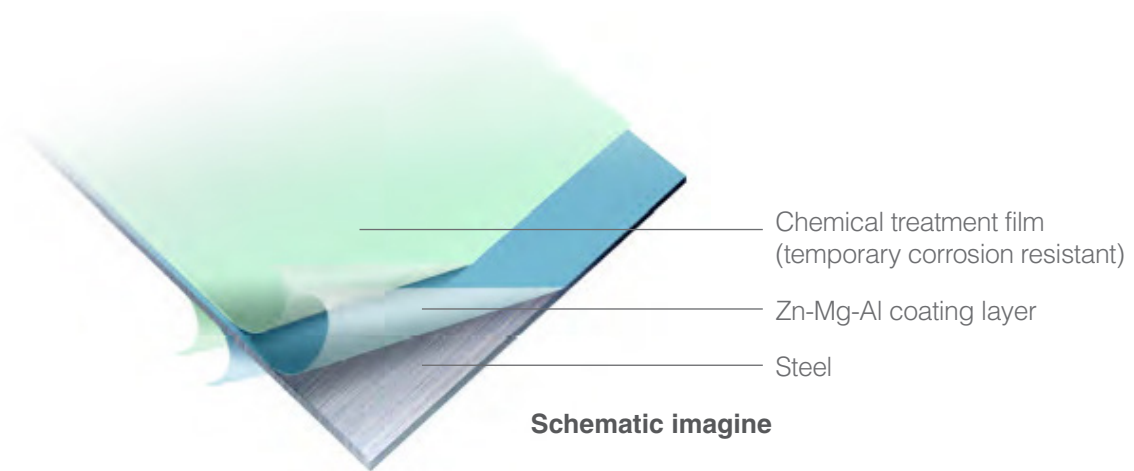


Zn-Mg-Al Coating

- What is Zn-Mg-Al coating

Zn-Mg-Al Coating (Magnesium Aluminium alloy Coating product) is a ternary alloy coated steel (Zn- 3%Mg- 11%Al) with high corrosion resistance.



- Advantage of Zn-Mg-Al coating

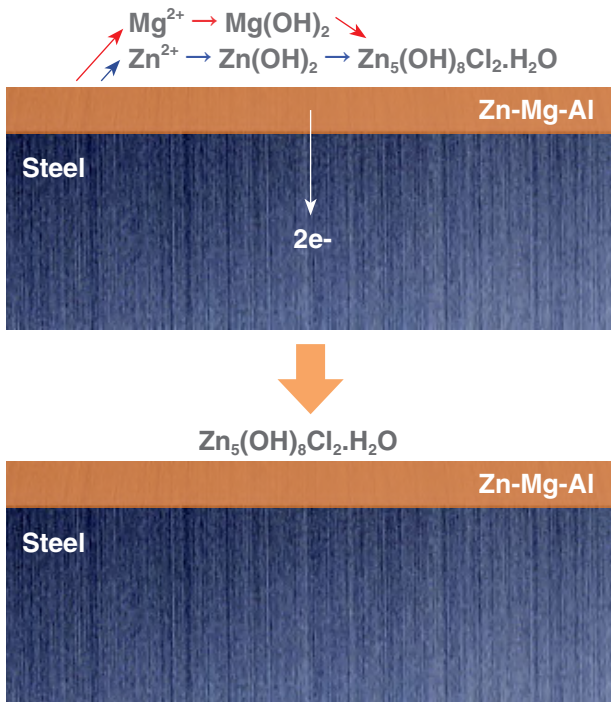
- Excellent Corrosion Resistance
- Self-healing
- Long Service Life
- Easy Processing

- Product Characteristics Comparison

Item	Hot-dip Galvanized Steel mounting structure	Magnesium Aluminum Alloy Coating mounting structure
Corrosive resistance	- Reliable - C3 and below - Need painting maintenance	- Very good, much stronger in corrosive resistance than HDGS - C5 and below - Self-healing - No painting maintenance needed
Appearance	Fine	Nice appearance, smooth
Lead time	Subject to project	Subject to project
Price	Cost-effective	A little cheaper than Hot-dip Galvanized Steel mounting structure

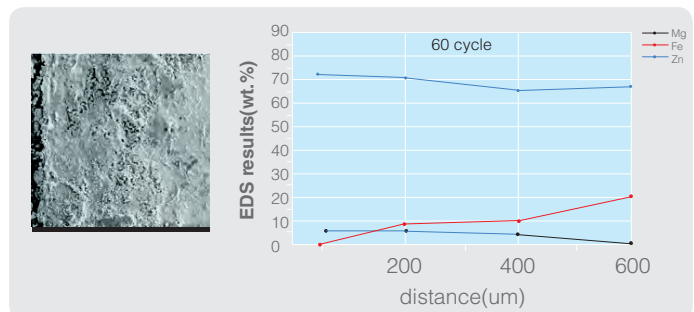
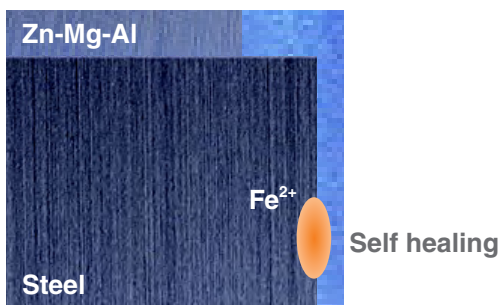
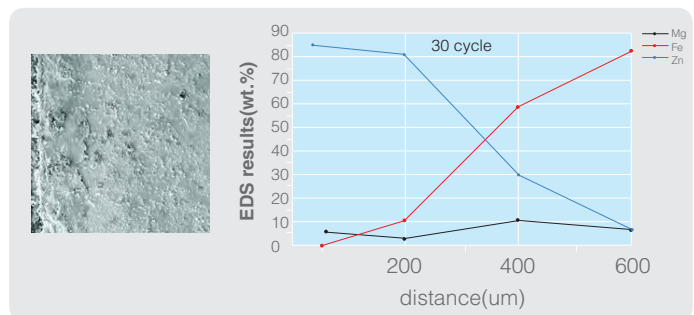
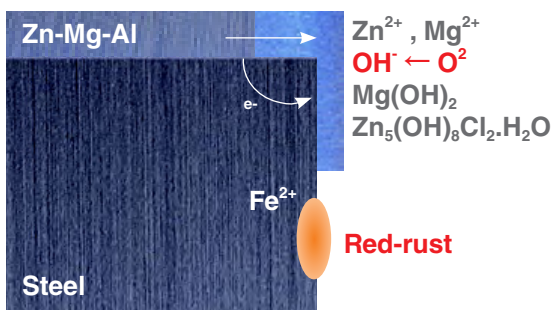
- Why Zn-Mg-Al coating has excellent corrosion resistance

The magnesium(Mg) in Zn-Mg-Al coating layer will accelerate the formation of a dense corrosion product called “Simonkolleite ($Zn_5(OH)_8Cl_2 \cdot H_2O$)” which is extremely stable. When simonkolleite is formed on the surface of the coating layer in a film-like-form, it plays a role as a corrosion inhibitor for the base metal.


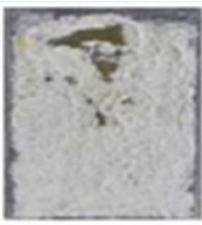



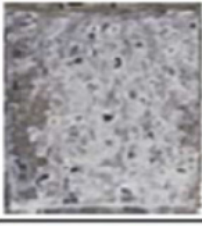



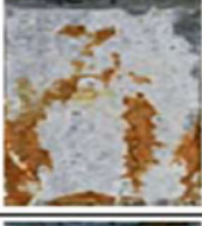

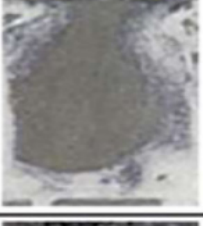






CCT	Surface	Cross-section
30 cycle		
60 cycle		



















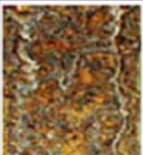
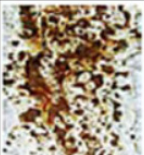


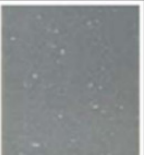

In addition, the upper coating layer can be dissolved to cover the cross-section and accelerate the growth of a stable corrosion product. However red-rust can be found in the already exposed steel plate, but fortunately, the film of the corrosion products covers the cross-section and serves to prevent corrosion.



- Comparison to galvanized(GI(H)) / Galvalume in corrosion resistance on flat surfaces(SST)

SST	GI(H)	Galvalume	Zn-Mg-Al coating	
The coating weight on both sides	600g/m ²	100g/m ²	200g/m ²	350g/m ²
480Hr				
720Hr				
1440Hr				
2400Hr				

-Comparison to galvanized(GI(H)) / Galvalume in corrosion resistance on flat surfaces(CCT)

CCT	GI(H)				Galvalume	Zn-Mg-Al coating		
The coating weight on both sides	120g/m ²	200g/m ²	300g/m ²	600g/m ²	100g/m ²	140g/m ²	200g/m ²	275g/m ²
10 cycle (80Hr)								
70 cycle (560Hr)								
120 cycle (960Hr)								

- Mechanical properties of steel plates and strips

Temper:	Material (%)							Mechanical Properties		
	C	Si	Mn	P	S	Ti	Nb	Yield Strength MPa	Tensile Strength MPa	Elongation min (%)A80
S250GD+ZM	0.2	0.6	0.14	0.045	0.045	-	-	≥250	≥330	≥19
S350GD+ZM	0.2	0.6	0.17	0.1	0.045	0.1	0.1	≥350	≥420	≥16
S450GD+ZM	0.2	0.6	0.17	0.1	0.045	0.1	0.1	≥450	≥510	≥14
S550GD+ZM	0.2	0.6	0.17	0.1	0.045	0.1	0.1	≥550	≥560	-

- Technical details of Zn-Mg-Al coating

Coating mass : 60~450g/m² (Both Sides)

Post treatment : Cr-Free (NB, NT), Chromate(CL), Cr³⁺ ECO Chromate(CE)

Sizes in production (CQ) : Thickness 0.4~ 4.0mm / Width 750 ~ 1,650mm

※ Width may vary depending on the thickness

