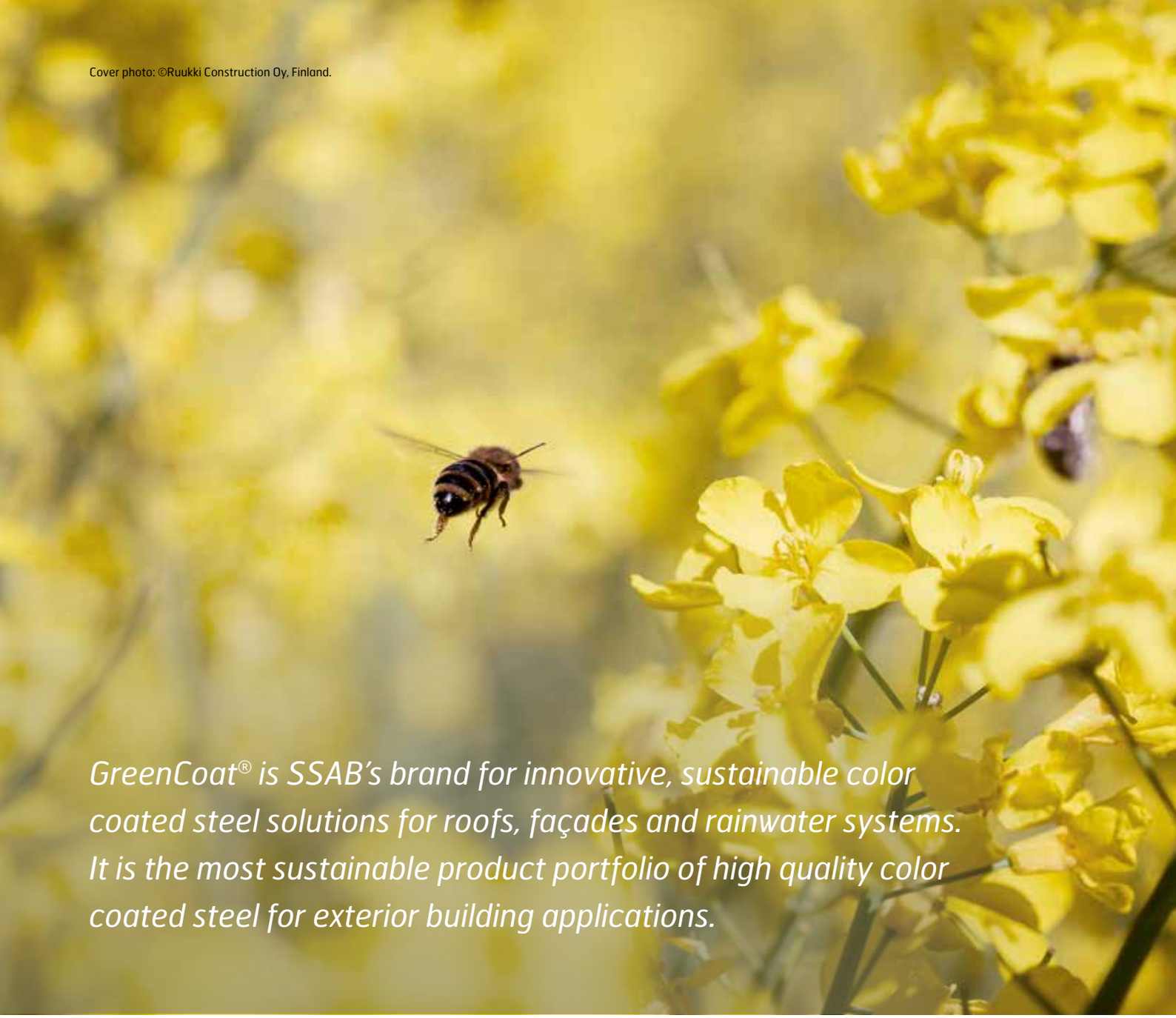
GREENCOAT®
COLORFUL STEEL

GreenCoat® color coated steel - Maintenance instructions

SSAB



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GreenCoat® is SSAB's brand for innovative, sustainable color coated steel solutions for roofs, façades and rainwater systems. It is the most sustainable product portfolio of high quality color coated steel for exterior building applications.

Additionally, GreenCoat® is also one of the most comprehensive high-quality product portfolios of color coated steels for the building industry using Nordic quality steel in the substrate. GreenCoat® products provide high color retention and long-lasting finishes in any weather. Most GreenCoat® products use a substantial amount of Swedish rapeseed oil in the coating instead of fossil oils, which not only reduces the environmental impact, but also improves performance. This brochure provides inspection and maintenance advice for color coated steel sheet. If correctly maintained, GreenCoat® products will retain their properties for a very long time.

Regular inspection and proper maintenance will ensure the longest possible useful life for GreenCoat® steel products such as roofs, façades and rainwater systems. With the instructions provided here, you can carry out the inspection and maintenance yourself, or you can also entrust the work to professionals.

USEFUL LIFE OF GREENCOAT®

The environment around a building determines how its roof, façade or rainwater system will age. However, durability depends on the product chosen as well as the color of that product. UV radiation from the sun, weather conditions as well as proximity to the sea are factors that cause ageing of the surface, yet impurities and pollutants in the environment also have an effect. The effect of these impurities in the air is greatest near polluted industrial and coastal areas as well as on the areas of the building where dirt and deposits are not washed away by rainwater. Impurities put a strain on the coatings and reduce their useful life. Therefore, regular cleaning of façade and roof surfaces, and rainwater systems is an important part of their maintenance.

The color coating, in addition to the zinc coating, protects the steel core against environmental attack. If the coating is damaged by dents or scratches, the protection it provides to the steel sheet will be greatly reduced. However, the useful life

GreenCoat® color coated steel has been used in many award-winning buildings like the Longhouse in the Netherlands.

of GreenCoat® color coated steel products will be maintained if damage, regardless of its size, is quickly touch-up by painting.

Regular inspection and maintenance for roofing, façades and rainwater systems consists of:

- Regular inspections
- Cleaning of surfaces
- Touch-up painting of minor damage
- Treatment of edge corrosion
- Repainting

TWO MEASUREMENTS FOR USEFUL LIFE

There are two different ways to measure the useful life of color coated steel: the aesthetic useful life and functional useful life. These periods can be extended by regular inspection and maintenance.

The aesthetic useful life is the period up to the time when the appearance of the color coating has changed to such an extent that it no longer meets the demands. This means, for example, significant or uneven alterations in the color. The degree to which the discoloration on a building is deemed acceptable depends on the person who performs the assessment and the building on which the steel sheet is fitted.

The functional useful life is the period up to the time when the steel sheet can no longer protect the load bearing structure of the building or the insulation behind the steel sheet. The time varies widely depending on the coating applied to the steel sheet, the type of metal coating and its thickness, and, most importantly, the environment to which the steel sheet is exposed.

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REGULAR INSPECTION

The parts of a building where color coated sheets are used should be inspected regularly. If any defects are found in the coating, they should be repaired immediately in order to ensure long life. 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 roof, façade and rainwater systems. Any damage during handling and installation or damage caused by a fitting or tool dropping onto the sheet should be touch-up painted as soon as discovered.

Keep the roof and façade clean

Dirt and soil cause a corrosion risk by keeping the surface of the sheet wet. Remove all accumulations of dirt and, if necessary, clean the roof thoroughly.

Condition of fittings

Check the condition and attachment of the fittings. Damaged or loose fittings cause leakage, decay and a risk of corrosion. If a fixing is damaged, it and/or the roof batten should be replaced with a stronger one.

Condition of coating

Check the condition of the color coating. Remember to also inspect the valleys and rainwater system edges. Peeling of the coating, uneven fading, blistering and cracking as well as local scratching are all signs of the need to repair the coating by touch-up painting or repainting.

Follow the painting instructions given in this document when repairing the coating.

Rainwater systems

Rainwater systems should be cleaned every year. Blocked, partly blocked and dirty rainwater systems cause icing and corrosion problems. Remove any possible blockage and dirt, then flush. If necessary, clean the entire system and repair any damage.

CLEANING

Rainfall is often sufficient to keep the surfaces clean. Impurities, such as leaves and needles from trees, however, should be cleaned off the roof, roof valleys and rainwater systems once a year. Any deposits of dirt that rainwater cannot wash away can be removed by means of a soft brush and water or by high pressure washing (up to 100 bars). More stubborn dirt can be removed using a cleaning agent that is suitable for color coatings. Difficult dirt spots can be removed with a cloth moistened in white spirit. Dose the detergent in accordance with the manufacturer's instructions. Then, rinse thoroughly or use a high-pressure washer.

Washing advice

- Unsuitable or excessively strong cleaning agents may damage the product.
- Avoid organic solvents or abrasive cleaning products.
- Rinse thoroughly from the top downwards, so that all detergent residues are removed.
- Finally, rinse the rainwater systems with water.

TOUCH-UP PAINTING

Touch-up painting can repair minor damage such as scratches. Suitable touch-up paint that air dries can be applied with a narrow brush. It is important to apply the paint only where it is actually needed since the repair paint can be expected to gradually discolor differently from the paint applied at the factory. Spray-paints must not be used.

- Clean the damaged area using white spirit or cleaning agent as necessary.
- Paint the damaged area, 1–2 layers depending on the depth of the damage. If the damage reaches down to the primer coat only, one layer of paint is sufficient. If the damage reaches down to the zinc, apply another layer of paint after the first layer has dried.

TREATMENT OF EDGE CORROSION

Edge corrosion, in which the cut eave's edge begins to rust, can sometimes occur, particularly on low-pitched roofs. To ensure that the steel sheet will remain intact, edge corrosion should be treated with the following instructions. In aggressive environments, it may be advisable to protect exposed cut edges already after installation.

1. Rub down or scrape off any peeling or flaking coating or corrosion residues. Rub down a narrow area of adjacent original paint.
2. Remove any rust by sanding or with a steel brush.
3. Clean with an alkaline degreasing agent.
4. Paint the prepared area with an anti-corrosion primer applied by brush.
5. Paint with a top coat, also onto the rubbed-down surface. If edge corrosion has occurred, take special care to ensure that the paint encloses the entire cut edge.

On overlapping steel sheets, edge corrosion may be more difficult to treat in the way described above, since the underside is not accessible for cleaning. Sealing the edge, i.e. cleaning as described above and then applying a jointing compound over the joints, can solve this.

REPAINTING

Repainting of color coated steel sheet surface may be necessary due to discoloration, corrosion, or simply in order to change the color. Before any decision is made to completely repaint entire surfaces, check that the adhesion of the coating to the base is good. If the coating adhesion is poor, it is best to consult an expert to establish and plan a repainting scheme.

It is difficult to give an exact time for when maintenance painting should be carried out, as the useful life of color coatings is dependent on many factors. UV radiation and impurities in the air have the greatest effect on color coatings, and the durability of different products varies. As a general rule, it can be said that dark colors should be repainted earlier than light ones. A color coated surface, which is repainted in good time, grants an extremely long useful life (up to over 50 years). Even when the protection provided by the color coating no longer works, the steel is still protected by the zinc coating. The recommended time for maintenance painting is max 5 years after the European GreenCoat® guarantee period has ended. Please check the GreenCoat® guarantee document for the guarantee periods for your product.

The replacement, repair or refinishing of the product shall not extend the term of the original guarantee.

Please note that the appearance of the repainted surface may be different to the original, especially with structured surfaces.

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Repainting of GreenCoat Hiarc

GreenCoat Hiarc is based on fluoropolymer with a naturally non-stick type of surface and it is very difficult to achieve good adhesion when repainting. Therefore, we recommend trusting the work to professionals. Please contact SSAB if you need support in determining the type of coating.

Repainting of old GreenCoat® products (except GreenCoat Hiarc and GreenCoat Hiarc Max)

- Check the adhesion of the old coating by a cross hatch paint adhesion test.
- Remove any coating that is peeling or flaking by high-pressure water or a paint stripper.
- Make sure not to damage the zinc layer beneath the color coating.
- Remove any rust by sanding or with a steel brush.
- Wash the surface.
- Rinse thoroughly from the top downwards.
- Make sure that the surface is dry before applying a new layer of paint.
- Confirm the suitability and adhesion of the maintenance paint by test painting.
- Use anti-corrosion primer if needed.
- Paint, 1 – 2 layers of top coat.

SAFETY

Before starting any maintenance actions please take safety into account. Use proper safety equipment when climbing up the roof and working in elevated positions. Ladders should not be used as a working platform. It is advised that maintenance work on steep roofs and high or otherwise difficult to reach places be entrusted to professionals.

A steel roof can be very slippery when wet!

It is advised to keep a log about the maintenance work done (cleaning and painting materials, working methods, temperature, and weather conditions). Documentation will also help in the maintenance and future repainting work.

REGULAR INSPECTION Q & A

The steel sheet surfaces of the building must be inspected regularly to enable effective maintenance to be carried out. The following should be checked during the inspection, and the necessary action should then be taken.

Check	Action
Damage or scratches on surface	Consider whether touch-up painting, repainting or changing of individual sheets is necessary, depending on the extent and type of damage.
Dirt accumulations	Remove dirt accumulations like leaves and needles from trees. Any deposits of dirt that rainwater cannot wash away can be removed by means of a soft brush and water or by high-pressure washing (< 100 bar).
Dirt in gutters	Remove any possible blockage and dirt, then flush. If necessary, clean the entire system.
Edge corrosion	Clean the corroded edge thoroughly and repaint using the instructions given in this document.
Excess metal objects	Remove loose fasteners, pop-rivet stems, drilling chips or other metal objects as they may cause corrosion.
Fasteners	Replace wrong or incorrectly fitted fasteners.
Visual changes (discoloration, signs of chalking)	Evaluate the condition of the surface and assess whether cleaning or repainting is necessary.

INSPECTION PROTOCOL

The building's designation _____

Address _____

GreenCoat, type roof _____ color _____

GreenCoat, type façade _____ color _____

GreenCoat, type rainwater system _____ color _____

Surrounding environment _____ Year and month of installation _____

Inspection data first inspection

Date _____ Inspected by _____

Comments (executed actions) _____

Annual inspections

Date	Comments and executed measures	Inspected by

SSAB

SSAB has manufactured products for the building industry for more than 50 years and is the pioneer and innovator of creating sustainable color coated products offering Swedish rapeseed oil in the coating.

SSAB is a Nordic and US-based steel company offering value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has production facilities in Sweden, Finland and the US and employees in over 50 countries. **www.ssab.com**

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518-en-INT-GreenCoat - Maintenance instructions V1—2019. Confetti. Österbergs tryckeri.