



ZMevolution®  
Thinner, stronger, better



- 
- Reduced resources
  - Superior corrosion protection
  - Less CO<sub>2</sub> emissions

# ZMevolution®

## Innovative galvanized metallic coating.

ArcelorMittal Construction continuously innovates to offer the largest selection of performing materials on a whole range of profiles, panels and cassettes.

### Bespoke metallic coating

ZMevolution® is produced on our own industrial lines. This coated steel is made on a standard hot dip galvanising line, and dipped in a molten bath with a unique metallic composition of zinc, aluminium and magnesium. The composition of these three elements is crucial: magnesium and aluminium create a stable and durable layer across the entire surface and give far more effective corrosion protection than a standard pure zinc coating. Moreover, this unique, patented composition offers a much greater flexibility than alternative coated products. It has been certified by both the CSTB and DIBT.



### Superior corrosion resistance

Nothing offers better protection than ZMevolution®. The zinc provides a traditional cathodic protection, while aluminium contributes to slow down this sacrificial reaction. Magnesium allows to reduce edges creeping. The destruction of the coating that occurs in a corrosive environment is three times less than with standard zinc coating. A range of metallic coated products were submitted to a salt spray test. The results clearly highlighted the superior corrosion resistance of ZMevolution®.

- ▶ ZMevolution® performs two to three times better than standard galvanised steel.
- ▶ Very low paint delamination on edges and scratches compared to zinc coated steels.

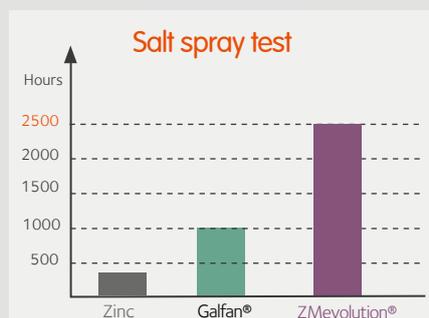
### Workability

ZMevolution® has been especially designed for the construction market, and is suitable for the full range of ArcelorMittal Construction's products. Thanks to its highly resistant, adherent metallic layer, it can be formed in a variety of methods including bending, and profiling, without any crack in the area of severe constraints.

### Environmentally responsible for a better future

Thanks to ZMevolution®, you contribute:

- ▶ To ensure the preservation of natural resources since it uses less zinc than pure zinc coatings. In the world, every year, five million tons of zinc are extracted to be used for steels galvanisation while zinc mine resources have a limited lifespan.
- ▶ To drastically reduce CO<sub>2</sub> emissions. Thanks to this new production process, less energy and material is used which contributes to the reduction of 46% of CO<sub>2</sub> emissions. For a single coil coating production site, this represents the equivalent of 13,000 vehicles each traveling 13,000 km per year. Hence, ArcelorMittal Construction has contributed to a cumulative saving of 63 million kg of CO<sub>2</sub> emissions since it has replaced standard coating with ZMevolution®.



### Higher protection

ZMevolution® offers a superior corrosion resistance compared to standard galvanised steel. Lifespan is three times greater than the one of standard zinc.



### Greater flexibility

The chemical composition of the metallic coating has been optimised to provide the best in class flexibility necessary to the steel's workability. This property contributes to a higher corrosion protection in the area of severe bends.

### Better aesthetic

The modifications realised on our galvanisation lines, allow the production of coated steels with greater surface quality: natural grey, spangle-free smooth aesthetic aspect, a really low waviness that gives to the pre-painted steel an exceptional finish.

### Lighter Weight

Thanks to a lower density and an inferior coating weight of metallic coating, ZMevolution® allows a reduction of 4% on the weight of the elements. This improvement contributes to an easier handling of elements, a reduction in CO<sub>2</sub> emissions and transportation costs.

### Environmentally friendly

With ZMevolution® you...

- > reduce CO<sub>2</sub> emissions during production by using less zinc than standard coating.
- > contribute to preserve natural zinc resources.
- > alleviate soil pollution by zinc oxides.
- > increase life time expectancy of a building.