

**SINOXX<sup>...</sup> 4835**

# HIGH TEMPERATURE AUSTENITIC STAINLESS STEEL

**SINOXX 4835** is a lean austenitic heat resistant alloy which has an increased nitrogen content and has been micro alloyed with rare-earth metals. The use of silicon in combination with rare-earth metals gives superior oxidation resistance up to 1150 °C. Austenite stability in SINOXX 4835 is enhanced by additional nitrogen, due to which the formation of embrittling sigma phase is retarded. SINOXX 4835 is characterized by high resistance to oxidation and temperature corrosion, good ductility, high creep-rupture strength, and good weldability.

## APPLICATIONS

- furnace components
- recuperators
- burner components
- furnace rollers
- furnaces for drying
- tubes for glass and cement industries

## SPECIFICATIONS

High temperature austenitic stainless steel is designated as UNS No. S30815 and W. Nr. 1.4835 / X9CrNiNCe21-11, and produced according to the following standards:

- ASTM A240/A240M
- EN 10095

## CHEMICAL COMPOSITION

Typical values in the range [wt. %]

	C	Mn	P	S	Si	Cr	Ni	Cu	N	Ce
<b>Min.</b>	0.065	0.60	-	-	1.60	21.0	10.0		0.155	0.040
<b>Max.</b>	0.080	0.75	0.040	0.002	1.80	21.5	10.5	0.50	0.170	0.070

## PHYSICAL PROPERTIES

Density	Specific heat	Thermal conductivity	Electrical resistivity
7.8 g/cm <sup>3</sup>	500 J/kgK*	15 W/mK*	0.85 Ωmm <sup>2</sup> /m*

\* values at 20 °C according to EN 10095

## 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 [HRBW]
8.0–90.0	330	650–730	40	210

## MICROSTRUCTURE

The microstructure of SINOXX 4835 is austenitic. 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 1050–1120 °C (1922–2048 °F), followed by rapid cooling.

## PICKLING

Plates are supplied in pickled condition.

## DIMENSIONS

SINOXX 4835	Thickness [mm]	Width [mm]	Length [mm]	Max. weight [kg]
Quarto plates	8–90.0 (0.35–3.5 in.)	2500 (98.42 in.)	12000 (472.44 in.)	9600 (21164 lbs)

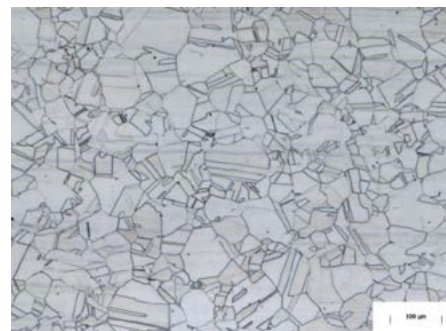


Figure 1: Austenitic microstructure

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