



SIDUR[™] 500

HIGH-STRENGTH FINE-GRAINED WEAR RESISTANT STEEL

SIDUR 500 is a high-strength fine-grained wear resistant steel. It is intended for use on components that require high resistance to abrasive sliding wear. Due to the unique combination of chemical composition and heat treatment process, the plates are resistant to wear even at moderate impact loads. The material is bendable and is suitable for welding using all arc welding processes.

STANDARDS

- General technical delivery requirements in accordance with 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.
- Tensile testing at room temperature according to EN ISO 6892-1.
- Impact testing according to EN ISO 148-1.
- Brinell hardness testing according to ISO 6506-1.

CHEMICAL COMPOSITION

SIDUR 500	C	Si	Mn	P	S	Cr	Mo	Ni	Ti	B
Max. in %	0.29	1.0	1.5	0.02	0.05	1.2	0.5	1.3	0.04	0.004

The steel contains grain-refining elements.

SIDUR 500	6–25 mm	25.01–50 mm
CEV* (max. in %)	0.64	0.75

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

MECHANICAL PROPERTIES

Thickness [mm]	Surface hardness* HB _{10/3000}
6–50	460–540

* Measured on one plate per thickness per heat.

Thickness [mm]	Tensile properties*		
	R _{p0.2} [MPa] min.	R _m [MPa] min.	A _{5.65} [%] min.
6–50	1100	1550	8

* For transverse tensile flat test pieces.

Thickness [mm]	Impact toughness*		
	Testing direction	Temperature [°C]	KV ₂ [J] min.
6–50	transverse	–20	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 or, upon agreement, quenched and tempered condition.

DIMENSIONS

Thickness [mm]	Width* [mm] max.	Length [mm] max.
6–7.9	2000	12500
8–50	2500	12500

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

SURFACE CONDITION

- Sandblasted
- Sandblasted and anti-corrosion painted*

* Maximum width of the anti-corrosion painted plates is 2000 mm. 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 mandatory.

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.