

Material data sheet

Bars in the grade

1.4104

Designations:

EU	USA
1.4104	UNS S43020
X14CrMoS17	430F

Chemical composition (wt %):

C:	0,10-0,17 %
Mn:	max. 1,50 %
P:	max. 0,04 %
S:	0,15-0,35 %
Si:	max. 1,00 %
Cr:	15,5-17,5 %
Mo:	0,2-0,6 %

Basic properties:

Density:	7,9 g/cm ³	Ferromagnetic steel	
Thermal capacity:	460 J/kg/K	Saturation:	1,6 T
Thermal conductivity:	25 W/m/K	Electrical resistance:	730 μΩ.mm (20°C)

Mechanical properties:

Condition	Rp0,2 (MPa)	Rm (MPa)	A (%)	Z(%)
Annealed	max. 600*	max. 730	min. 15*	min 50*
QT650	min. 500	650-850*	min. 12*	min. 35*

*The values marked in this way are only informative typical values, which are not specified in the standard.

Other properties:

Corrosion resistance (note: it should be taken into account that corrosion resistance is influenced by many factors and that it is a typical corrosion resistance that may vary due to the specific influences acting on the steel)

Nitric acid	usable with caution
Phosphoric acid	bad
Sulphuric acid	bad
Acetic acid	usable with caution
Sodium carbonate	usable with caution
Sodium chloride	usable with caution
Humidity	good
Sea water	bad

Treatment:

Machining	+++
Automatic machining	+++
Forging	+
Cold forming	+++
Polishing	0
Welding	0/+ (under strict conditions, e.g. elevated temperature with subsequent annealing)

Delivered tolerances:

Rolled descaled bars	k13
Cold finished bars (drawn, turned, ground)	f,g,h 6-11
Hexagonal drawn bars	h11

Typical applications:

- Fasteners, shafts
- Electrical appliances
- Automotive
- Transport engineering