

Quality 1.4401

According to Standard EN 10088 - 1 : 2014



Number

Comparable Standards

German DIN

France AFNOR

Spain UNE

China GB

U.K. B.S.

Russia

GOST

USA AISI - SAE

Japan JIS

X5CrNiMo17-12-2

0Cr17Ni12Mo2

08Ch17N13M2

316

SUS 316

Chemical Analysis

C% max

Si% max

Mn% max

P% max

S% max

Cr%

N% max

Ni%

Mo% max

0.07

1.00

2.00

0.045

0.015

16.5-18.5

0.11

10.0-13.0

2.0-2.5

Hot Work and Heat Treatment Temperatures

Temperature °C

Melting Range	Hot Forming	Soft Annealing +A	Solution Annealing	Sensitization	Stabilizing	Quenching	Tempering	Annealing
1400-1380	1200-900	not suitable	1100-1050	800-450	unnecessary	not suitable	not suitable	-
			water					

Mechanical Properties at Room Temperature

Heat Treated Materials EN 10088 - 3 : 2014

Size d/t		Testing at Room Temperature (Longitudinal)								
mm		R	Rp 0.2	A%	C%	Kv	HB			
From	To	N/mm2	N/mm2	min.	min.	J min.	max			
160	250	500-700	200	40		100	215			
		500-700	200	30		60	215			

Bright Bars of Heat Treated Material EN 10088-3: 2014

Size d/t		Testing at Room Temperature (Longitudinal)								
mm		R	Rp 0.2	A%	Z%	Kv	HB			
From	To	N/mm2	N/mm2	min.	min.	J min.	max			
10	10	600-950	400	25						
10	16	580-950	380	25						
16	40	500-850	200	30		100				
40	63	500-850	200	30		100				
63	160	500-700	200	40		100				
160	250	500-700	200	30		60				

Effect of Cold-working (Hot rolled +RA +C)

R	N/mm2	550	660	800	1000	1110	1220	1320	1430	
Rp 0.2	N/mm2	260	510	640	790	840	920	1020	1120	
A	%	50	22	14	13	10	8	8	8	
Reduction	%	0	10	20	30	40	50	60	70	

Magnetic no  
Machinability low  
Hardening cold-drawn and other cold plastic deformatuions  
Service temperature in air continous service up to 850 °C; intermittent service up to 800 °C