

Indaten®

A magical steel, in harmonious dialogue with nature

When exposed to the natural environment, this magical steel develops a beautiful patina that serves as protective armour and makes way for the steel's trademark purplish brown colouring. Due to its specific properties, Indaten® is only available on Coque MD, the creative façade by Arval developed to ensure an exceptional durability.



CISE DRI1 – photographie Grégoire Auger – architecte CBA architecture et associés

Indaten® develops its patina following exposure to the atmosphere. The first oxide layer appears within a few weeks, with the final colour being achieved within one to two years. The finish can last, without maintenance, for at least 80 years. The steel can also be pre-oxidised. The primary alloying material in weathering steel is copper, at concentrations up to 0.55%. The copper produces a homogeneous and regenerating protective layer over the surface, which slows corrosion and ensures the integrity of the underlying steel.

The Indaten® advantage

Combining durability and natural beauty – that's the Indaten® advantage. Unlike other building materials, Indaten® weathering steel does not need the extra expense of corrosion protection. That's because it protects itself, naturally! When exposed to the natural environment, this fine-grain, high-strength structural steel develops its unique, purplish brown oxide layer – known as the patina – that serves as a suit-of-armour, protecting the steel from the corrosion that other materials succumb to.

- No painting or chemicals necessary
- Aesthetically pleasing
- Natural protection against corrosion
- Less maintenance costs

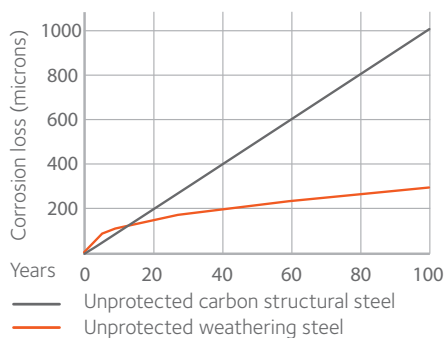
- Eco-friendly and 100% recyclable
- Longevity

Applications

Indaten® is the material of choice for many architectural, decorative and green building projects. Its durability, low-maintenance and unique aesthetical appeal make it ideal for facades.

Functionality

The protective layer is built when the steel surface is exposed to an alternatively wet/dry environment. Building an optimal protective layer greatly limits corrosion rates and prevents a reduction of the steel's overall thickness (see graph below).



Corrosion losses weathering steel versus carbon structural steel

All about the aspect

The patina's aspect depends on time, the average temperature of exposure and wetness. The aspect is also influenced by such things as the concentration of SO₂ or chloride content in the air. For example, when used in an industrial environment, the patina tends to develop a darker colour than when used in rural areas.

Over time the patina will transform from its red-orange colour to a dark, purplish brown coloration. Although the process can take up to two years, it can be accelerated with sandblasting. In fact, to ensure a homogeneous colouring of the patina, sandblasting is encouraged.

Joining

When using weathering steel, specific fasteners are required. It is highly recommended that you avoid having your weathering steel come into contact with aluminium, copper, zinc or stainless steel. Always use an elastomer to prevent contact between the bolt and the panel. The best solution is to use fasteners made of weathering steel.

Brand correspondence

Indaten® satisfies the requirements for EN 10025-5:2005 standard.

The details

In your design, be sure you avoid:

- Permanent humidity and condensation
- Extreme industrial atmospheres
- Corrosive fumes
- Marine environments
- Contact with de-icing salt

Additionally, to ensure a nice aspect, proper management of run-off water is required to avoid staining (e.g. using gutters, drainpipes etc). The use of our Coques MD, specifically designed to avoid any water retention, guarantees the perennity of the facade

The Coque MD, to valorise the volumes

The Coque MD underline a voluntary architecture where the facade takes part in the expression of the volume, in its flatness, its curves and its sequences. This system gives opportunities of a visual signature, single and exclusive: custom-tailored made and starting from a defined layout, the facade adapts perfectly to architectural gesture.

Installing and fixing

Fixings are non visible.

The carrying rails are fixed by the intermediary leg-squares on the wall to be equipped. These legs squares as well as fixings with wall support must be in conformity with regulations of book CSTB n°3194.

We're here to help you

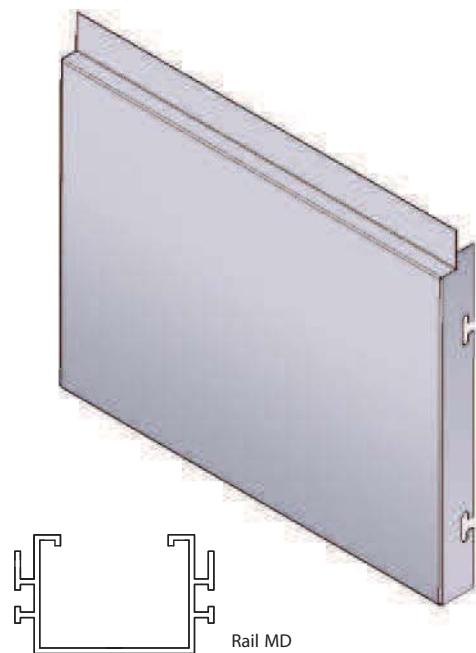
Our engineers and researchers are here to support and help you maximise the durability of your building. For further information, visit www.arcelormittal.com/Arval

Main properties

Grade	Cr (%)	Cu (%)	P (%)	T (°C)	Min KV (J)	Thickness (mm)	EN 10025-5:2005	ASTM equivalence
Indaten® 355A	0.3-0.8	0.25-0.55	0.06-0.15	0	27	1.7-26.5	S355J0WP	A242 A606 T2 A606 T4
Indaten® 355D	0.4-0.8	0.25-0.55	< 0.030	-20	27	1.5-20	S355J2W	A588 grade A



Espace multigénérationnel Le Poinçonnet,
Architecte Antoine Réale



Arval

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