

Quality	X3CrNb17										
According to Standard	EN 10088 - 3 : 2014										
Number	1.4511										
Comparable Standards	German DIN	France AFNOR	Spain UNE	China GB	U.K. B.S.	Russia	GOST	USA AISI - SAE	Japan JIS	Republic Of Korea KS	
	X3CrNb17	-	-	-	-	-	-	430Nb	SUS 430LX	STS 430LX	
Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	Cr% max	Mo% max	Ni% max	Cu% max	Nb% max	
	0.05 +/- 0.01	1.00 +/- 0.05	1.00 +/- 0.03	0.040 +/- 0.005	0.030 b) +/- 0.005	16.0 - 18.0 +/- 0.2	-	-	-	1.00 0.05	

### Hot Work and Heat Treatment Temperatures

#### Temperature °C

Melting Range	Hot Forming	Solution Annealing (Solubilization) + AT	Stabilizing	Quenching +Q	Tempering +T	Soft Annealing	Sensitization		
1500-1470	1100-850	Not Suitable (HB max 360)	Not Necessary	Not Suitable	Not Suitable	850-750 air	Not Suitable		

Chemical Treatment : Pickling (15-25% HN03) + (1-8% HF) hot

### Mechanical Properties at Room Temperature

Materials Annealed + A EN 10088-3: 2014 in conditions 1C, 1E, 1D, 1X, 1G, 2D

Size mm from	to	Testing at room temperature					HBW for info. Only
		R N/mm2	Rp 0.2 N/mm2 min.(L)	Rp 0.2 N/mm2 min.(T)	A% T < 3 min (L)	A% T < 3 min (T)	
50	420-620	200	-	20	-	200 max	

a) for information only (L) = longitudinal (T) = transversal

Bright bars of heat-treated materials EN 10088-3: 2014 in Conditions 2H, 2B, 2G, 2P

Size mm from	to	Testing at room temperature		
		R N/mm2	Rp 0.2 N/mm2 min.	A% min(L)
10	500-750	320	8	
10	16	480-750	300	10
16	40	400-700	240	15
40	50	400-700	240	15

(L) = longitudinal (T) = transversal

Effect of cold-working (hot-rolled +A+C). Approximate values.

R Reduction	N/mm2 °C	450	560	600	620	660	700	750	790
		0	10	20	30	40	50	60	70

Minimum values for the 0.2% proof strength at elevated temperatures, annealed materials +A EN 10088-2:2014

Rp 0.2 Test at	N/mm2 °C	-	190	180	170	160	155	-	-
		50	100	150	200	250	300	350	400