

STRENX[®]
PERFORMANCE STEEL



High-strength weathering steel

Available with yield strengths of 700 and 960 MPa
for load-bearing structures with minimum or
zero maintenance needs



SSAB

Combining performance, sustainability and appearance

Strenx® weathering steels will give your high-strength steel applications additional protection against corrosion. The special alloy composition in Strenx® weathering steel makes it perform differently than ordinary carbon steel.

SELF-PROTECTING PERFORMANCE

Painting Strenx® weathering steel for aesthetic and protective reasons also scores high on sustainability. The surface of Strenx® weathering steel has properties that make it highly suitable for a long-lasting coat of paint. The steel's surface has high paint adhesion – resulting in a more durable paint layer.

If the paint is damaged and the steel scratched, the exposed surface recreates a patina layer which effectively seals the steel and minimizes creepage of corrosion under the paint. All in all, this means longer intervals between painting, which in turn reduces the environmental impact.

TEST CONDITIONS



Basic carbon steel S420

The corrosivity class: C5
Time: 6 years

On regular carbon steel, damage to the paint allows the corrosion to creep under the paint.



Strenx® 700 HR W

The corrosivity class: C5
Time: 6 years

Paint has strong adhesion on Strenx® weathering steels, minimizing the spread of corrosion.



THE PATINA APPEARANCE

When exposed to alternating wet and dry weather conditions, a protective oxide layer – a patina – is formed on the steel's surface. This oxide layer prevents further corrosion, resulting in a steel which is practically maintenance-free.

If you choose not to paint your application, the ultimate color of the steel's patina layer depends on the climate and if air pollution is present. An atmosphere which contains sulfur speeds up the oxidation process and gives a darker patina. Frequent cycles of wet and dry conditions will also speed up oxidation.

The process to reach the final appearance usually takes 2–6 years.

Strenx® weathering steel can be your preferred choice in applications that operate in rough environments where the paint surface may be damaged.

THE BENEFITS OF HIGH-STRENGTH STEEL

Strenx® weathering steels are high-strength steels with yield strengths of 700 and 960 MPa. Yield strength defines the stress the steel can withstand before it experiences plastic deformation. Below the yield point the steel will return to its original shape when the load is released.

Using steel with such high yield strength levels leaves room for more high-performing designs with increased load-bearing capacity. The use of high-strength steel permits higher stresses in the structure, allowing the designer to reduce the thickness of the parts.

This adds several advantages:

- Depending on the starting point, designers can cut up to 30 percent of the weight off steel structures.
- Lighter applications in high-strength steel can carry more payload, use less fuel and contribute to environmental improvements.
- Logistics and processing are simplified. If the parts are welded, welding time and the amount of welding consumables will be significantly reduced when welding a thinner steel.



ON THE ROAD

- Trailer chassis
- Containers
- Timber trailers



ON THE TRACK

- Light rail wagons
- Railroad wagons
- Tram bodies



OTHER EQUIPMENT

- Road safety barriers
- Offshore cranes
- Agriculture equipment

Ready for a performance upgrade

Product	Delivery condition	Yield strength	Tensile strength	Elongation	Impact toughness		Inner bending radius at 90° both transverse and longitudinal	Dimensions	
		Re [MPa]	Rm [MPa]	A ₅ (min %)	Temp. [°C]	Charpy V [J]		x t	Thickness [mm]
Strenx [®] 700 HR W	Hot rolled strip	700	750-950	12	-20	40	2,0	3,00-6,10	870-1550
Strenx [®] 960 HR W	Hot rolled strip	960	980-1250	7	-40	27	3,5	3,00-6,10	870-1860

To learn more about how to use Strenx[®] weathering steel, you can contact SSAB Tech Support for technical questions. Find contact information at ssab.com or send an email to techsupport@ssab.com.

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.



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