

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
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X8CrNiS18-9	Y1Cr18Ni9	303	SUS 303
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Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	Cr%	N% max
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0.1	1.00	2.00	0.045	0.15 - 0.35	17.0 - 19.0	0.11
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Ni%	Cu% max
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8.0 - 10.0	1.00
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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	800-450	not necessary	not suitable	not suitable	-
			water/air					

Mechanical Properties at Room Temperature

Heat Treated Materials EN 10088 - 3 : 2014

Testing at Room Temperature (Longitudinal)

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

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

Testing at Room Temperature (Longitudinal)

Size d/t	mm	R	Rp 0.2	A%	C%	Kv	HB
From	To	N/mm2	N/mm2	min.	min.	J min.	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