

kloeckner metals

UK|OCS

Organically Coated Steels

**PRE-COATED
& SPECIALIST
METALLIC
PRODUCTS**

Magnelis[®]

AN INNOVATIVE METALLIC COATING THAT OFFERS PROTECTION
IN THE HARSHTEST ENVIRONMENTS

ENTRUSTED TO DELIVER MULTI-METAL SOLUTIONS

Trademark of ArcelorMittal Flat Carbon Europe SA





Magnelis®

THE HARSHTEST ENVIRONMENTS NEED THE TOUGHEST SKIN PROTECTION

Magnelis® is an exceptional, new metallic steel coating providing surface protection in a variety of applications against long-term wear and tear.

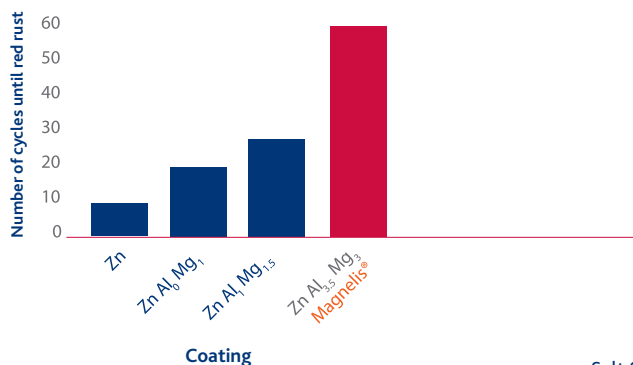
Magnelis® is produced on a classic industrial hot dip galvanising line, but dipped in a molten bath with a unique metallic chemical composition of zinc with 3.5% aluminium and 3% magnesium. The 3% magnesium is crucial as it creates a stable and durable layer across the entire surface and gives a far more effective corrosion protection than coatings with a lower magnesium content. As such, ArcelorMittal's Magnelis® offers significantly superior performance than alternative European products.

The best corrosion resistance performance; up to 10 times better than galvanised steel

Corrosion protection to withstand some of the harshest environments

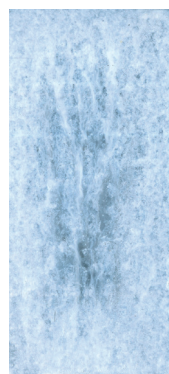
The most cost-effective alternative to the post-galvanised process

Corrosion resistance in cyclic test for different Zn, Al, Mg compositions

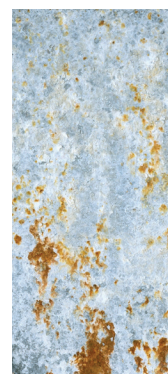


10 µm of coating submitted for an alternating cycle of 8 hours: fog cycle (5% NaCl)/dry cycle/humidity cycle

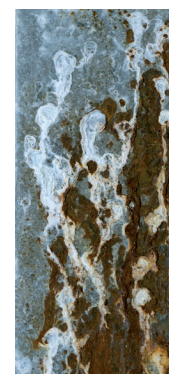
Source: ArcelorMittal R&D



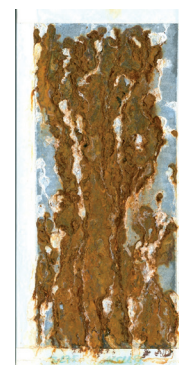
Magnelis®
After 34 Wks



Aluzinc®
After 34 Wks



ZA
After 28 Wks



Hot Dipped Galv
after 6 Wks

© ArcelorMittal Global R&D

Self-repairing protection on cut edges

In addition to being fortified by a cathodic protection equivalent to zinc coating, Magnelis® protects exposed cut edges with a thin zinc-based protective film with magnesium, which prevents corrosive reactions. The nature of this film varies depending on the environment and the properties according to the aluminium and magnesium content.

BETTER PROTECTION AGAINST CORROSION

Magnelis® provides superior corrosion resistance than standard hot dip galvanised steel.

The destruction of coating that occurs in an ammonia environment is up to seven times less with Magnelis® than with a standard zinc coating.

In addition, Magnelis® demonstrates a longer-lasting, active coating protection over time.

Over an eight-month period, a range of metallic coated products were submitted to salt spray tests.

The results clearly highlighted the superior corrosion resistance performance of Magnelis® over other metallic coatings. No red rust was observed on the Magnelis® sample.

In highly alkaline environments (pH between 10 and 13), Magnelis® demonstrates superior corrosion resistance compared to other metallic coatings.

Due to its chemical composition, the product has better quality characteristics in terms of barrier protection against corrosion in an ammonia environment.

Key Benefits:

- Corrosion resistance
- RoHS compliance
- Excellent cut-edge protection
- Uses less Zinc than Galvanised Steel (more environmentally friendly)

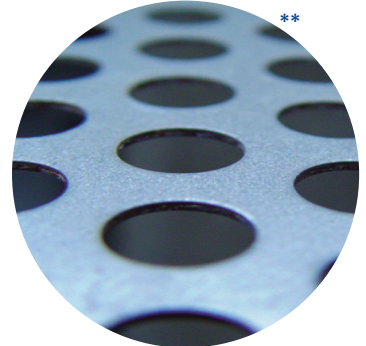
Applications:

- Rainwater systems
- Heating & Ventilation
- Agricultural buildings
- Safety barriers
- Industrial / Garage Doors
- Electrical Enclosures
- Switchgear & Instrumentation
- Marine applications

focus on
Magnelis®



Environmentally friendly



Self-repairing protection for cut edges



Superior corrosion resistance in chloride and ammonia environments



An alternative to the post-galvanising process & to aluminium or stainless

"Nothing offers better protection than Magnelis® in chloride or ammonia environments"



Magnelis® has a natural dark grey, spangle-free smooth aesthetic aspect. Magnelis® is available with a standard environmentally friendly E-Passivation® (translucent CrVI-free temporary protection) or can be oiled on request.

Photography courtesy of:

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