



# SINOXX<sup>...</sup> 4305

## FREE MACHINING AUSTENITIC STAINLESS STEEL

**SINOXX 4305** is a high-sulphur free machining-cutting austenitic stainless steel grade. SINOXX 4305 has excellent machinability with sulphur added to improve cutting performance, but its corrosion resistance is limited in acid and chloride media – pitting and cavity corrosion can occur. SINOXX 4305 forms short chips during cutting and is therefore particularly suitable for machining.

### APPLICATIONS

- precision components
- electrical components and parts
- valve components
- automotive gears and equipment
- pulp and paper industry
- hydropower industries

### SPECIFICATIONS

Free machining stainless steel is designated as UNS S30300 and W. Nr. 1.4305, and conforms to the following standards:

- ASTM A582, A320, A895
- EN 10088-2

### CHEMICAL COMPOSITION

Typical values in the range [wt. %]

	C	Mn	P	S	Si	Cr	Ni	Mo	N	Cu
Min.	0.020	1.7	-	0.15	-	17.2	8.3	-	0.035	-
Max.	0.030	1.9	0.030	0.30	0.50	17.4	8.5	0.40	0.055	0.5

### PHYSICAL PROPERTIES

Density	Specific heat	Thermal conductivity	Electrical resistivity
7.9 g/cm <sup>3</sup>	500 J/kgK*	15 W/mK*	0.73 Ωmm/m*

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

## MECHANICAL PROPERTIES AT ROOM TEMPERATURES

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

Thickness [mm]	0.2 % Yield strength min. [MPa]	Tensile strength [MPa]	Elongation min. [%]	Hardness max. [HB]
9.0–90	190	500–700	35	262

## MICROSTRUCTURE

The microstructure of SINOXX 4305 is austenitic with a huge quantity of MnS. Typical microstructure is shown in *Figure 1*.

## HOT FORMING

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

## HEAT TREATMENT

Solution annealing at 1050°C (1922°F), followed by rapid cooling.

## PICKLING

Plates are supplied in pickled condition.

## DIMENSIONS

SINOXX 4305	Thickness [mm]	Width [mm]	Length [mm]	Max. weight [kg]
Quarto plates	9–88.9 (0.35–3.5 in.)	2500 (98.42 in.)	12000 (472.44 in.)	9600 (21164 lbs)

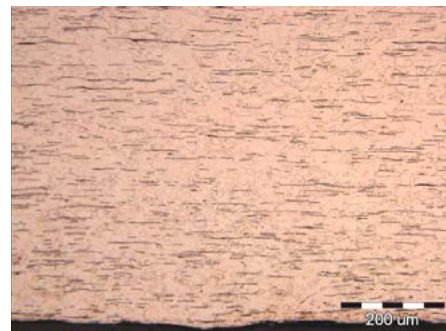


Figure 1: Austenitic microstructure with MnS

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.