



Lindab **ColourCoated**

Maintenance instruction for products made of coated sheet metal and aluminium by Lindab

Maintenance instruction

For products manufactured of painted sheet metal and aluminium such as profiled sheets for cladding or roofs, rainwater systems or façade cassettes

Product lifetime

At Lindab we use two different lifetime measurements: aesthetic and technical. Aesthetic lifetime is a measurement of the time until the coating or metal layer changes so much that the appearance no longer meets the requirements set. Technical lifetime is the time until the sheeting can no longer protect the building's load-bearing structure or underlying materials and constructions. The technical lifetime is normally much longer than the aesthetic lifetime.

The lifetime is affected by the environment.

The environment around a building has a considerable impact on how the coating on the product ages. A polluted environment such as very busy roads, industrial emissions or similar affects the product's protective coat and zinc layer. Solar radiation and proximity to salt-water also affects and accelerates ageing of the sheeting's coating. The load on the sheeting is greatest where dirt and impurities are not completely rinsed off with rainwater. The most exposed places on sheet steel are damaged areas and scratches where impurities enter into contact with the zinc layer below the paint coating, or even with the steel core itself. Dirt and impurities create a load upon the paint layer and shorten its lifetime, so regular cleaning of roof and wall surfaces is an important aspect of the maintenance of the paint coating. The sun affects the ageing of the paint coat in two ways: By ultraviolet radiation accelerating the ageing, and by the paint being heated by the sun. The colour selected will therefore also affect the useful life - light colours will last somewhat longer than dark colours. The useful life also depends on whether the material is used for wall cladding or roofing. South-facing roofing with a shallow pitch is affected more seriously by the sun than north-facing surfaces. The useful life of the paint coat also depends on the environment to which the steel sheet is exposed. Steel sheet used in areas close to the coast is exposed to salt water, and its useful life will therefore be shorter than steel sheet on buildings further inland. In addition, local industrial emissions, traffic and emissions from oil-fired plants also affect the useful life of the surface coating.

Damage during construction and use

Damage to the paint layer on sheet metal, regardless of whether it occurs during construction or afterwards, can mean that the sheeting is less well protected against

environmental stresses. Damage such as scratches in the paint coating can give rise to corrosion, and must therefore be restored. But, this is only on sheet metal, on aluminium you shall only paint if it is required from an aesthetical point-of-view. There is no added risk for corrosion if the paint layer is damaged. The paint system on Lindab's aluminium is PVDF, and because it is to be expected that the touch-up paint will age differently over time to the factory applied PVDF, it is important to only paint where required.

Inspection

Painted building components should be regularly inspected. If damage is detected in the surface coating on sheet steel, it must be repaired to ensure that the product is sustainable in the long-term. Inspect following:

Initial inspection

Immediately after installation, all loose objects such as brackets, pieces of sheeting, drilling swarf and other metal objects shall be removed from roof surfaces, rainwater systems or edges of façade cassettes.

Keep clean

Check that the roof, walls and rainwater system are clean. Rubbish and dirt keep the sheet metal damp and entail a risk of corrosion.

Cleaning

Often, rain is sufficient to keep the sheeting clean. The deposits of dirt that the rain does not rinse away can be washed off with a soft brush and water. Be particularly careful with surfaces in the "rain shadow", i.e. where the rain is unable to rinse off the sheeting. In areas with polluted air, a detergent solution may be required to get the sheeting clean. For example, you can use normal dish washing liquid or industrial detergent. Use according to the manufacturer's recommendations. Rinse off carefully afterwards.

Some cleaning advice

- Stronger solutions than those which are recommended can damage the paint.
- Rinse thoroughly, so that all detergent residues are removed.
- Avoid organic solvents and abrasive detergents.
- Apply the cleaning agent. Rinse from the top down.
- Work carefully.

Touching up

If the paint layer has small and few areas of damage, they can be repaired by touching up. You should use an air drying paint and a narrow brush and only paint the areas that have been damaged. Because it is to be expected that this paint will age differently over time to the factory applied paint, it is important to only paint where required.

Treat corrosion damage on sheet metal

1. Scrape, sand or sand blast off any loose organic material.
2. Remove any rust through sandblasting or by sanding the sheet metal completely clean in the damaged area.
3. Clean with alkaline degreaser, for example 5% caustic soda with the addition of a little detergent. Carefully rinse the surface with water and allow to dry.
4. Paint with a zinc-rich undercoat.
5. Apply a suitable paint over this.

Treating edge corrosion on sheet metal

In normal environments, edge corrosion does not usually occur. In aggressive environments, edge corrosion can occur and should then be remedied if you want to keep the sheeting intact and extend its lifetime.

Follow the description of the points in the paragraph above and finish with a topcoat. In the case of edge corrosion, it is particularly important for the newly painted areas to enclose cut edges.

Edge corrosion on overlap jointed sheeting can be more difficult to treat because the underside cannot be accessed and cleaned. One solution to this is to seal the joints. Clean and remove loose material as described above, then apply joint compound over the joint.

Repainting

Colour changes, flaking, corrosion or simply wanting to change colour can be reasons for repainting sheeting. Repainting of external sheeting should always be carried out professionally with a proven paint system. Suppliers of repainting systems on the market have their own instructions for how repainting should take place with each system. If the work is carried out by an experienced painting contractor, they will have the necessary knowledge to carry out the entire job from inspection to finish painting in a correct manner.

Painting work

Sheet metal surfaces which are to be touched up or repainted should be dry and clean of dirt and grease. To reduce the risk of obtaining a deviating colour, paints must be carefully mixed. Do not paint in direct sunlight or at temperatures below +5°C for solvent-based paints, or below +10°C for water-based paints. The relative air humidity may not exceed 80 percent. Check that old paint is properly attached! Read the paint supplier's instructions. Remove loose paint and other particles with a scraper and steel brush. Surfaces with red rust must be carefully steel brushed or sandblasted. Clean with alkaline degreaser, for example 5% caustic soda with the addition of a little detergent. Ideally use high-pressure washer. Rinse with clean water and allow the sheeting to dry. Choose a paint system depending on the surface and the cause of repainting. Use a brush, roller or paint gun for the work. Choose a narrow and soft brush when touching up small areas.

Concrete tips:

The aesthetic lifetime is to a large extent determined by adapting the product choice and constructions to the use area and the surrounding environment. Here are some factors which should be taken into account:

- Choose fastener and insulation materials so that galvanic corrosion is not possible.
- Design so that standing water is avoided on the products.
- Carry out a careful installation and prevent damage to the products.
- Inspect the sheeting regularly and touch up damage in the outer surface on sheet metal immediately.
- Rinse off sheeting and products (for example brackets) which is not rinsed by rainwater.
- Clean guttering regularly.



Good Thinking

At Lindab, good thinking is a philosophy that guides us in everything we do. We have made it our mission to create a healthy indoor climate – and to simplify the construction of sustainable buildings. We do that by designing innovative products and solutions that are easy to use, as well as offering efficient availability and logistics. We are also working on ways to reduce our impact on our environment and climate. We do that by developing methods to produce our solutions using a minimum of energy and natural resources, and by reducing negative effects on the environment. We use steel in our products. It's one of few materials that can be recycled an infinite number of times without losing any of its properties. That means less carbon emissions in nature and less energy wasted.

We simplify construction