

SSAB Weathering 550

General Product Description

With its anti-corrosive properties, SSAB Weathering 550 minimizes the need for maintenance and corrosion-prevention treatment, contributing significantly to low maintenance costs throughout the product lifecycle. In addition to low maintenance costs, the reduced need for corrosion prevention means less use of paint and solvents, making SSAB Weathering 550 an environmental 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, stronger products with increased payload and lower fuel consumption. Typical applications are containers, railway wagons and many others.

Mechanical Properties

Thickness (mm)	Yield strength R_{eH} (min MPa)	Tensile strength R_m (min MPa)	Elongation A_5 (min %)	Bending Radius 90° Bend
3- 5.99	550	600	18	1.0 xt
6.0- 6.1	550	600	18	1.5 xt

The mechanical properties are valid in the transversal 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 ≥ 6 mm. 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 %)	Corrosion re- sistance index* typical
0.10	0.45	0.80	0.12	0.35	0.95	7.89

The steel is grain refined.

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

* Corrosion resistance index according to ASTM G101-04 (2010)

Tolerances

SSAB Weathering is delivered with SSAB Weathering tolerances, with improved guarantees compared to EN 10051:2010.

Thickness

SSAB Weathering thickness tolerances correspond to 2/3 of EN 10051:2010 as default value. After special agreement, tolerances down to 1/2 of EN 10051:2010 can be delivered for certain products and dimensions.

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

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

After special agreement, tighter tolerances can be delivered for certain products and dimensions.

Length tolerances only apply for cut to length sheets.

Shape

SSAB Weathering is delivered with shape tolerances according to EN 10051:2010. Narrower tolerances according to the SSAB standard are available on request.

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.

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