



# SIDUR<sup>™</sup> 450

## HIGH-STRENGTH FINE-GRAINED WEAR RESISTANT STEEL

**SIDUR 450** is a high-strength fine-grained wear resistant steel used for the applications where a high level of wear resistance is required. Due to the unique combination of chemical composition and heat treatment process the plates can also be used for the components exposed to moderate impact loads. The main advantages of the plates are good bendability and weldability.

### 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 450	C	Si	Mn	P	S	Cr	Mo	Ni	Ti	B
Max. in %	0.27	1.0	1.5	0.02	0.05	1.0	0.5	1.0	0.04	0.004

The steel contains grain-refining elements.

SIDUR 450	6–25 mm	25.01–40 mm	40.01–70 mm
CEV* (max. in %)	0.49	0.59	0.64

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

### MECHANICAL PROPERTIES

Thickness [mm]	Surface hardness* HB <sub>10/3000</sub>
6–70	420–470

\* One measurement per plate.

Thickness [mm]	Tensile properties*		
	R <sub>p0.2</sub> [MPa] min.	R <sub>m</sub> [MPa] min.	A <sub>5.65</sub> [%] min.
6–70	970	1350	10

\* For transverse tensile flat test pieces.

Thickness [mm]	Impact toughness*		
	Testing direction	Temperature [°C]	KV <sub>2</sub> [J] min.
6–70	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
8–70	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.