

Quality	X15CrNiSi20-12									
According to Standard	EN 10088-1 (06/2005) (GB)									
Number	1.4828									
Comparable Standards	German DIN	France AFNOR	USA ASTM	China GB	U.K. B.S.	Russia GOST	USA UNS	Japan JIS	Republic Of Korea KS	
	X15CrNiSi20-12	Z 9 CNS 24.13	309	-	309S	-	S 30900	-	-	
Chemical Analysis	C% max	Si% max	Mn% max	P% max	S% max	Cr% max	Mo% max	Ni% max	N max	
	0.2	1.50 - 2.50	2.00	0.040	0.150	19.0 - 21.0	-	11.0 - 13.0	0.11	
Physical Properties										
Property	Value									
Density: kg/dm ³	7,9									
Hardness: HB 30 magnetizable	>=223 non									
Temperature T	Specific heat	Thermal conductivity	Electric resistance	Modulus of elasticity	Expansion rate from 70°F bis T					
°C/F	J / kgK	W/mK	μΩ · cm	kN/mm ²	10 ⁻⁶ / K					
(°C/F)	(Btu / lb °F)	(Btu-in / ft ² ·h·°F)	(Ω circ mill / ft)	(10 ³ ksi)	(10 ⁻⁶ / °F)					
20 / 68	500 (--)	157(--)		196(--)						
200 / 392					16,5 (--)					
400 / 752					17,5 (--)					
500 / 932	500 / (--)	21/(--)			18,0 (--)					
600 / 1112					18,5 (--)					
800 / 1472					19,5 (--)					
1000 / 1832										
Temp.	Creep strain limit	Creep strain limit	Creep rupture strength	Creep rupture strength	Creep rupture strength					
°C/°F	Rp 01 (10 000h)		10 000 h	100.000 h						
°C/°F	N/mm ² / ksi		N/mm ² / ksi	N/mm ² ksi						
100/ 212										
400 / 752										
500 / 932										
600 / 1112	80 / 11,6		120 / 17,4	65 / 9,4						
700 / 1292	25 / 3,6			16 / 2,3						
800 / 1472	10 / 1,4		18 / 2,6	7,5 / 1,0						
900	4 / 0,6		5 / 0,7	3 / 0,4						
Mechanical properties (20°C / 68°F)										
0,2% Yield strength (Mpa)	230									
Tensile strength Rm Mpa	500-750	Solution Annealed								
Elongation A5 (%)	>=30%									