

## First Choice for Kitchen Fittings

Material datasheet for 1.4035 | S30300 | X8CrNiS18-9 | AISI 303

1.4305 is a **stainless austenitic nickel chrome steel** with a sulphur additive. At 0.15 - 0.35%, the sulphur content has a highly positive effect on the machining properties, but has a negative effect on resistance to corrosion. These material characteristics make 1.4305 a popular steel in automated machining applications.

Constant advances in the production of the steel have made 1.4305 a reference material for products manufactured through machining.

### WELDING

Welding should be avoided insofar as possible because the sulphur additive in the material makes it prone to thermal cracking during the welding process.



### BAR STEEL

#### AVAILABLE DIMENSIONS

25, 30, 32, 35, 36, 40, 42, 45, 46, 50, 55, 60, 65, 70, 75, 80, 85, 90, 95, 100, 105, 110, 115, 120, 125, 130, 135, 140, 145, 150, 155, 160, 165, 170, 180, 190, 200, 210, 220, 230, 240, 250, 260, 270, 280, 300, 310, 325, 350, 375, 400, 425, 450 and 500 mm



#### APPLICATIONS

- ↻ Mechanical engineering
- ↻ Automotive industry
- ↻ Decorative purposes
- ↻ Electronic equipment
- ↻ Chemical industry
- ↻ Fittings for moderately corrosive demands

#### MACHINING

Adequate cooling must be supplied during machining to prevent overheating. The sulphur additive results in small chips during cutting, making 1.4305 particularly suitable for automated machining applications.

## MECHANICAL PROPERTIES UNDER HIGH TEMPERATURES

1.4305 is not suitable for machining at elevated temperatures.

## MECHANICAL PROPERTIES AT ROOM TEMPERATURE

Stated values apply to bar steel up to 160 mm max.

(EN 10088-3)

**Yield strength Rp0.2 (N/mm<sup>2</sup>):**

at least 190

**Yield strength Rp1.0 (N/mm<sup>2</sup>):**

at least 225

**Tensile strength Rm (N/mm<sup>2</sup>):**

500 - 700

**Elongation at fracture A5 (%):**

longitudinal: min. 35

## HEAT TREATMENT

**Hot forming:**

900 - 1200 °C

**Solution annealing:**

1000 - 1100 °C

**Cooling:**

Air or water

## CHEMICAL ANALYSIS

Chem. element	1.4305	
	min.	max.
C	-	0.1
Si	-	1.0
Mn	-	2.0
P	-	0.045
S	0.15	0.35
Cr	17.0	19.0
N	-	0.1
Ni	8.0	10.0
Cu	-	1.0

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