

SIMAXX^{...} 1100

HIGH-STRENGTH FINE-GRAINED STRUCTURAL STEEL

SIMAXX 1100 is a high-strength fine-grained structural steel with a minimum yield strength of 1100 MPa. Excellent combination of high strength, toughness, and workshop properties makes SIMAXX 1100 ideal for use in applications where high strength-to-weight ratio is crucial. Typical products made of SIMAXX 1100 are components for advanced lifting industry, such as loader and mobile crane booms and other load-bearing parts where low weight is required. SIMAXX 1100, supplied as quarto plates in quenched and tempered condition, has good bendability and can be welded using all arc welding processes.

STANDARDS

- General technical delivery requirements according to EN 10021.
- Tolerances on dimensions and shape according to EN 10029.
- Delivery requirements for surface condition according to EN 10163-2.
- Ultrasonic testing according to EN 10160.
- Technical delivery conditions according to EN 10025-6 upon request.
- Tensile testing at room temperature according to EN ISO 6892-1.
- Impact testing according to EN ISO 148-1.

CHEMICAL COMPOSITION

SIMAXX 1100	C	Si	Mn	P	S	Cr	Ni	Mo	B
max. in %	0.19	0.5	1.5	0.015	0.005	0.9	1.3	0.6	0.004

Steel contains nitrogen-binding and grain-refining elements.

SIMAXX 1100	6–15 mm
CEV* (max. in %)	0.68

$$*CEV = C + \frac{Mn}{6} + \frac{Cr + Mo + V}{5} + \frac{Ni + Cu}{15}$$

MECHANICAL PROPERTIES

Tensile properties*			
Thickness [mm]	R _{p0.2} [MPa] min.	R _m [MPa]	A _{5.65} [%] min.
6–15	1100	1200–1500	10

* For transverse tensile flat test pieces.

Impact toughness*				
Thickness [mm]	Testing direction	Quality	Temperature [°C]	KV2 [J]* min.
6–15	Transverse	Q	–20	27
6–15	Transverse	QL	–40	27

* Measured on standard specimen 10 x 10 x 55 mm. The specified minimum value is the average of 3 tests. One individual value may be below the minimum average value specified, provided that it is not less than 70 % of that value. For plate thickness below 12 mm, subsize specimens shall be used. The minimum values of subsize specimens shall be reduced in direct proportion to the cross-sectional area of the test piece.

DELIVERY CONDITION

- Hot-rolled quarto plates in quenched and tempered condition

DIMENSIONS

Thickness [mm]	Width* [mm] max.	Length [mm] max.
6–7	2000	12500
8–15	2500	12500

*2060/2560 – if plates are ordered with untrimmed rolling edges.

SURFACE CONDITION

- Shotblasted
- Shotblasted and anti-corrosion painted*

* Thickness of the coating is 20–60 µm.

INSPECTION DOCUMENTS

The type of document shall be agreed upon at the time of enquiry and order. A test certificate according to EN 10204/3.1 is issued mandatorily.

The information and data in this product data sheet are intended for informative purpose only and may be revised at any time without notice. Presented typical properties of the materials are described only to help readers make their own evaluations and decisions. They are not guaranteed.