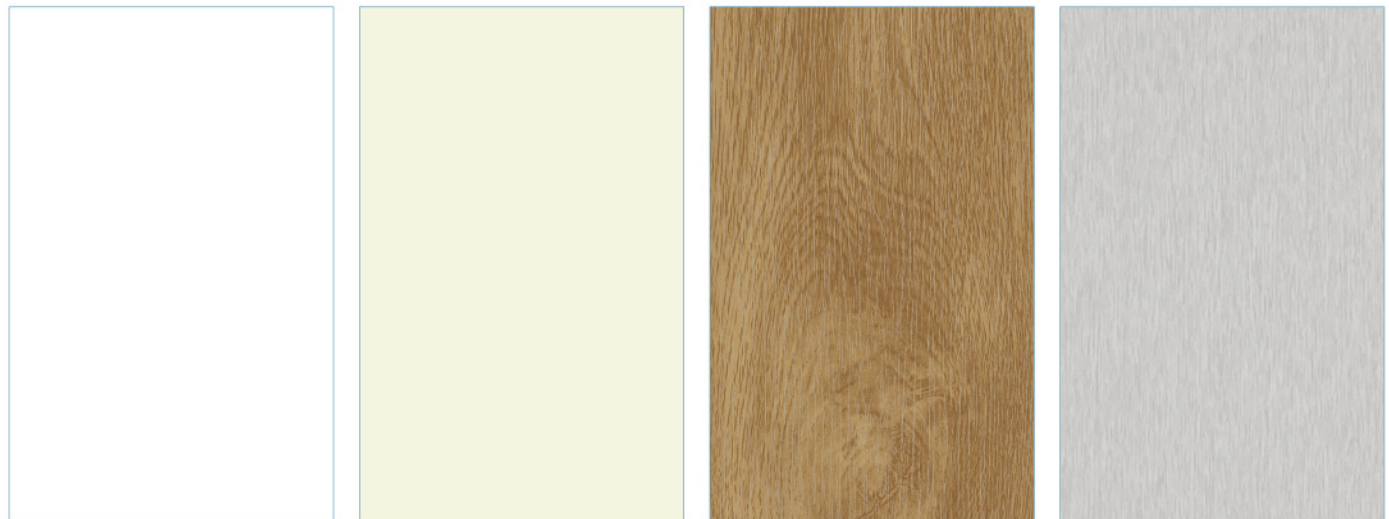


Antimicrobial test



Antimicrobial test (Anti-graffiti)

Product Images



Luxteel® BIO Test Results

Antimicrobial Test Results

E. coli 0157	General E. coli	Staphylococcus	Pseudomonas aeruginosa
Control	Control	Control	Control
Sample	Sample	Sample	Sample

Antifungal Test Results

Viability	#1
ASTM G 21	ASTM G 21
DETERMINATION RESISTANCE OF SYNTHETIC POLYMERIC MATERIALS TO FUNGI TEST PHOTO : VIABILITY	DETERMINATION RESISTANCE OF SYNTHETIC POLYMERIC MATERIALS TO FUNGI TEST PHOTO : #1