

GREENCOAT[®]
COLORFUL STEEL



GreenCoat FoodSafe products
Safety and performance for the food industry

SSAB



GreenCoat FoodSafe products meet the demanding requirements of the food industry

The food industry demands the absolute highest level of cleanliness and safety. This applies not only to raw materials and their packaging, but also to the surroundings where food is handled, packaged and stored. Therefore, materials in these environments need to be inert in order to not release their constituents into food at levels harmful to human health or change food composition, taste and odor in an unacceptable way. In addition, they must be easy to clean, wear resistant and durable against environments with high humidity.

To address these strict industry demands and the EU regulations that set the principles for articles intended to come into direct or indirect contact with food, GreenCoat FoodSafe products offer certified non-toxic, easy to clean and durable color coated steel solutions for walls, ceilings, doors in cold rooms and deep freezers, as well as refrigerated counters, institutional kitchens and production premises.

GREENCOAT FOODSAFE BT

GreenCoat FoodSafe BT color coated steel is a premium interior product that features a bio-based coating using a substantial portion of Swedish rapeseed oil. The slightly structured surface is easy to clean and very good formability provides a reliable solution for premises where unpacked food is handled.

GREENCOAT FOODSAFE

GreenCoat FoodSafe is an easy to clean color coated steel product for use in premises where food is handled. It is available in a range of light colors with a smooth or slightly textured surface.

LAMINATE FOODSAFE

Laminate FoodSafe is a highly durable and wear resistant laminated steel product that is resistant to chemicals and detergents. It offers excellent formability for a wide range of applications and is available with enhanced antistatic properties to minimize contamination from airborne particles like dust.



SUSTAINABILITY THAT IMPROVES PERFORMANCE

GreenCoat® color coated steel products offer a highly sustainable solution for the food industry. A substantial portion of the traditional fossil oil in the coating is replaced by Swedish rapeseed oil. SSAB holds a worldwide patent for this coating technology, which offers a level of sustainability found nowhere else on the market, in addition to enhanced performance.


FOOD INDUSTRY BENEFITS

GreenCoat FoodSafe products provide superior technical features and fully comply with current EU chemical regulations including: EC No 1272/2008, (EU) No 10/2011 and EU REACH. However, there are many other factors that make GreenCoat® a wise choice.

GreenCoat FoodSafe products provide:

- ▶ Nordic quality steel in the substrate.
- ▶ a sustainable bio-based coating made from Swedish rapeseed oil.
- ▶ high corrosion resistance.
- ▶ non-toxic and suitable options for direct contact with food.
- ▶ easy to clean surfaces.
- ▶ low water absorption.
- ▶ two-layer reverse side coating for protection in humid atmospheres.
- ▶ usable in all premises where food is handled, packed and stored – in temperatures down to -40°C.

TABLE 1. TECHNICAL PROPERTIES

Foodsafe product	Gloss	Coating thickness	Appearance	Colors	Scratch resistance	Steel thickness	Max steel width
GreenCoat FoodSafe BT	40	30 µm	Slight structure	 White	30 N	0.5 – 1.5 mm	1 500 mm
GreenCoat FoodSafe	30	30 µm	Smooth	 White  White	30 N	0.5 – 1.5 mm	1 420 mm
	30	30 µm	Slight structure	 White	30 N	0.5 – 1.5 mm	1 500 mm
Laminate FoodSafe	11	120 µm	Smooth	 White  White	55 N	0.4 – 1.5 mm	1 400 mm

Substrate material for all GreenCoat FoodSafe products is hot-dip galvanized steel with a typical zinc coating of 275 g/m². The reverse side is coated with a two-layer coating, which provides good corrosion protection in humid atmospheres as well as good adhesion properties to many adhesives and foams.



Vegetable sorting and storage facility in Nowe Skalmierzyce, Poland.
© Photo: Ruukki Construction



APPLICATIONS

GreenCoat FoodSafe products can be used in a wide range of food related applications including walls, ceilings and doors in cold rooms and deep-freezing rooms as well as refrigerated counters, institutional kitchens and production premises.

The criteria for classification, examples of use in buildings and the applicability of GreenCoat FoodSafe products are shown below. Classifications are based on their corrosion

conditions (chemical aggressivity and risk of condensation) according to EN 10169+A1. Parameters such as the air temperature, the relative humidity, the operating conditions in the building (e.g. use of aggressive chemical products, refrigerated areas) effect the useful life of GreenCoat FoodSafe products and the applicability should therefore be considered case-specifically.

TABLE 2. INDOOR ENVIRONMENT CATEGORIES

Category	Environment	Cleaning	Risk of condensation	Examples	GreenCoat FoodSafe BT	GreenCoat FoodSafe	Laminate FoodSafe
A1	Non-aggressive	Basic upkeep	Occasional	Office buildings, schools, residential (except kitchens and bathrooms), dry storage buildings	X	X	X
A2	Low-aggressive	Basic upkeep	Occasional to frequent	Sports halls, cinemas, theatres, cold stores, supermarkets	X	X	X
A3	Medium-aggressive	Non intensive cleaning	Occasional to frequent	Kitchens and bathrooms, food processing, industrial buildings with dry processes	X	X	X
A4	Aggressive	Non intensive cleaning	Occasional to frequent	Factory buildings with wet processes (e.g. breweries, wine cellars)	-	-	X
A5	Very aggressive	Intensive cleaning	Occasional to frequent	Intensive livestock buildings, dairies, sea food processing	-	-	X

RESISTANT TO CORROSION

GreenCoat FoodSafe products fulfill the highest corrosion protection category of CPI 5 for indoor products. Products in this category provide excellent corrosion protection and are suitable for use in continuously humid environments.

To secure the corrosion resistance, panel designs should avoid exposing cut edges to detergents and moisture. Where walls are subjected to cleaning and rinsing with water, the bottom edge of the wall material is particularly vulnerable and must be protected against moisture.

TRIED AND TESTED

GreenCoat FoodSafe products are the result of extensive product development and testing. All GreenCoat FoodSafe products have been tested to ensure low water absorption, while providing the highest durability when cleaned with most conventional cleaning products.

LOW WATER ABSORPTION

The water absorption of GreenCoat FoodSafe products has been determined by applying ISO 62:2008. Test samples were immersed in water for two weeks, and absorption was determined by weighing the sample both before and after the immersion. Absorption on all tested products was very low, less than 2 g/m².





CLEANING DURABILITY

Durability when cleaning has been tested by applying standard ISO 11998:2006. The surface was scrubbed back and forth 200 times with a cloth saturated with an alkaline (pH12) or acidic (pH2.2) cleaning agent. To evaluate the durability of the coatings, color, gloss and weight loss were measured before and after the scrubbing. Weight loss due to washing and scrubbing with both detergents was less than 0.5g/m², which is considered to be very minimal. Both color and gloss remained practically unaltered even after 1000 wet-scrubs. GreenCoat FoodSafe products tolerate commonly used industrial cleaning agents well, however, it is recommended that only neutral detergents (pH 5-9) or weak solvents are used, with compatibility tested before use. If strong alkaline detergents are used, the useful life of the product may be shortened.

Cleaning agents and disinfectants should be used according to the manufacturer's instructions and only in the concentrations advised, followed by rinsing to avoid detergent residues on surfaces. It is not recommended to allow surfaces to continually remain moist. If high pressure washing is used, pressure must not exceed 100 bar.

In general, direct food contact with an intact GreenCoat FoodSafe surface does not have any adverse effects based on the coating consistency and testing (for example, migration test). However, direct contact should be evaluated case-specifically, taking into consideration the requirements of the application and regulations. Ultimately, the end user is responsible for selecting the correct coating based on their knowledge of the environment and needs required by the food processing facility.

LEARN MORE

GreenCoat FoodSafe products provide the food industry with the highest level of performance and safety – with durability to last for years to come. To find out more about GreenCoat FoodSafe products and other GreenCoat® premium steel products, go to: www.ssab.com/GreenCoat or get in touch at: greencoat@ssab.com

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

GreenCoat® is available in

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