



*Storage guidelines
for GreenCoat® color coated steel*

GreenCoat® products offer a substantial portion of Swedish rapeseed oil in the coating.



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Introduction

GreenCoat® color coated steel products offer sustainable solutions for roofs, façades and rainwater systems, as well as for interior applications. They are developed to provide buildings with superior aesthetics and long-lasting performance. They give builders and architects new possibilities for creative and innovative buildings, while using the most sustainable color coated steel products on the market.

However, as with all materials, to achieve the longest possible service life and the best possible appearance, care is needed when handling and storing the material prior to use.

Physical damage of the material and premature corrosion of the metallic substrate should be avoided when handling and storing GreenCoat® color coated steel. The guidelines described in this document are intended to help users avoid problems.

GreenCoat® color coated steel is generally produced and delivered in coil form. Therefore, these guidelines start by looking at the handling and storage of the coil.

For some applications, GreenCoat® color coated steel is subsequently cut, handled and stored in sheet form and so further guidelines are provided specifically for sheet.

In all cases, this guidance is intended to ensure that the GreenCoat® color coated steel arrives at its final use in optimum condition. Avoiding damage not only ensures long life and a high-quality surface finish, but can also prevent yield losses and re-manufacturing costs. In some cases, it is not always practical to adopt all of the elements of guidance given here. Therefore, they will be divided into two parts:

- THE ESSENTIALS – These must be followed strictly.
- BEST PRACTICE – follow these as much as possible to get the most out of your GreenCoat® color coated steel.

This storage guideline for GreenCoat® color coated steel is, in many ways, based on ECCA's (European Coil Coating Association) Storage Guideline for Prepainted Metal. However, there are some differences e.g. in the recommendations for the material storing time.



Coil storage & handling

KEEP DRY

Even with the best coating technology, the substrate metals used for GreenCoat® color coated steel can corrode if exposed to water during storage. When GreenCoat® color coated steel is coiled, capillary action can cause water to creep between the laps of the coil and stay there for prolonged periods of time. Even if the coils can't be stored inside, care should be taken to keep them dry while avoiding the possibility of condensation. Never rely on paper or plastic wrapping to keep a coil dry – these are not designed to keep water out and can cause more problems by not allowing any moisture to escape from the coil. It is always important to ensure good ventilation to avoid the build-up of water vapour and to ensure that any accumulated water can be dried.

AVOID MISHANDLING

Coils should be treated with care and never dragged. It is important that the coils are stored with space in between them, in order to allow for crane and forklift movement without any risk of damage.

STORE COILS ON A CLEAN, SMOOTH SURFACE

Coils of GreenCoat® color coated steel can weigh up to 10 tons and even small coils can weigh more than 1 ton. Any debris or unevenness will result in indentations on the coil. A small indentation on the outer lap can travel several laps into the coil and cause many metres of scrap. GreenCoat® products with structured surfaces are especially sensitive to pressure marking if the surface is subjected to high pressure. Pressure marking might occur in several coil laps. However GreenCoat® products, where the structure is coming from chemical wrinkles, have ability to recover from light pressure-induced marking to its original shape under normal conditions. It is always essential that the coil sits on clean, smooth supports.



USE PROMPTLY

As with any material, the properties of GreenCoat® color coated steel change slowly over time. In particular, some products will harden over time, resulting in a loss of flexibility for forming. Also, if a protective strippable film is applied, the material should be used promptly to avoid the likelihood of adhesive residues being left on the surface of the GreenCoat® product. Guideline is to use all materials within 6 months of manufacturing and a first-in-first-out (FIFO) stock rotation system is recommended. If cold rolled steels are used as raw material for color coated steels, please contact SSAB's technical customer support concerning the maximum storing time.

STORE INSIDE

The easiest way to ensure that the material is kept dry is to always store it inside.

STORE IN A TEMPERATURE AND HUMIDITY-CONTROLLED ENVIRONMENT

Even when inside, if the air temperature varies greatly, condensation can form on metal coils, which can cause corrosion. Therefore, it is best to ensure that the coil storage temperature remains reasonably constant.

AVOID CONDENSATION

If it is not possible to store coils at a constant temperature, then the operator should always be vigilant to avoid rapid temperature changes (such as taking a coil from an unheated warehouse at 0°C to a heated one at 20°C) which could lead to condensation on the metal. This is particularly true when coils are delivered straight into a heated warehouse. It is essential that all coils are well ventilated to remove any condensation as quickly as possible.

USE DEDICATED STORAGE FACILITIES

The best storage solution is to use purpose-made cradles with coil contact points which are either wooden, rubber or covered in felt. Cradles should be inspected regularly to ensure that they are in good condition. The coil contact surfaces should usually form a V-shape to hold the coil and prevent ovalisation. If coils must be placed directly on the ground, it is best to use rubber or felt mats which spread the weight. If coils are delivered on wooden pallets (see photo), these generally represent a good storage solution and it is often best to leave them on the pallets until use. However, small, partly-used coils do not usually “sit” on wooden pallets as originally intended, so care is needed to prevent damage.

AVOID DOUBLE-STACKING OF COILS

It may seem practical to store a second row of coils on top of the first (double-stacking) or to even stack multiple-coils. This practice increases the likelihood of damage, because more



handling is required, and it also increases the weight on the bottom coils, thereby increasing the possibility of indentations or pressure marking, especially for structured surfaces. Double-stacking also dramatically increases the risk of accidents and injuries to the operators. For both safety and practical reasons, double-stacking should be avoided wherever possible. Coils stored with the bore vertical (so-called eye to the sky) can sometimes be safely stacked on top of each other on pallets, but it is essential in this case to ensure that the top cover of the coil will not cause any damage and will allow the next coil to sit safely on top.

USE SOFT LIFTING GEAR

Coils will usually be handled by either crane or forklift trucks. In either case, it is best practice to cover the lifting gear with a soft material such as felt or cardboard to help avoid damage to the inner laps. Chain slings should never be used.

CONDITION THE MATERIAL BEFORE USE

Some GreenCoat® products are designed to be processed at a certain temperature. This can be to ensure optimum flexibility, for example. In these cases, it is important that the coil is stored at this temperature for at least 24 hours before use. It is always advisable to seek guidance from the supplier whenever using a new GreenCoat® product.

Sheet storage & handling

KEEP DRY

As for coils, it is essential that stacks of sheets are kept dry because moisture can easily be trapped between individual sheets by capillary action. It is then difficult to remove the water, and the metal can corrode rapidly. Even if stacks of sheets cannot always be stored inside, care should be taken to keep them dry, including avoiding the possibility of condensation. Never rely on paper or plastic wrapping to keep sheets dry – these are not designed to keep out water and can even cause more problems by not allowing moisture to escape. It is always important to ensure good ventilation to avoid build-up of water vapour and to ensure that any water has a chance to dry out.

AVOID HANDLING DAMAGE

Sheets should be treated with care. It is important that storage is arranged with plenty of space to allow for movement without any risk of damage. When removing sheets from a stack, never drag them off since this can scratch the sheet underneath.

USE PROMPTLY

As with any material, the properties of GreenCoat® color coated steel change slowly over time. In particular, some products will harden over time, resulting in a loss of flexibility for forming. Also, if a protective strippable film is applied, the material needs to be used promptly to avoid the likelihood of adhesive residues being left in place. A guideline is to use all materials within 6 months of manufacture and a first-in-first-out (FIFO) stock rotation system is recommended.



STORE INSIDE

The easiest way to ensure that the material is kept dry is to always store it inside.

STORE IN A TEMPERATURE AND HUMIDITY-CONTROLLED ENVIRONMENT

Even when inside, if the air temperature varies greatly, condensation can form on metal sheets which can promote corrosion. Therefore, it is best to ensure that the storage temperature remains reasonably constant.

AVOID CONDENSATION

If it is not possible to store sheets at a constant temperature, then the operator should always be vigilant to avoid rapid temperature changes (such as taking material from an unheated warehouse at 0°C to a heated one at 20°C) which could lead to condensation on the metal.

ENSURE PROPER STORAGE

Packs of sheets are generally delivered and stored on a framework of wooden battens. It is important to ensure that these battens remain in good condition and are kept vertically to ensure their correct loading and avoid pressure-spots. If the stack is removed from the original packaging, it is important to ensure that it is adequately supported and never placed directly on the ground.

LIMIT THE HEIGHT OF SHEET STACKS

It is often necessary to stack packs of sheet on top of each other. However, care should be taken since this will increase the amount of effort required to access different sheets. The height of stacks should be limited to avoid excessive pressure being applied to those at the bottom. Some GreenCoat® products are particularly susceptible to marking from this pressure and recommendations should be sought from the manufacturer for these cases. Where multiple bundles of sheets are stacked, care should be taken to align the timber bearers on successive packs.

HANDLE WITH CARE

It is advisable, wherever possible, to use suction or magnetic lifting devices to lift sheets from packs. Sheets should never be dragged from packs which could result in scratching. It is also advisable, when possible, to handle sheets on the reverse side so that any damage does not affect the appearance of the finished article.

CONDITION THE MATERIAL BEFORE USING

Some GreenCoat® products are designed to be processed at a certain temperature. This can be to ensure optimum flexibility, for example. In these cases, it is important that the sheets are stored at this temperature for at least 24 hours before use. It is always advisable to seek guidance from the supplier whenever using a new product.

SSAB has manufactured products for the building industry for more than 50 years and is the pioneer and innovator of sustainable color coated steel products offering Swedish rapeseed oil in the coating. This unique, patented solution reduces the environmental footprint of GreenCoat® products significantly and makes the GreenCoat® color coated steel portfolio the market's greenest offering for roofs, façades and rainwater systems.

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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