

Quality 1.4305

According to Standard EN 10088 - 1 : 2014

Number



Comparable Standards German DIN China GB USA AISI - SAE Japan JIS U.K. B.S. Russia GOST

X8CrNiS18-9 Y1Cr18Ni9 303 SUS 303

Chemical Analysis C% max Si% max Mn% max P% max S% max Cr% N% max Ni% Cu% max

0.1 1.00 2.00 0.045 0.15 - 0.35 17.0 - 19.0 0.11 8.0 - 10.0 1.00

Hot Work and Heat Treatment Temperatures

Temperature °C

Melting Range	Hot Forming	Soft Annealing +A	Solution Annealing	Sensitization	Stabilizing	Quenching	Tempering	Annealing
1420 - 1400	1200-900	not suitable	1150-1040 water/air	800-450	not necessary	not suitable	not suitable	-

Mechanical Properties at Room Temperature

Heat Treated Materials EN 10088 - 3 : 2014

Size d/t mm		Testing at Room Temperature (Longitudinal)					
From	To	R N/mm2	Rp 0.2 N/mm2	A% min.	C% min.	Kv J min.	HB max
	160	500-750	190	35			230

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

Size d/t mm		Testing at Room Temperature (Longitudinal)					
From	To	R N/mm2	Rp 0.2 N/mm2	A% min.	C% min.	Kv J min.	HB max
	10	600-950	400	15	-	-	-
10	16	600-950	400	15	-	-	-
16	40	500-850	190	20	-	-	-
40	63	500-850	190	20	-	-	-
63	100	500-750	190	35	-	-	-

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

R	N/mm2	610	800	1000	1200	1320	1480	1600	1750
Rp 0.2	N/mm2	240	550	740	880	1020	1200	1320	1450
A	%	40	20	16	10	8	8	8	6
permeability		1.005	1.06	1.64	3.44				
Reduction	%	0	0	20	30	40	40	60	70

Magnetic not
 Machinability high
 Hardening cold-drawn and other cold plastic deformatuions
 Service temperature in air continous service up to 870 °C; intermittent service up to 760 °C