Metallic Coated Steel

MgCOT®

High Corrosion Resistance

This product is 4~9 times superior in corrosion rate compare to same coating mass GI. Also equivalent or better in corrosion rate compare to same coating mass SuperGalum®.

Excellent Deformed zone Corrosion Resistance

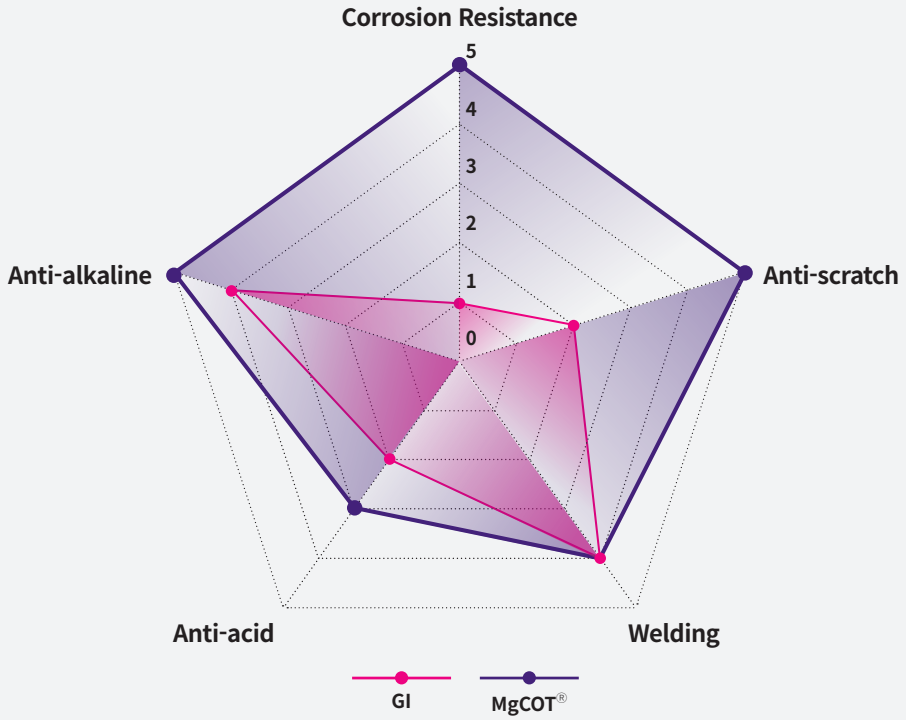
This product is over 10 times superior than GI in deformed zone corrosion resistance.

High Chemical Resistance

This product is superior in chemical resistance under acidic and alkaline environment compare to GI so it can be applied to building stock farm or other construction usage.

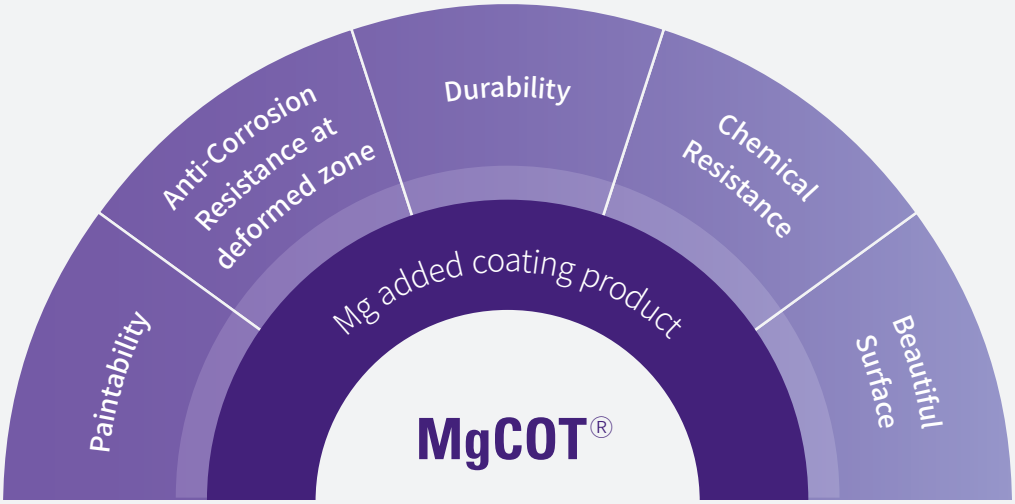
Excellent Paintability

This product can be painted same as GI with high excellent paint adhesion and has better corrosion rate than GI after painted.



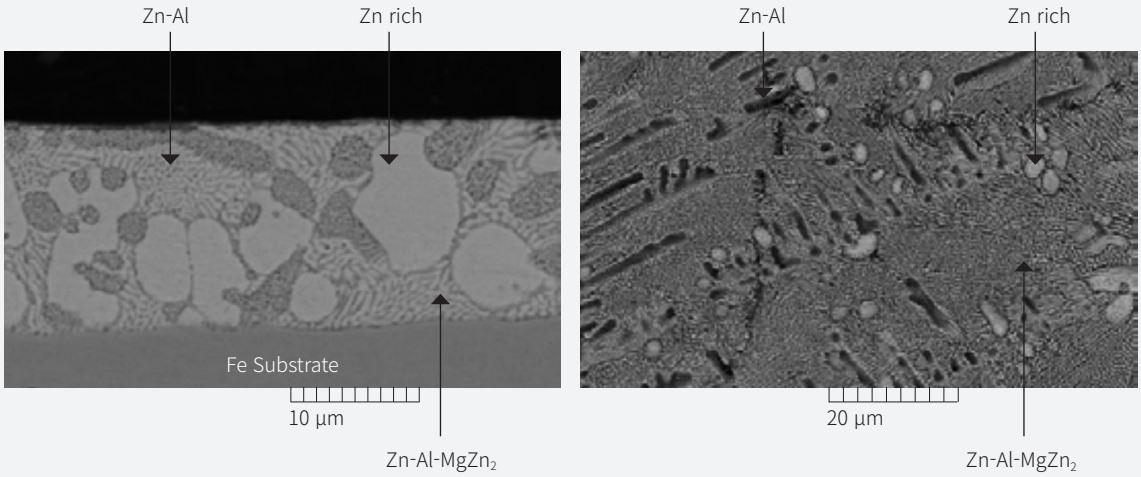
MgCOT®

MgCOT® results from KG Dongbu Steel Corporation's project for more advanced coated product featuring a zinc - 6% aluminum - 2% magnesium alloy coated steel. MgCOT® provides super-improved durability, chemical resistance, excellent corrosion resistance at deformed zone when compared to existing GI.
It is future-oriented and environmentally friendly.



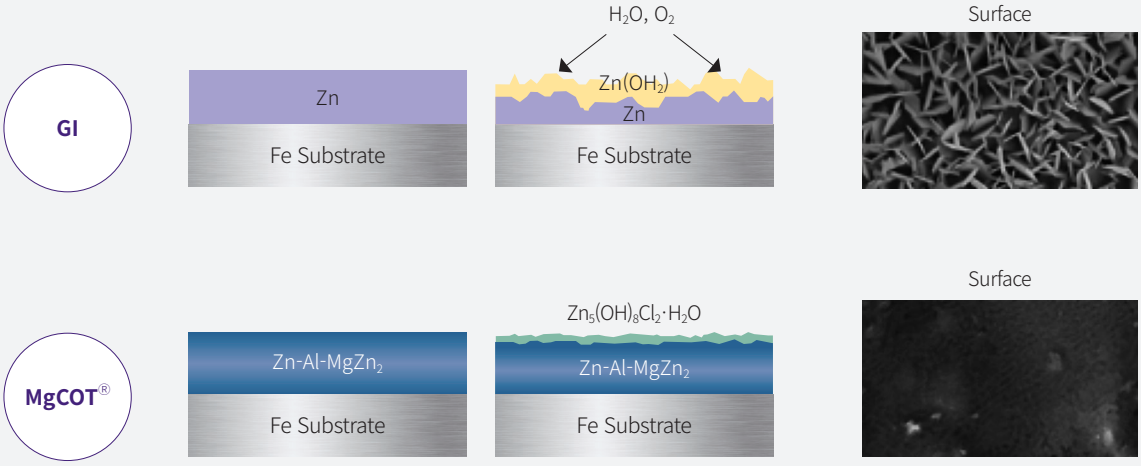
Coating layer characteristics

The coating layer is composed of Zn Rich, Zn-Al, Zn-Al-$MgZn_2$, these three materials promote the formation of dense corrosion products, providing highly corrosion resistance.



Anti Corrosion Mechanism

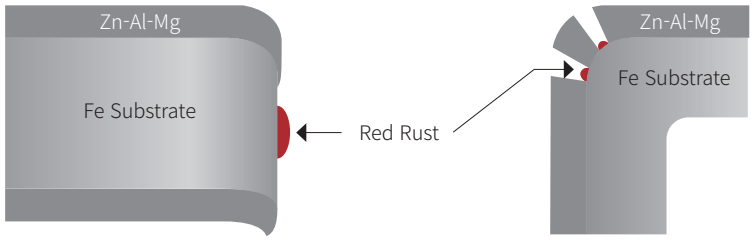
GI makes corrosion products [$Zn(OH)_2$], which are large and porous, on the surface of the coating layer, whereas MgCOT® containing Al and Mg to create small, dense particles produces stable corrosion products [Simonkolleite, $Zn_5(OH)_8Cl_2{\cdot}H_2O$]. This corrosion product creates protective film to prevent penetration of water or oxygen, providing a long term corrosion resistance of steel sheets.



Anti Corrosion Mechanism of shearing surface

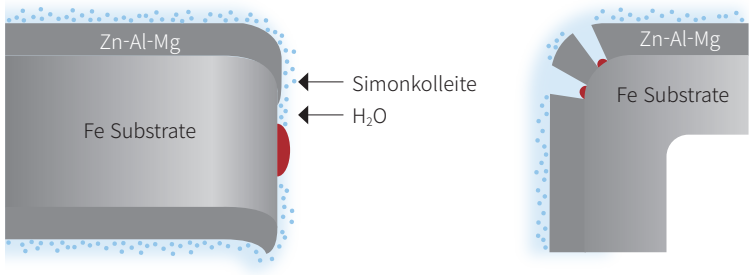
Self Curing Coating Technology

Initial Stage (several weeks)



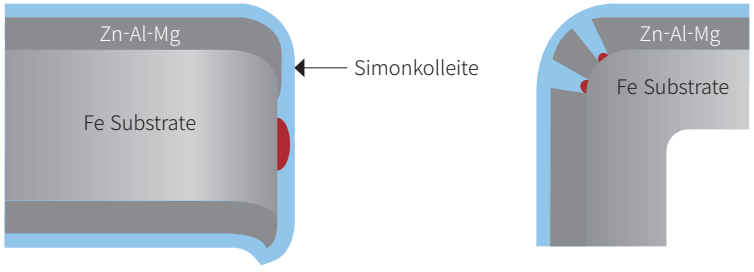
- About one-third of the shear section is covered with coating materials pushed by the shear.
- Red Rust can occur in areas where coating material is not covered(cut end, deformed zone) at the beginning of exposure by moisture and oxygen contact.

Middle Stage (several weeks to months)



- Zn-Al-Mg coating material released from the surface by moisture, etc. cover the shear surface, producing corrosion products called Simonkolleite.

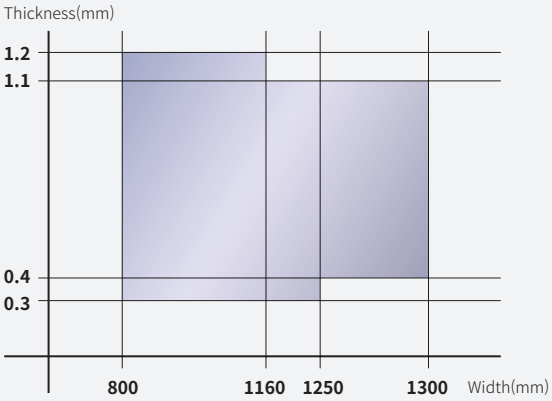
Long Term Stage (more than a year)



- Simonkolleite covering the shear surface include Al and Mg, making a stable protective film due to the small and dense particles.
- This protective film covers the initial red rust, preventing further corrosion occuring.

Manufacturing Specification

Available Range



Thickness	0.3 ~ 1.2 mm
Width	800 ~ 1300 mm
Coil I.D	508 / 610mm
O.D	Max. 2100 mm
Weight	Max. 23 ton

※ There may be restrictions for each type of steel, so please consult with the sales and quality department in advance when ordering new products.

Steel Grade Specification

Type	Classied Symbol	Yield Point (N/mm^2)	Tensile Strength (N/mm^2)	Elongation(%)			
				0.25≤t<0.40	0.40≤t<0.60	0.60≤t<1.00	1.00≤t<1.60
Commercial Quality	SGMCC	(≥ 270)	(≥ 270)	-	-	-	-
Drawing Quality	SGMCD1	-	≥ 270	-	≥ 34	≥ 36	≥ 37
	SGMCD2	-	≥ 270	-	≥ 36	≥ 38	≥ 39
	SGMCD3	-	≥ 270	-	≥ 38	≥ 40	≥ 41
Structural Quality	SGMC245Y	≥ 245	≥ 340	≥ 20	≥ 20	≥ 20	≥ 20
	SGMC295Y	≥ 295	≥ 400	≥ 18	≥ 18	≥ 18	≥ 18
	SGMC335Y	≥ 335	≥ 440	≥ 18	≥ 18	≥ 18	≥ 18
	SGMC365Y	≥ 365	≥ 490	≥ 16	≥ 16	≥ 16	≥ 16
	SGMC560Y	≥ 560	≥ 570	-	-	-	-

Coating Mass

Coating Designation	(M06)*	M08	M10	M12	M14	M18	M20	M22	M25	M27	(M35)*	(M45)*
Triple spot test	60	80	100	120	140	180	200	220	250	270	350	450
Single spot test	51	68	85	102	119	153	170	187	213	234	398	383

*( ) means consultation between customer and manufacturer is required.

Applications

Structural building material with exterior exposed shear surface

Pipes

Photovoltaic supports

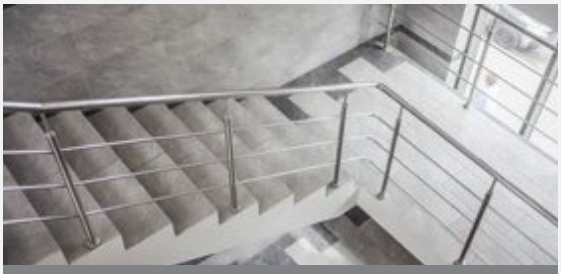
Structures requiring alkaline or anti-ammonia environment

Cattle shed

Building structure

Structural products requiring anti-scratch

Structural guardrail



Safe guard

Home appliances and auto parts

Automotive parts

Outdoor Equipment of air conditioner