

# 13Cr SMSS 110 ksi SMYS

## Material Designation

S41425	UNS
1.4415	DIN
X2CrNiMo13-5-2	DIN

## Standards

NORSOK M-650
DIN EN 10088-3

## Chemical Composition Mass-%

	C	Si	Mn	P	S	Cr	Ni	Mo	Nb
min.	-	-	0,50	-	-	12,0	5,0	1,5	-
max.	0,030	0,50	0,70	0,020	0,005	13,5	6,0	2,0	0,050

## Properties

13% Cr-super martensitic stainless steel with high yield strength in combination with good resistance against corrosion in slightly sour environments.

Qualified according Norsok M-650 and NACE MR 0175/ISO 15156-3 annex B. Approved by major oil- and gas companies.

## Delivery Condition

✘ quenched and tempered (+QT)

## Application Area

High-strength components for the oil- and gas industry.

## Typical Applications

- ✘ Chemical and petrochemical industry
- ✘ On- and offshore industry

## Mechanical Properties

Yield strength		Tensile strength		Elongation	Hardness	Impact toughness CVN / - 10 °C / 14 °F	
[ksi]	[N/mm <sup>2</sup> ]	[ksi]	[N/mm <sup>2</sup> ]	[%]	[HRC]	[J]	[ft·lb]
110 - 140	758-965	≥ 125	≥ 861	≥ 16	≤ 32	≥ 100	≥ 73

## Heat Treatment

Guideline Values, inductive reheating and direct quenching process is allowed

	Temperature [°C]	Cooling medium
Quenched and tempered (+QT)	927 - 985 (Hardening)	Air or faster
	> 595 (Tempering)	Air
	Temperature [°F]	Cooling medium
Quenched and tempered (+QT)	1700 - 1800 (Hardening)	Air or faster
	> 1100 (Tempering)	Air

SSC / SCC data available on request.

## Quality

- ISO 9001
- ISO 14001
- ISO 50001
- Approvals acc. to standards like ABS, BV, DNVGL ...
- Customer specific approval certificates

## Innovation

- Fully automated ultrasonic testing up to dia. 39.3" (1000 mm)
- CO<sub>2</sub>-reduction by innovative heat treatment solutions

## Flexibility

- Product range from fine wire to forging
- Directly from stock close at hand

## Individuality

- Dimensions
- Tolerances
- Surface qualities
- Delivery conditions

## Your personal contact:

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