

## RUUKKI FAÇADE CLADDING PRODUCTS MADE OF COR-TEN® STEEL – MAINTENANCE INSTRUCTIONS

### ABOUT COR-TEN® STEEL

Due to its unique chemical composition, COR-TEN® steel has a significantly better ability to resist atmospheric corrosion than similar general structural steels. It is used in architectural applications without requiring any separate surface treatment. Use of COR-TEN® steel thus eliminates the need for surface treatments during the manufacturing and operational periods, in turn lowering the environmental load and costs throughout the product's life cycle.

The weather resistance of the product is due to its oxide layer, i.e. the patina which forms on the steel surface which is resistant to the action of alloys and has low oxygen permeability. The oxide layer is created when COR-TEN® steel is wet and dries repeatedly. The protective surface layer forms in normal weather conditions within 18...36 months.

The patina layer is initially reddish brown in colour, becoming darker in tone over the course of time. In industrial environments the patina forms more rapidly on the steel and darkens more than in cleaner rural environments. The protective patina layer cannot form, however, if the surface of the steel is continuously damp or dirty.



Liberta COR-TEN 600 product.

### SAFETY

Before starting any maintenance actions, please take safety into account. Use proper safety equipment when working in elevated positions. Ladders should not be used as a working platform. It is advised that maintenance work on difficult to reach places be entrusted to professionals.

## INSPECTION & MAINTENANCE

Regular inspection and maintenance for façades consists of:

- Regular inspections
- Cleaning of surfaces
- Repairing larger damaged areas
- Documentation

### Regular inspection

The parts of a building where products are used should be inspected regularly. Visual inspection of the products should be carried out once a year as a general inspection. A more thorough inspection should be carried out every 5 years. If any defects are found in the product, they should be repaired immediately in order to ensure long life.

COR-TEN® steel facade is mostly maintenance free. The purpose of the maintenance is to maintain suitable conditions for the creation of patina. In practice this means normal climate conditions, where COR-TEN® steel can get wet and dry repeatedly. It is important to avoid continuously wet condition as it can cause uncontrollable corrosion. The inspection should include the following procedures:

#### Initial inspection

Shortly after installation remove all loose objects such as loose fittings, excess pieces of sheet, drill residues and other metal particles from the façade. Also any obstacles left next to building wall should be removed. Especially materials like plastic or other insulating materials should be taken away immediately.

#### Keep the façade clean

Dirt and soil cause an uncontrolled corrosion risk by keeping the surface of the product wet. Remove all accumulations of dirt and, if necessary, clean the facade thoroughly. Also, ensure that plants, trees etc. are not touching the surface.

#### Snowdrifts & ventilation

It is important to avoid the contact between snowdrifts and COR-TEN® steel cladding. Moreover, it is important to ensure sufficient ventilation between the cladding and backing walls. The lack of ventilation can cause uncontrolled corrosion behind the facade cladding.

#### Fasteners & EPDM separators

Check that all fasteners are in place and tighten any loose fasteners. Check the EPDM separators for example in overlappings to ensure that there are no direct contacts between profiles. Please see Ruukki's principle details for COR-TEN® products for more detailed information.

### Cleaning

Rainfall is often sufficient to keep the surfaces clean. Any deposits of dirt that rainwater cannot wash away can be removed by means of a soft brush, mild neutral soap or detergent and water or by high pressure washing (up to 100 bars). Rinse thoroughly from the top downwards to remove all soap residues. It is not allowed to use acid or alkaline cleaning agents. Brushing, sandpapering or other mechanical processing should also be avoided.

Graffiti can be removed with graffiti removal detergent according to manufacturer's instructions. After removal, clean with soft brush and water or with pressure washing. Removal will affect the patina layer and its shade, but it will repair by itself over time.

#### Repairing larger damaged areas

If for example the whole COR-TEN® steel façade product is damaged, it is recommended to replace it with a new product. Please contact Ruukki for more detailed replacement instructions.

#### Documentation

It is advised to keep a log about the maintenance work done (cleaning materials, working methods, temperature and weather conditions).