



STRENX[®]
PERFORMANCE STEEL

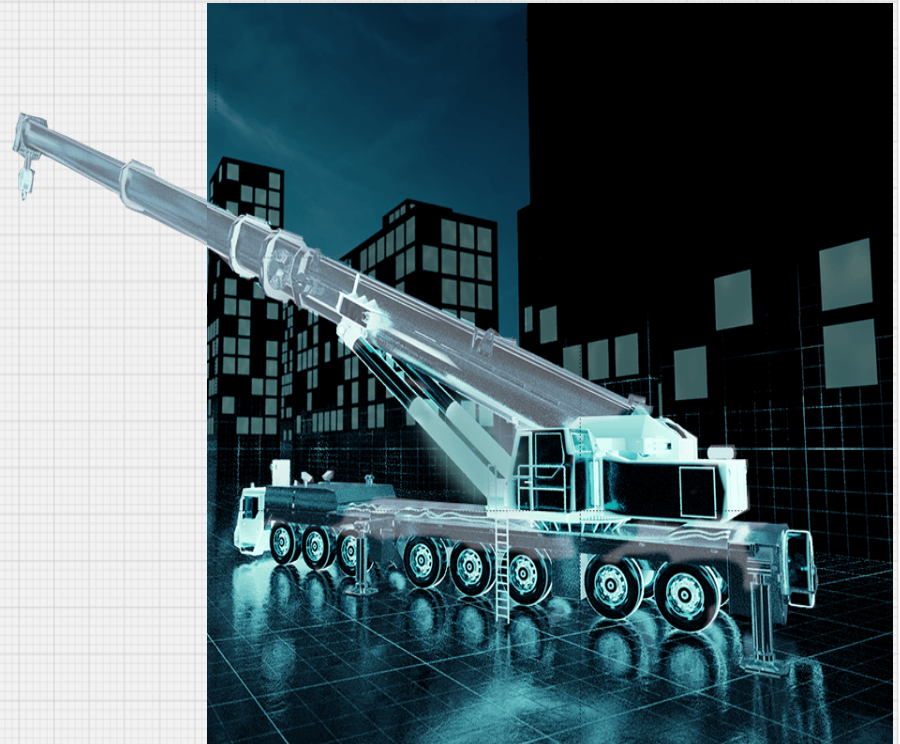
Strenx 1100 Plus

Joakim Nyström, SSAB

SSAB

The challenge:

- Develop the best 1100 strip material on the market
- Welds with the same min guarantee as the base material:
 - Yield strength
 - Ultimate tensile strength
 - Elongation
 - Toughness
- Really good forming properties
- Flat and stress free
- Great surface



After 3 years the Strenx 1100 Plus is ready to be launched! Strenx 1100 Plus was officially launched at Bauma in April

Mechanical properties (in both directions)

Thickness (mm)	Yield strength R _{p02} min (MPa)	Tensile strength R _m (MPa)	Elongation A ₅ min (%)	Bending min R/t
4.0-6.0	1100	1130-1350	10	3.5
6.1-8.0	1100	1130-1350	10	4.0

Carbon equivalent

Thickness	Maximum CET (CEV)
4.0 – 8.0 mm	0.46 (0.89)

Impact toughness

Test direction	Impact toughness min
Longitudinal	27 J / -40° C
Transverse	27 J / -20° C

Dimensions

Thickness	Width	Length
4.0 – 8.0 mm	Up to 1600 mm	Up to 13000 mm
2.5 – 3.99 mm	Development ongoing	
6.0 – 15.0 mm	Development ongoing	

Typical weld performance

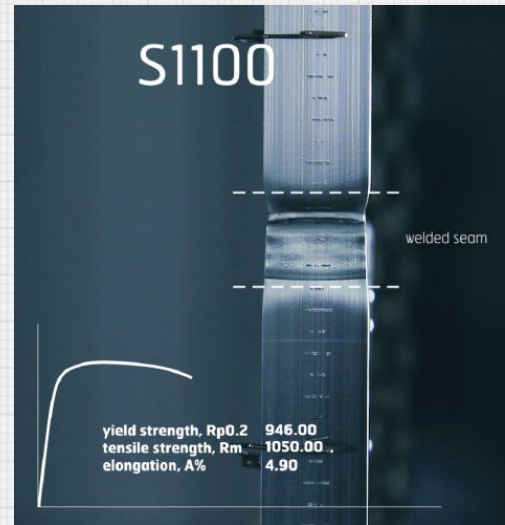
Δt _{8/5} (s)	Yield strength R _{p02} (MPa)	Tensile strength R _m (MPa)	Elongation A ₅ (%)	Fracture location	CV 27 J at -40 C
5 – 20	> 1100	1130 – 1210	11 – 12	Δt 8/5 = 6 s: BM Δt 8/5 = 12 s: BM Δt 8/5 = 20 s: BM	WM: ok FL+1: ok FL+3: ok FL+5: ok

Tests performed with milled specimens (without reinforcement)



Testing Strenx 1100 Plus

- 2 pieces 8 mm thickness
- MAG with 960 filler material
- Remove reinforcement
- Tensile test
- Compare with ordinary S1100



Base material requirements

Yield strength:	Minimum 1100 MPa
Tensile strength:	1130 – 1350 MPa
Elongation:	Minimum 10%



WITH STRENX[®] YOU CAN

- Realize new designs
- Increase performance
- Reduce weight
- Use less fuel
- Increase payload
- Speed up manufacturing
- Reduce CO₂ emissions of products
- Increase safety
- Become more competitive

