

Stainless Steel General Specification

Steels Classified		International Designations			Chemical Composition					Mechanical Properties				Corrosion Resistance				Cold Formability	Weldability
Family	AISI	EN 10088 Number	EN 10088 Name	C	Cr	Ni	Mo	Others	Yield % 0.2 Rp 0.2	Yield % 1 Rp 1	Tensile Strength Rm	Elongation ASO	General	Pitting	SCC	Heat Resistance			
Ferritic	Chromium	410S	1.4000	X6Cr13	0.03	12.5	-	-	-	250	-	415	20	o	o	x	o	x	x
		-	1.4003	X2CrNi12	0.02	11	0.5	-	-	320	340	450	20	o	o	x	o	xx	xx
		409	1.4512	X2CrTi12	0.01	11.5	-	-	Ti=0.2	220	-	400	30	o	o	x	o	xxx	xx
		409	1.4512	X2CrTi12	0.01	11.5	-	-	Ti=0.2	220	240	390	30	o	o	x	o	xxx	xx
		430	1.4016	X6Cr17	0.05	16.3	-	-	-	270	-	450	20	x	x	xx	x	xxx	x
		-	1.4520	X2CrTi17	0.02	16.5	-	-	Ti=0.35	280	-	450	24	x	xx	xx	x	xxx	xx
		439	1.4510	X3CrTi17	0.02	16-18	-	-	Ti+Nb	280	-	450	24	x	xx	xx	x	xxx	xx
		-	1.4511	X3CrNb17	0.02	16.5	-	-	Nb=0.35	280	-	450	24	x	x	xx	x	xx	xx
		-	1.4509	X2CrTiNb18	0.02	18	-	-	Nb,Ti	260	-	450	28	x	xx	xx	xx	xx	xx
Chromium Molybdenum	434	1.4113	X6CrMo17-1	0.04	17	-	0.9	-	370	-	540	27	xx				xx	x	
	-	1.4513	X2CrMoTi17-1	0.02	18	-	1.2	Ti,N	290	-	450	27	xx	xx	xx	x	xxx	xx	
	-	1.4521	X2CrMoTi18-2	0.02	18	-	2.1	N+Ti	300	-	420	28	xxx	xxx	xxx	x	xxx	xx	
Martensitic		420	1.4034	X46Cr13	0.45	13	-	-	340	-	600	24	x	x	x	x	ooo	ooo	
		420	1.4028	X30Cr13	0.35	13	-	-	300	-	550	25	o	o	o	o	o	o	
Austenitic	Chromium Nickel	304	1.4301	X5CrNi18-10	0.05	18.3	8.1	-	-	235	265	550	45	xx	xx	o	xx	xx	xxx
		304	1.4301	X5CrNi18-10	0.05	18.3	8.6	-	-	235	265	550	45	xx	xx	o	xx	xxx	xxx
		304	1.4301	X5CrNi18-10	0.05	18.3	9	-	-	235	265	550	45	xx	xx	o	xx	xxx	xxx
		304L	1.4306	X2CrNi19-11	0.03	18.3	10	-	-	235	265	520	45	xx	xx	o	xx	xxx	xxx
		301	1.4310	X10CrNi18-8	0.08	17	7	-	-	250	290	600	40	x	x	o	xx	xx	xxx
		-	1.4318	X2CrNi18-7	0.025	17.3	6.7	-	N=0.14	330	370	690	40	xx	xx	o	xx	xx	xxx
	Chromium Nickel Molybdenum	321	1.4541	X6CrNiTi18-10	0.05	17.3	9.2	-	Ti=0.35	245	275	540	45	xx	xx	o	xx	xx	xxx
		316	1.4401	X5CrNiMo17-12-2	0.05	17	10.7	2.2	-	255	-	550	45	xxx	xxx	o	x	xx	xxx
		316L	1.4404	X2CrNiMo17-12-2	0.02	17	11.2	2.2	-	255	-	550	45	xxx	xxx	o	x	xxx	xxx
		316L	1.4404	X2CrNiMo17-12-2	0.02	17	11.2	2.2	S=0.015	255	-	550	45	xxx	xxx	o	x	xxx	xxx
		316L	1.4435	X2CrNiMo18-14-3	0.02	17.5	13	2.8	-	255	-	550	45	xxxx	xxxx	o	x	xxx	xxx
	Heat Resistance	316Ti	1.4571	X6CrNiMoTi17-12-2	0.04	17	11	2.2	Ti=0,35	240	-	540	40	xxx	xxx	o	x	xx	xxx
		304H	1.4948	X6CrNi1810	0.06	18.5	8.7	-	N=0,10(max)	235	265	550	45	xx		o	xx	xx	xxx
		321H	1.4878	X8CrNiTi18-10	0.05	17.3	9.2	-	Ti=0.35	210	230	500	40	xx		o	xx	xx	xx
-		(-1.4828)	-	0.05	19.3	11.2	-	Si=2	230	260	550	35	x		o	xxx	x	xxx	
	309S	1.4833	X12CrNi23-13	0.05	23	13.5	-	-	210	250	500	33	xx		o	xxx	x	xxx	
	310S	1.4845	X8CrNi25-21	0.05	25	20	-	Si=0.6	210	250	500	33	xx		o	xxxx	x	xx	

*Chemical composition and mechanical properties according to EN 10095

20 °C Minimum Values (MPa)
o Non applicable/ Not required
xxx Difficult
ooo Difficult
x Acceptable resistance
xx Good
xxx Excellent
xxxx Designed to improve this property