

SSAB Weathering 550

General Product Description

With its corrosion resistant properties, SSAB Weathering 550 minimizes the need for maintenance and corrosion-prevention treatment, contributing significantly to low maintenance costs throughout the product lifecycle.

SSAB Weathering 550 allows for good paint adhesion. The intervals for repainting can be greatly extended compared to plain carbon steel since, if a damage to the paint layer occurs, SSAB Weathering steels has the ability to form a patina layer that minimize corrosion creepage under the paint and inhibits the formation of porous expanding rust.

In addition to low maintenance costs, the reduced need for corrosion prevention means less use of paint and solvents, making SSAB Weathering 550 an environmentally friendly choice of steel.

In manufacturing, the steel contributes to excellent productivity thanks to its good formability, toughness and weldability.

The high-strength of the steel in combination with these properties makes it easier to build lighter and stronger products with increased payload for lower fuel consumption. Typical applications are containers, railway wagons and many others.

Dimension Range

SSAB Weathering 550 is available in thicknesses of 3.0–6.1 mm and widths up to 1550 mm as coils, slit coils and as cut to length in lengths up to 15 m, with cut edge or mill edge.

Mechanical Properties

Product Type	Thickness (mm)	Test direction	Yield strength R _{eH} (min MPa)	Tensile strength R _m (min MPa)	Elongation A ₅ (min %)	Bending Radius 90° Bend
Hot Rolled Strip	3.0 - 5.99	T	550	600	18	1.0 x t
Hot Rolled Strip	6.00 - 6.1	T	550	600	18	1.5 x t

Test direction T = Transverse direction.

Bending properties for both longitudinal and transversal direction.

Impact toughness

Min. impact energy for longitudinal Charpy V-notch test	Test temperature
40 J	-20 °C

Impact testing according to ISO 148-1 is performed on thicknesses ≥ 6mm. The specified minimum value corresponds to a full-size specimen.

Chemical Composition (ladle analysis)

C (max %)	Si (max %)	Mn (max %)	P (max %)	Cu (max %)	Cr (max %)
0.10	0.45	0.80	0.12	0.35	0.95

The steel is grain refined.

Additional micro alloying elements Nb, V and Ti can be used.

Tolerances

SSAB Weathering is delivered with SSAB Weathering tolerances. Narrower tolerances are available upon request.

Thickness

SSAB Weathering thickness tolerances correspond to 2/3 of EN 10051:2010 as default value.

Length and Width

SSAB Weathering tolerances for width and length are according to SSAB standard and offer narrower width and length tolerances compared to EN 10051:2010.

For sheet with mill edge, the width tolerances are corresponding to -0/+20 mm.

For sheet with cut edge, the width tolerances are corresponding to -0/+2 mm.

Length tolerances only apply for cut to length sheets.

Shape

SSAB Weathering is delivered with shape tolerances according to EN 10051:2010.

Flatness

SSAB Weathering tolerances correspond to SSAB Flatness Guarantees Class A.

SSAB Weathering tolerances guarantee a maximum flatness deviation of 3 mm/m in addition to the EN 10051:2010 flatness requirements.

Flatness guarantees only apply for cut to length sheets.

Surface Properties

According to EN 10 163-2 Class A, Subclass 3.

Delivery Conditions

Thermomechanically rolled.

Surface condition

SSAB Weathering 550 is available with as rolled or pickled surface with mill or cut edge.

Fabrication and Other Recommendations

SSAB Weathering 550 is not suited for applications requiring hot working or heat treatments at temperatures above 580°C, since the material then may lose its guaranteed properties.

The weldability of SSAB Weathering 550 is good. All the conventional fusion welding methods can be used. To obtain the same corrosion resistance in the weld as in the base metal, special filler metals should be used.

Painting of SSAB weather resistant steel is easy and will result in good paint adhesion. This can further increase the maintenance interval of the component.

In order to ensure the uniform colour of the patina, all impurities must be cleaned from the steel surface. Organic impurities such as oil or protective greases must be removed by washing. Surface oxidation, oxides or rust can be removed by either shot-blasting or pickling. This will also accelerate the patina formation process. Shot-blasting is not recommended for thicknesses below 4 mm's. The surface of clean weathering steel can be pre-patinated by allowing the surface to get wet and dry.

For information concerning fabrication, see SSAB's brochures on www.ssab.com or consult Tech Support, techsupport@ssab.com.

Appropriate health and safety precautions must be taken when bending, welding, cutting, grinding or otherwise working on the product.

Contact Information

www.ssab.com/contact