

CORTEN Information Sheet

The below information is provided for guidance purposes only.
For specific design & lead time requirements please contact our sales team.

COR-TEN A

Cold Rolled Weather Resistant Steel - Generally, up to 3mm Thick

COR-TEN B

Hot-Rolled Weather Resistant Steel - Generally, 3mm Thick & Above

COR-TEN® A is a cold rolled weather resistant steel that protects itself. With anticorrosive properties that slow down corrosion, the range includes grades that are in many applications better than those of other structural steels.

Surface Quality & Finish

Surface quality: Minor surface defects and slight colouring are permitted for the COR-TEN A steel. Surface finish: The surface finish is normal. The roughness value Ra is approximately 0.6–1.9 µm.

Thickness	3000 x 1500
1.5	✓
2	✓
2.5	✓*
3	✓
4	✓
5	✓
6	✓
8	✓
10	✓

* Sheet sizes may differ subject to availability - 2500x1250

Properties -Weather resistance

The atmospheric corrosion resistance of weather resistant sheet and strip is based on the chemical composition of the Steel. As a result of alloying elements, a dense protective patina layer composed of corrosion products is formed on the surface of the COR-TEN A steel under the influence of weather conditions, which significantly slows down the rate of rusting. Unusually high rates of corrosion may occur in chlorine containing or marine atmospheres. It is recommended that weather resistant steel is painted under such conditions.

The protective layer develops within 18-36 months under normal atmospheric conditions provided that the steel surface regularly becomes wet and dry. At first, the protective layer is reddish brown, but gains a darker hue with time. In an industrial atmosphere the patina is formed quicker and becomes darker in colour than in a rural atmosphere.

Thanks to the patina, unprotected COR-TEN A steel can be used in outdoor applications regularly exposed to changes in weather. However, the protective layer does not form if the steel surface is constantly wet.

Design Issues

In structures where the steel is not directly exposed to the atmosphere the patina may become less uniform. The surface layer may also become uneven in structures exposed to considerable local variations in temperature or when exposure to the elements is uneven in different parts of the structures, such as steel surfaces under eaves.

To ensure a uniform colour of the patina, any oil, mortar, paint marks or dirt must be removed from the surface. Any markings should be made with chalk or water-soluble pigments. The use of acidic detergents should be avoided. Before the protective layer has developed, some rust from the surface will dissolve in rainwater. The structures should therefore be designed so that the drain water will not discolour any objects underneath.

Indoor Structures

The patina formed on structural parts which are not directly exposed to weather will not be as uniform as that on parts which are alternately made wet and dried. Small variations in colour may also occur on parts which are subjected to strong local variation in temperature. An example of this is a wall block under eaves.

Submerged Structures

Steel surfaces which are continually wet do not form a protective layer. These may be, for example, the surfaces of structures which are in contact with the ground or submerged in water. In these cases, it is recommended to paint the weather resistant steel surface.

Painted Structures

The surface of weather resistant steel can be painted using the same methods applied in painting ordinary steels. As a result of the special alloying of the steel, a coat of paint can last twice as long as a coating on ordinary steel. If weather resistant steel is continuously exposed to water, it is usually always recommended to be painted.