

**Comparison of new ZnAlMg coating with traditional galvanized (GI) coating**

	ZnAlMg vs. GI
<b>CORROSION RESISTANCE</b>	
White rust	++
Red rust	+++
<b>FORMABILITY</b>	
Cup test	+
Friction test	++
<b>COATING ADHERENCE</b>	+
<b>SCRATCH RESISTANCE</b>	++
<b>WELDABILITY</b>	+

+ comparable    ++ better    +++ much better

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**Product range**

<b>Coating range</b> (both sides)	100 – 150 g/m <sup>2</sup>
<b>Steel grades</b>	DX51D, DX52D S220GD, S250GD, S280GD S320GD, S350GD
<b>Thickness</b>	from 0.5 to 1.5 mm
<b>Width</b>	from 850 to 1350 mm
<b>Surface quality</b>	MA, MB
<b>Surface treatment</b>	oil, chemical passivation



**ZINKOMAG**

advanced galvanized steel sheet with improved corrosion resistance

**U. S. Steel Košice, s.r.o.**

U. S. Steel Košice, s.r.o. is an integrated steel company located in Eastern Slovakia. Its production program consists of a wide assortment of hot rolled, cold rolled and coated products including paint coated, tin, dynamo and hot-dip galvanized and galvanized steels. Nowadays, the company offers also advanced galvanized steel sheets with zinc-aluminum-magnesium coating under the trade mark – ZINKOMAG.

**ZINKOMAG - galvanized steel with ZnAlMg coating**

Zinc-aluminum-magnesium coatings are produced by hot-dip galvanizing process in zinc alloyed melt, containing 0.8 to 1.0 wt% Al and 0.8 to 1.0 wt% Mg.

**Main advantages of ZINKOMAG**

- excellent corrosion resistance
- superior coating adhesion
- high scratch resistance
- low friction coefficient
- fine weldability
- good paintability
- prolonged lifetime of final products

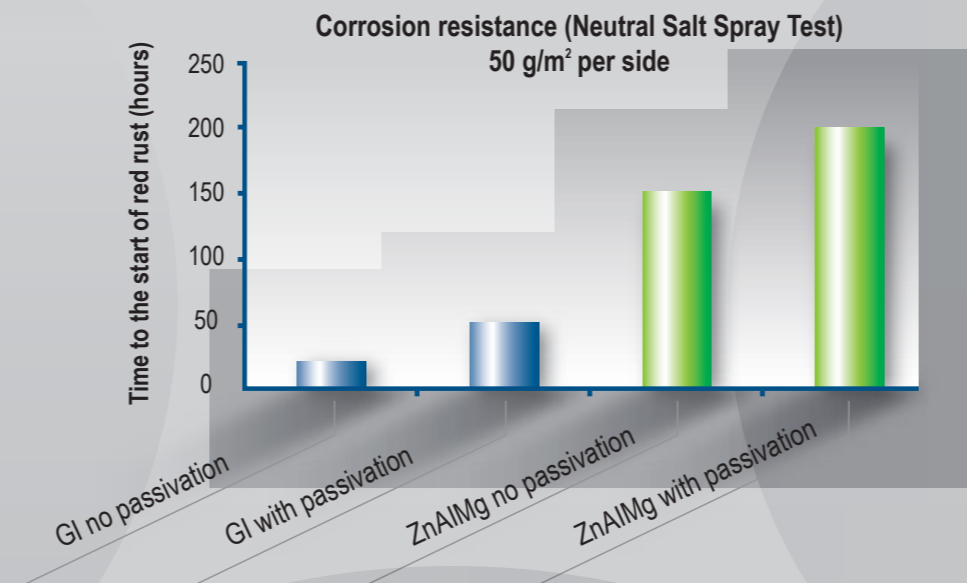
**Typical applications**

ZINKOMAG is an excellent choice in all industrial branches, where traditional galvanized (GI) materials are applied, especially in rust-sensitive conditions, e.g.:

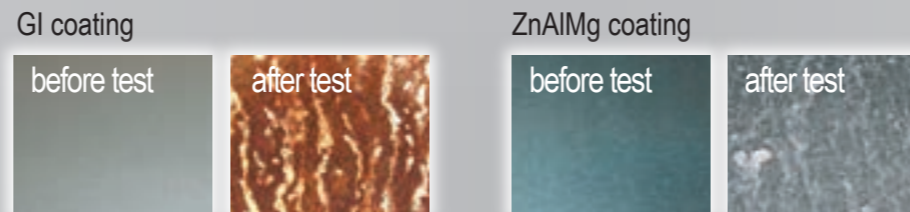
- construction industry
- engineering industry
- appliances industry
- automotive industry.

**Corrosion resistance**

The zinc-aluminum-magnesium coating of ZINKOMAG is characterized by significantly increased corrosion resistance in comparison with traditional hot-dip galvanized coatings due to Mg and Al presence in the coating.



COMPARISON OF CORROSION RESISTANCE (after 150 hours in salt spray chamber - NSS TEST)

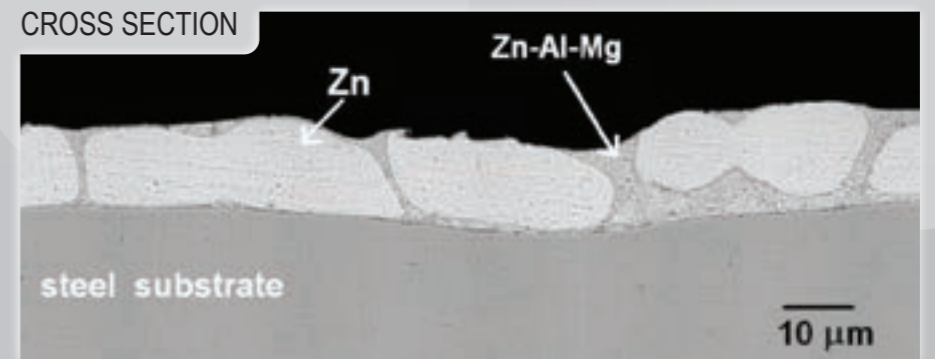
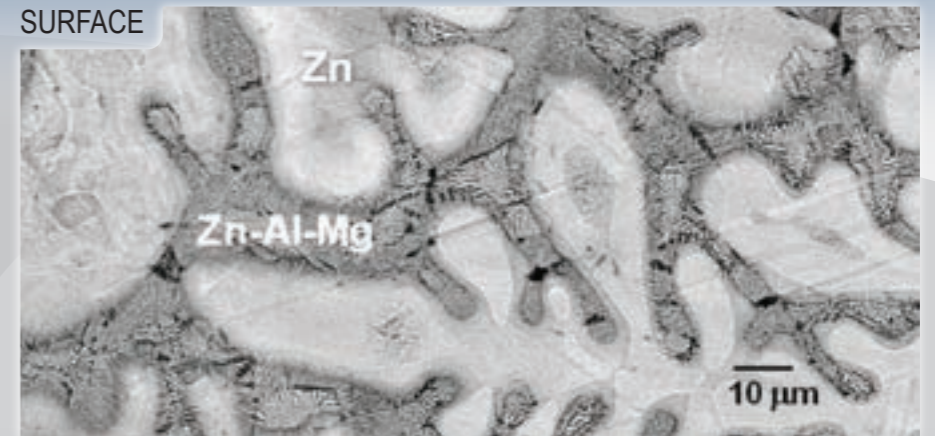


BENEFITS OF BETTER CORROSION RESISTANCE

COATING TYPE		TWO OPTIONS
GI coating	ZnAlMg coating	
GI (140 g/m <sup>2</sup> ) 10 μm steel substrate	ZnAlMg (140 g/m <sup>2</sup> ) 10 μm steel substrate	<b>2-3x better corrosion resistance</b> (with the same coating thickness)
GI (275 g/m <sup>2</sup> ) 20 μm steel substrate	ZnAlMg (140 g/m <sup>2</sup> ) 10 μm steel substrate	<b>comparable corrosion resistance</b> (with one half of coating thickness)

**Metallography**

Distribution of Al and Mg in Zn matrix



**Formability**

Friction test of GI and ZnAlMg coated sheets  
DEEP DRAWN CUPS

