



# HiGANiC

## Coatings for Long-Term Rust Protection of Nonferrous Metals

Air Handler HVAC Coating Technologies (Aluminum, copper, magnesium, stainless, GI, EGI applicable)

# HiGANiC

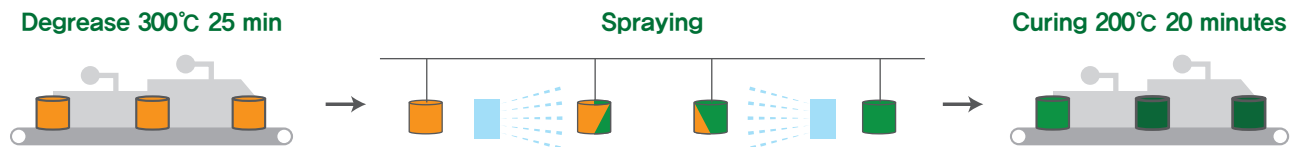
## Coatings for Long-Term Rust Protection of Nonferrous Metals

Aluminum, copper, magnesium, stainless, GI, EGI applicable

### ■ Characteristics

1. Excellent corrosion resistance and durability on non-ferrous metals, with SST over 2000hr when used on aluminum.
2. Laminated, thin film coating prevents corrosion factor penetration while not impeding heat transfer.
3. No harmful VOCs, no heavy metals, no Cr6+ or Cr3+.
4. Applied in seawater, desalination facilities and other 200 places.

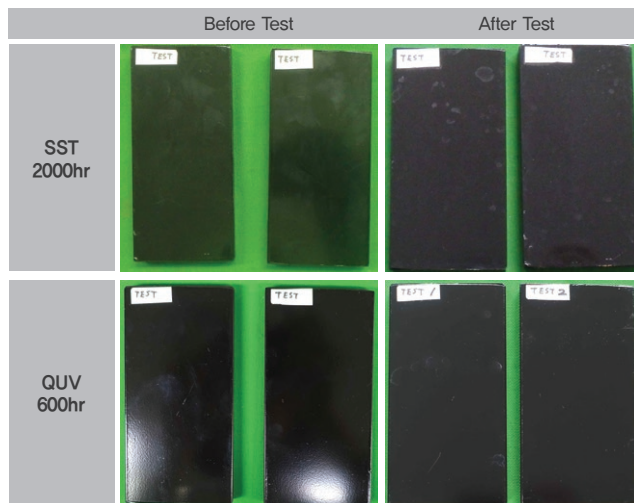
### ■ Coating Process



HiGANiC can be degreased and spray coated without any pretreatment such as primer.

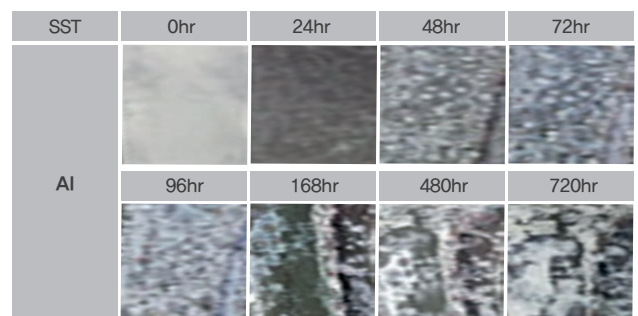
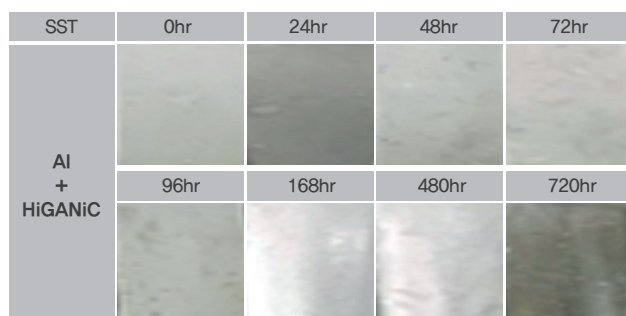
### ■ Corrosion Resistance

#### 1. HiGANiC corrosion resistance, Q-UV



SST 2000hr	No defects
QUV 600hr	$\Delta E$ 0.2 / Gloss retention 99%
ROHS	Pb and 25 others not detected
Frictional coefficient	kinetic friction 0.4 / statical friction 0.37
Adhesion	5B
Pencil strength	4H
Thermal conductivity	63.6 W/m.K

#### 2. HiGANiC vs Aluminium



## ■ Performance



Performance	SST over 2000hr on aluminum
Coating Methods	Spray, Dipspin, and Dip
Curing Conditions	200°C 20min
Color	Transparent, Metallic Silver

**KTR** KOREA TESTING & RESEARCH INSTITUTE

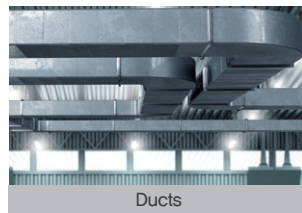
Chemical resistance	Excellent	KSM ISO 2812-07
Weathering Q-UV	Excellent	KSM ISO 4892-03, KSA0066
Stain resistance	Excellent	KSM 3802
Abrasion resistance	Less than 10 mg	ASTM DR 4060-14
Impact resistance	12N.M	ASTM D 2794-93
Corrosion resistance	No defects after SST 1,000 hours	KSD 9502, ASTM B 117
Thermal conductivity	Aluminum 136.55W/m.K Iron 63.26W/m.K	ASTM E11461
Environmental	Not detected	Pb, Cd, Hg, Cr6+
Pencil hardness	4H / 5H	ASTM_D3363

## ■ Applications

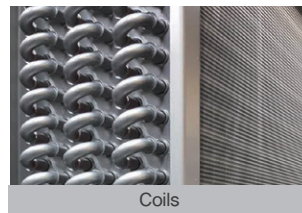
### 1) Corrosion protection for aluminum products (air handlers)



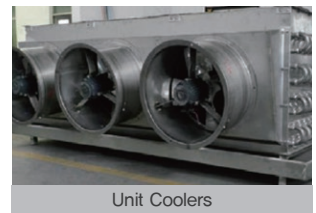
Air handlers



Ducts



Coils



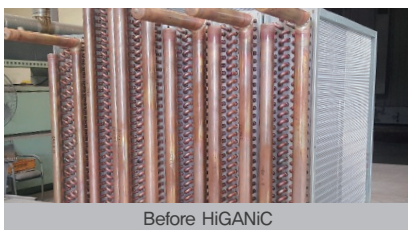
Unit Coolers

#### • Air handler issues

Aluminum coils are subject to rapid corrosion due to salt and moisture in the air, harmful gases, and ultraviolet rays. Corrosion of the fins not only reduces the performance of the machine and shortens its lifespan, but also generates aluminum oxide powder due to whitening at the corrosion site, which is inhaled into the respiratory tract.

#### • Problem-solving HiGANiC

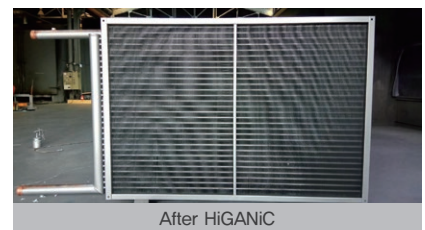
No whitening of aluminum coils and reduced energy costs in operation. High corrosion resistance extends equipment performance and lifespan. Less aluminum oxide formation, dramatically reducing harmful elements to the human body.



Before HiGANiC



Spraying



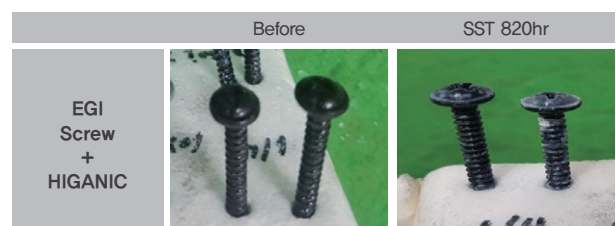
After HiGANiC

### 2) EGI products that require corrosion resistance

EGI High Corrosion Resistant Color Coating : No xylene, toluene or fluorinated resins that cause environmental pollution. Depending on the performance of EGI, EGI high strength bolts have an SST of 1,500hr and EGI screws have an SST of 820hr.



High Strength  
EGI bolt  
+  
HIGANiC



EGI  
Screw  
+  
HIGANiC



## ■ References

HiGANiC has numerous references from various government offices, hospitals, and research facilities due to its application as an excellent product of the Public Procurement Service. We have been delivering steadily since 2016 and have not received a single performance complaint.

### ● 2016 ~ 2019

Korea Advanced Institute of Ocean Science and Technology, Gyeonggi Institute of Health and Environment, and 15 others

### ● 2020

Yeungnam University 3F West Building Intensive Care Unit, Korea Hydro & Nuclear Power Maintenance Training Building, and 24 other cases

### ● 2021

Elementary schools, National Seafood Quality Control Center, Battery General Management Center, and 38 other cases

### ● 2022

Busan Port Bukhang Marina, Daegu Innovation City and 18 others

### ● 2023

Semiconductor Clean Room, Korea Maritime University, e-Nanomaterials Chemistry Institute and 24 others

### ● 2024

Yongsan Busan National University Hospital Intensive Care Unit (MICU), HK InnoEn Research Facility and 15 other cases



Korea Institute of Marine Science and Technology



Yongho Bay Complex



Jeju Aewol National Sports Center & Swimming Pool