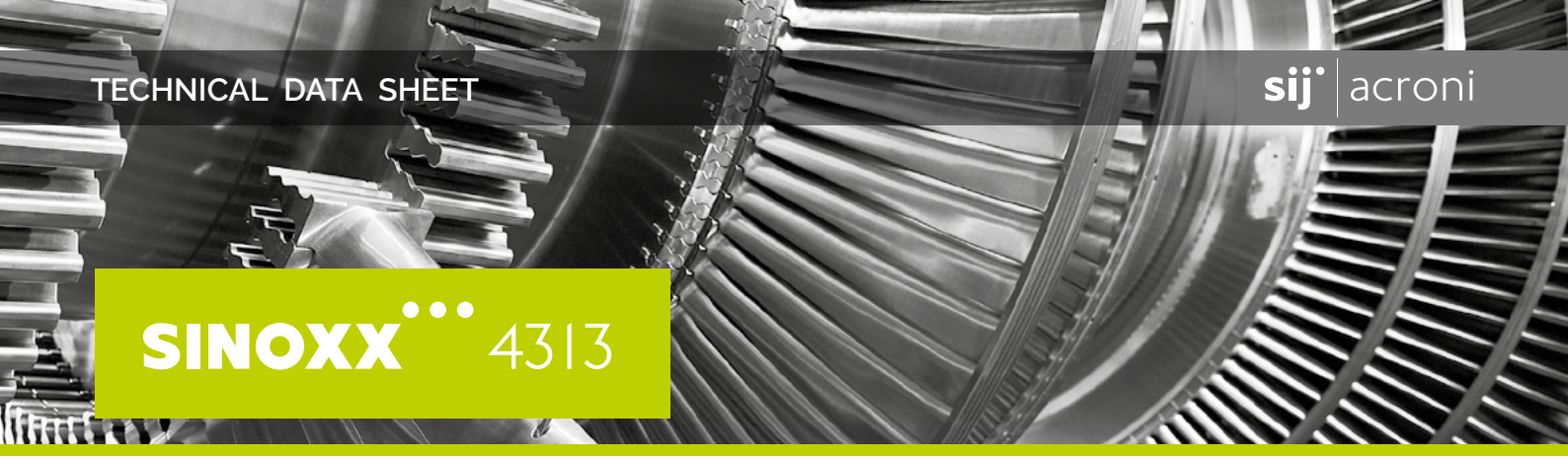

SINOXX 4313

MARTENSITIC STAINLESS STEEL

SINOXX 4313 is a martensitic stainless steel characterized by high toughness, general properties that offer design advantages, good corrosion and acid resistance, and good weldability.

APPLICATIONS

- hydropower industries
- components for power plants and reactor technology
- oil industry
- valves and compressors
- fittings and pumps
- desalination plants

SPECIFICATIONS

Martensitic stainless steel is designated as UNS S41500 and W. Nr. 1.4313, and produced according to the following standards:

- ASTM A240, ASTM A480
- EN 10088-1, EN 10088-2

CHEMICAL COMPOSITION

Typical values in the range [wt. %]

	C	Mn	P	S	Si	Cr	Ni	Mo	N	Cu
Min.	-	-	-	-	-	12.8	4.0	0.55	0.03	-
Max.	0.027	0.9	0.030	0.0003	0.50	13.0	4.2	0.65	0.05	0.6

PHYSICAL PROPERTIES

Density	Specific heat	Thermal conductivity	Electrical resistivity
7.7 g/cm^3	430 J/kgK*	25 W/mK*	0.6 Ωmm/m*

* values at 20 °C according to EN 10088-1

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MECHANICAL PROPERTIES AT ROOM TEMPERATURES IN QT780

Minimum guaranteed values of mechanical test requirements, for the specified thickness range.

Thickness [mm]	0.2 % Yield strength min. [MPa]	Tensile strength min. [MPa]	Elongation min. [%]	Hardness max. [HB]	Impact Charpy V, 20 °C [J]*
8.0–101.6	630	780	15	302	150–300

* typical value

MECHANICAL PROPERTIES AT ROOM TEMPERATURES IN QT900

Minimum guaranteed values of mechanical test requirements, for the specified thickness range.

Thickness [mm]	0.2 % Yield strength min. [MPa]	Tensile strength min. [MPa]	Elongation min. [%]	Hardness max. [HB]	Impact Charpy V, 20 °C [J]*
8.0–101.6	800	900	11	302	150–300

* typical value

MICROSTRUCTURE

The microstructure of SINOXX 4313 is martensitic with less than 1% ferrite after heat treatment. The typical microstructure is shown in *Figure 1*.

Figure 1: Martensitic microstructure with less than 1% ferrite after heat treatment

HOT FORMING

The hot forming temperature range is between 1150 °C and 850 °C (2102–1562 °F).

HEAT TREATMENT

The steel is generally more frequently quenched with forced air after heat treatment at 1000 °C. A tempering treatment is performed in the temperature range 550–630 °C and depends on the QT condition.

PICKLING

Plates are supplied in non-pickled condition.

DIMENSIONS

SINOXX 4313	Thickness [mm]	Width [mm]	Length [mm]	Max. weight [kg]
Quarto plates	8–101.6 (0.31–4.0 in.)	2500 (98.42 in.)	12000 (472.44 in.)	9600 (21164 lbs)

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