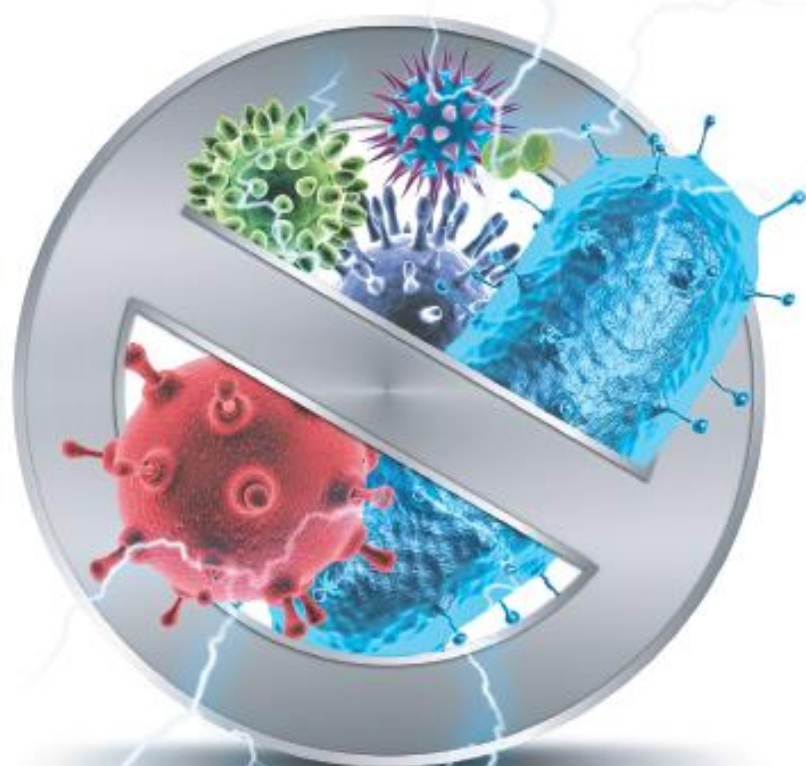


BioCOT[®]

KR. Patent No. 10-2018-0159906

Antimicrobial
Galvanized-Steel Sheet



KG Dongbu Steel

BioCOT®

Antimicrobial Galvanized-Steel Sheet



Day-care center,
Kindergarten



Hospital,
Operating room



Pharmaceutical
Facility



Aseptic Facility



R&D Laboratory



Food Manufacturing
Facility

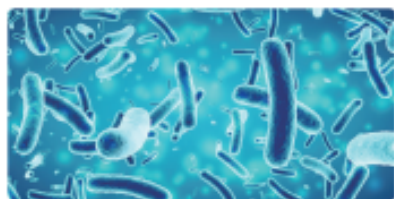
With silver ion content acting as an inhibitor of microbial growth and virus reproduction, BioCOT® offers excellent antiseptic and antimicrobial capabilities.

This patented technology owned by KG Dongbu Steel delivers not only antimicrobial capabilities but also outstanding corrosion resistance.

BioCOT® is designed for coated steel products, including GI, SGL, and MgCOT®, of which the final applications require superb durability and sterilization.

BioCOT® brings no harmful effects on human health.

KEY PERFORMANCE



Semi-permanent antimicrobial effect

Silver ions and silver nanoparticles damage the cell membranes of microbial and then penetrate into cells and destroy microbial.



Eco-friendly

Chrome-free treatment brings no harmful effects on human health and the environment.



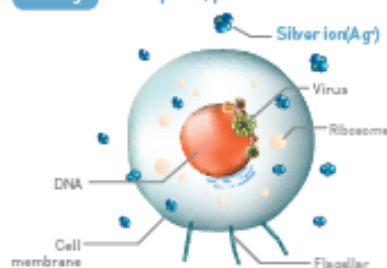
Excellent corrosion resistance

Excellent corrosion resistance compared to chrome post-treatment



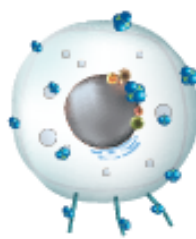
ANTIMICROBIAL MECHANISM

1st stage Adsorption/penetration



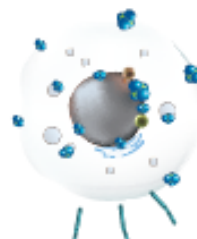
- Cell membrane adsorption/destruction
intracellular penetration of silver ions

2nd stage Degeneration



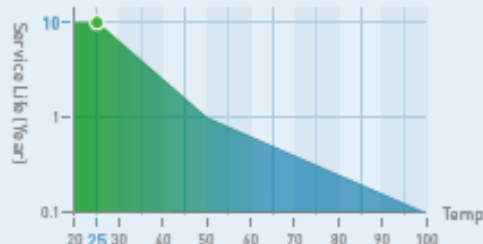
- DNA/ ribosome denaturation

3rd stage extinction



- Microbial /Virus Destruction

WARRANTY

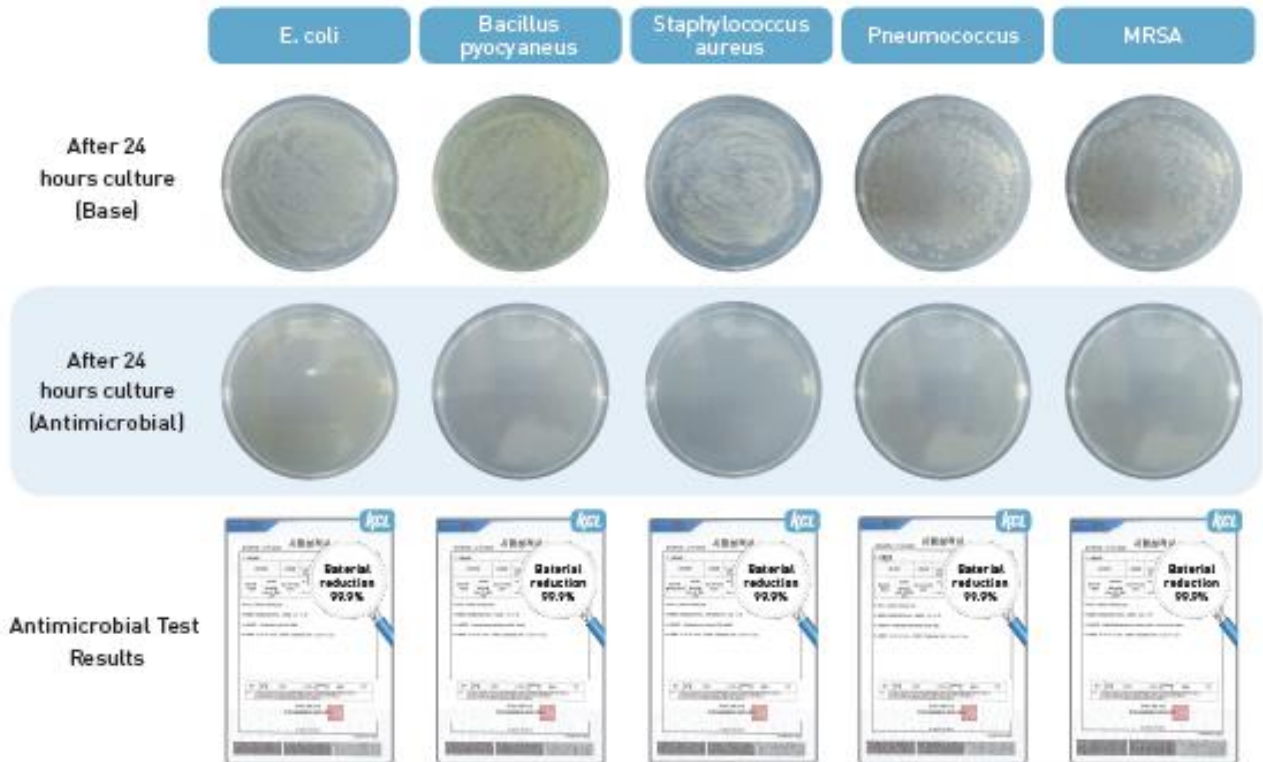


• Duration of antimicrobial capability:

Semi-permanent antimicrobial activity over 10 years at 25 °C

- ※ The Lifetime was estimated by the eluted amount of silver ion and the amount of silver ion in the antimicrobial coating film based on the same of ABS molded article added with 1% by weight of the antimicrobial agent.
- ※ This anticipated life expectancy is predicted by the antimicrobial steel sheet in the elution/ loss condition of silver ions due to the continuous contact with water, and antimicrobial life is expected to be longer in the dry condition.

RESULTS OF ANTIMICROBIAL TEST



* KCL : Korea Conformity Laboratories










CERTIFICATIONS



- **RoHS** : Four major heavy metal materials related to electronic products (Pb, Hg, Cr⁶⁺, Cd)
- **RoHS 2** : RoHS with 2 additional flame retardants (PBB, PBDE)
- **SVHC** : Hazardous substances specified in the REACH Regulation of the European Union
- **LFGB**[German Food and Feed Code] : Regulations for food and food products in the European Union

POST TREATMENT

BioCOT®, KG Dongbu Steel's latest development, was initiated to introduce coated steel products with antimicrobial post treatment of which the corrosion resistance is superior than coated steel, such as GI, SGL, and MgCOT®, with conventional chromate treatment.

Type	Corrosion resistance (SST Test)			Blackening-Resistance
	0 hr	72 hr	120 hr	
GI Chromate				$\Delta E = 2.63$
GI BioCOT				$\Delta E = 1.73$
SGL BioCOT				$\Delta E = 0.23$

Test method

SST : White rust observed as elapsed time after salt spray test (5% NaCl, 35±2 °C)

Blackening Resistance : the color difference (50 °C, 95% relative humidity, 120Hr)

SPECIFICATION



Thickness	0.30~2.5mm
Width	800~1600 mm
Coil I.D	508 / 610 mm
O.D	2100 mm Max
Weight	23 tons Max

* Be sure to have sales/quality department's review before placing an order

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KG Dongbu Steel www.kgdongbusteel.co.kr

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