SSAB Weathering

SAVES WEIGHT AND MAINTENANCE COSTS
A PERFECT MATCH

Rail transport is a perfect match for SSAB Weathering steel. Railway vehicles in SSAB Weathering steel are strong, hardwearing, take higher payloads and are relatively light compared to vehicles made from conventional steel. Add the corrosion-resistant properties and the rolling stock will have exceptionally long service life with low maintenance costs.

SSAB Weathering is a high-strength, low alloy, easily weldable structural steel with exceptional corrosion resistance. The chemical composition allows the steel to form a protective layer of patina without any change in its mechanical characteristics. The patina shields the steel against further corrosion, saves on maintenance and makes the final product more environmentally friendly.

Railway rolling stock is exposed to extreme conditions that can vary within a few hours of travel, be it rain, sun, wind or snow. This changing weather is ideal for weathering steels, since they require alternating wet and dry conditions to start the oxidation process that creates the unique layer of protective patina.
Thanks to the high strength-to-weight ratio, SSAB Weathering steel and other SSAB products such as DOCOL improve safety. Strong and light structures such as chassis made of SSAB’s products are stable and resist deformation in the event of a crash. Freight wagons in SSAB Weathering high-strength steel are dent resistant during loading and unloading, which results in high durability — and a more attractive appearance.

STRONGER
AND
SAFER

The benefits of lighter structures

- Increased payload and/or cargo volume with the same axle weight
- Higher passenger capacity thanks to longer bodies or double deck design
- Faster acceleration and deceleration reduces travelling time
- Energy savings from reduced vehicle weight
- Energy savings in traffic with frequent accelerating and braking
- Reduced rail wear

LESS WEIGHT
SAVES
ENERGY
**ROLLING STOCK THAT LASTS LONGER**

**Regional passenger trains**
As passenger trains start and stop frequently, a lighter vehicle saves energy during the entire lifecycle.

**Trams**
High-strength SSAB Weathering steel can replace basic stainless steel grades such as 1.4003 as it is more cost-effective and easier to weld and bend.
**Freight wagons**
Wagons with high-strength and weather-resistant steel take more payload, have good dent resistance and low maintenance costs as there is no need to paint.

**Timber wagons**
SSAB Weathering steel delivers hassle-free use over the life-cycle of the wagon. High-strength steel can increase the load capacity. In case of paint damage, the patination process protects the steel.

**Ready for the workshop**
SSAB Weathering steel has excellent properties for forming, machining and welding. The SSAB Weathering portfolio includes a wide range of grades with mechanical properties and dimensional tolerances that generally exceed the standards given by EN 10025-5 and ASTM grades. Fatigue and stiffness are always important to consider when upgrading from mild steel to high-strength steel. We at SSAB are happy to work together with our customers to provide solutions and recommendations for optimal design.
The corrosion resistance of SSAB Weathering steel in freight transport reduces both the start-up and the long-time maintenance costs. Unlike conventional steel, weathering steel does not need painting. The patina surface protects the steel. This means there are no initial painting or repainting costs during the products active life.

**To paint or not to paint — You decide**

Most steel constructions give you no choice but to paint to avoid corrosion. SSAB Weathering gives you more options. It can be left unpainted and the patina protects the steel. If you prefer to paint, you can rely on good paint adhesion thanks to the steel’s surface texture.

SSAB Weathering steel also has a self-healing effect that minimizes corrosion that creeps under the paint. Additionally, porous expanding rust is not an issue in SSAB Weathering steel structures – as is the case for carbon steel. All in all, these factors double the useful life of paint on weathering steel compared to carbon steel. As well as saving costs, this also means that painted structures look better for longer.

**Low enviromental footprint**

SSAB Weathering steel has a smaller environmental footprint than conventional steel. Lighter rail vehicles save energy during many years of operation. Emissions and pollution from painting and stripping (pre-repainting) can be completely avoided if wagons and containers are left unpainted.

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**Customer support**

SSAB Tech Support has a high local presence worldwide and can visit customers at short notice to solve urgent problems or initiate longer-term co-development projects. Our dedicated support team has broad and deep technical knowledge and many years of experience. We can answer general customer questions about design, application, welding and forming.

For questions requiring more specialized expertise we cooperate closely with SSAB’s specialist groups at the Knowledge Service Center. Tech Support is the first contact for customers looking for technical support from SSAB. Please contact techsupport@ssab.com
SSAB WEATHERING – GUARANTEED PROPERTIES FOR OPTIMIZED RESULTS

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<th>Steel grade</th>
<th>Delivery condition</th>
<th>Yield strength</th>
<th>Tensile strength</th>
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SSAB WEATHERING – HIGH-STRENGTH GRADES

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SSAB WEATHERING – 355 MPa AND COR-TEN® GRADES

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SSAB WEATHERING – TUBES AND SECTIONS

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1) For detailed dimensions by grade, please contact your closest SSAB representative
2) Maximum width depending on thickness
3) A50
4) A200
5) Higher length possible on some dimensions. Please contact us for details

We also manufacture weathering steel grades as per EN 10025-5 & the ASTM standards ASTM A 588, ASTM A 606, ASTM A 871. Please contact us for more information. SSAB Weathering steel grades are delivered from stock locations or directly from the mill. Smaller quantities for testing are also available. As with all qualified materials and components, there are recommendations for the use of SSAB Weathering steel in transport applications. You can find detailed information about properties and best practices on the datasheet for each grade.

OTHER PRODUCT OFFERINGS FROM SSAB FOR RAIL TRANSPORT

**PRODUCT PORTFOLIO**

**SSAB Domex**
SSAB is a Nordic and US-based steel company. SSAB offers value added products and services developed in close cooperation with its customers to create a stronger, lighter and more sustainable world. SSAB has employees in over 50 countries. SSAB has production facilities in Sweden, Finland and the US. SSAB is listed on Nasdaq Stockholm and has a secondary listing on Nasdaq Helsinki. www.ssab.com. Join us also on social media: Facebook, Instagram, LinkedIn, Twitter and YouTube.