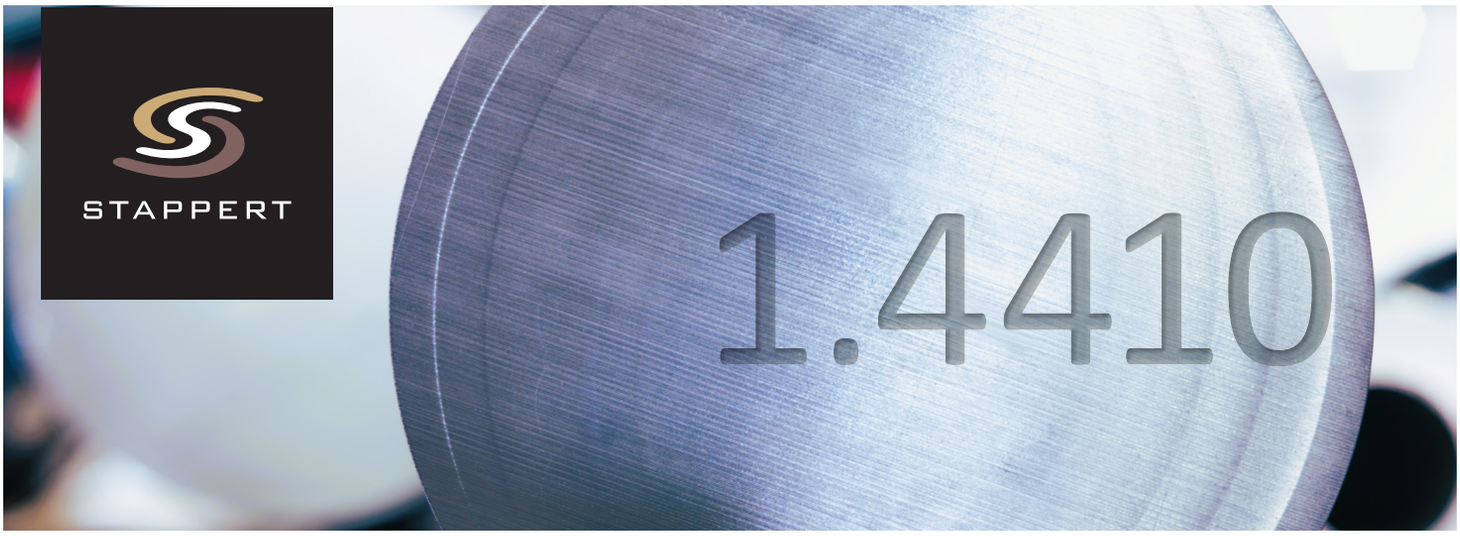


# First Choice for Water Management Applications

Material datasheet for **1.4410 Super Duplex | S32750 | X2CrNiMoN25-7-4 | AISI F53**

1.4410 is a **highly corrosion-resistant austenitic ferrous** super-duplex steel. Due to its outstanding crevice corrosion and pitting resistance in chloride media and seawater, it is frequently used when conventional corrosion-resistant duplex steels no longer suffice.

The superior rigidity and resistance of this new duplex product also make it a preferred steel in the oil and construction industries, the chemical and petrochemical industries, as well as in the offshore, textile and pulp industries.

## WELDING

1.4410 can be flawlessly worked due to its high yield strength and rigidity. It can be welded with any method with the exception of gas welding.

## MACHINING

Its properties are somewhat similar to those of the material 1.4462. The high alloy content and two-phase structure can make machining difficult. This should be considered when selecting tools, working times and coolant.

## AVAILABLE DIMENSIONS

Round bars:
16, 20, 30, 40, 50, 60, 70, 80, 90, 100, 110, 120, 130, 140, 150, 160, 180, 200, 325, 350, 375, 400, 425 mm

Tubes:
21,3 x 2,77 / 21,3 x 3,73 / 26,7 x 2,87 / 26,7 x 3,91
33,4 x 3,38 / 33,4 x 4,55 / 42,2 x 3,56 / 48,3 x 3,68
48,3 x 5,08 / 60,3 x 3,91 / 60,3 x 5,54 / 88,9 x 3,05
88,9 x 5,49 / 114,3 x 3,05 / 114,3 x 6,02

## APPLICATIONS

- Onshore/offshore industries
- Pipeline construction
- Chemical and petrochemical industries
- Oil and construction industries
- Textile and pulp industries
- Water management, wastewater treatment and desalination plants

## MECHANICAL PROPERTIES UNDER HIGH TEMPERATURES

| Tensile strength value | Delivery state | Temperature °C | | | | |
|---|---|---|---|---|---|---|
| | | 100 | 150 | 200 | 250 | 300 |
| Rp0.2 | solution annealed | ≥450 | ≥420 | ≥400 | ≥380 | - |

## MECHANICAL PROPERTIES AT ROOM TEMPERATURE

Stated values apply to bar steel up to 160 mm max.
(EN 10088-3)

**Heat treatment condition:**
solution annealed

**Diameter dimension:**
max. 160 mm

**Yield strength Rp0.2 (N/mm²):**
at least 530

**Tensile strength Rm (N/mm²):**
730 - 930

**Elongation at fracture A5 (%):**
longitudinal: min. 25

**Notch-impact strength (ISO-V) J:**
longitudinal: min. 100

## HEAT TREATMENT

**Solution annealing:**
1040 – 1120 °C /
Cooling: water, air

**Hot forming:**
1000 – 1200 °C /
Cooling: air

## CHEMICAL ANALYSIS

| Chem. Element | 1.4410 Super Duplex | |
|---|---|---|
| | min. | max. |
| C | - | 0.03 |
| Si | - | 1.0 |
| Mn | - | 2.0 |
| P | - | 0.035 |
| S | - | 0.015 |
| Cr | 24,0 | 26.0 |
| Mo | 3,0 | 4.5 |
| Ni | 6,0 | 8.0 |
| N | 0,24 | 0.35 |
| Cu | - | 0.5 |

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