High alloy steels | **Austenitic / Ferritic steels**

Stooss specification	DIN material no.	Short specification according to DIN	EN specification	GB	USA Type	USA UNS	F	J		Chemical analysis in weight per cent Upper and lower range C	Si	Mn	P	S	Cr	Ni	Mo	V	Al	Nb	Other
Austenitic chrome-nickel steels																					
4301	1.4301	X 5 CrNi 18 10	X 5 CrNi 18 10	304S15	AISI 304	S30400	Z 6 CN 18 09	SUS 304	min.						18.00	8.50					
	DIN 17440 / EN 10088-1 / Rustproof steel								max.	0.07	1.00	2.00	0.040	0.030	19.00	10.00	0.500				N max. 0.100
4306	1.4306	X 2 CrNi 19 11	X 2 CrNi 19 11	304S11	AISI 304L	S30403	Z 2 CN 18 10	SUS 304L	min.						18.00	10.00					
	DIN 17440 / EN 10088-1 / Rustproof steel								max.	0.03	1.00	2.00	0.040	0.025	19.00	11.00	0.500				Cu max. 0.50 Ti max. 0.10 N max. 0.100 B max. 0.005
4306 ESU	1.4306	Manufacture according to ESU procedure			AISI 304L	S30403	Z 2 CN 18 10		min.						18.00	10.00					
	DIN 17440 / EN 10088-1 / Rustproof steel								max.	0.03	1.00	2.00	0.040	0.030	20.00	12.50					N max. 0.100
4541	1.4541	X 6 CrNiTi 18 10	X 6 CrNiTi 18 18	321S31	AISI 321	S32100	Z 6 CNT 18 10	SUS 321	min.						17.00	9.00					
	DIN 17440 / EN 10088-1 / Rustproof steel / Parts for the foodstuff industry								max.	0.08	1.00	2.00	0.040	0.030	19.00	11.00	0.05				N max. 0.100 Ti min. 5(C+N) max. 0.60
4435	1.4435	X 2 CrNiMo 18 14 3	X 2 CrNiMo 18 14 3	316S13	AISI 316L	S31603	Z 3 CND 17 12 03	SUS 316L	min.						17.00	12.50	2.50				
	DIN 17440 / EN 10088-1 / Rustproof and acidproof steel / Parts for the textile industry / Fe content max. 0.5% (Basler Norm)								max.	0.03	1.00	2.00	0.040	0.015	18.00	14.00	3.00				N max. 0.100 Ti max. 0.05 Co max. 0.20
4435 ESU	1.4435	Manufacture according to ESU procedure			AISI 316L	S31603	Z 3 CND 17 12 03		min.						17.00	12.50	2.50				
	DIN 17440 / EN 10088-1 / Rustproof and acidproof steel / Parts for the textile industry								max.	0.03	1.00	2.00	0.040	0.025	18.50	15.00	3.00				N max. 0.100 Ti max. 0.05
4401	1.4401	X 5 CrNiMo 17 12 2	X 5 CrNiMo 17 12 2	316S31	AISI 316	S31600	Z 7 CND 17 11 02	SUS 316	min.	0.04					16.50	10.50	2.00				
	DIN 17440 / EN 10088-1 / Rustproof and acidproof steel / Parts and equipment for the chemical industry								max.	0.07	1.00	2.00	0.040	0.030	18.00	12.50	2.50				N max. 0.100 Ti max. 0.05 Co max. 0.20
4571	1.4571	X 6 CrNiMoTi 17 12 2	X 6 CrNiMoTi 17 12 2	320S31	AISI 316Ti	S31635	Z 6 CNDT 17 12	SUS 316 Ti	min.						16.50	11.00	2.00				
	DIN 17440 / EN 10088-1 / Rustproof and acidproof steel / Parts and equipment for the chemical and textile industries								max.	0.08	1.00	2.00	0.040	0.030	18.00	13.00	2.50				Ti min. 5(C) max. 0.60
4429	1.4429	X 2 CrNiMoN 17 13 3	X 2 CrNiMoN 17 13 3	316S63	AISI 316LN	S31653	Z 3 CND 17 12 Az	SUS 316 LN	min.						16.50	11.50	2.50				
	DIN 17440 / EN 10088-1 / Rustproof steel / Parts for pressure vessel manufacture								max.	0.03	0.75	2.00	0.040	0.025	18.00	14.00	3.00				N 0.14–0.16
4563	1.4563	X 1 NiCrMoCu 31 27 4	X 1 NiCrMoCu 31 27 4	X 1 NiCrMoCu 31 27 4	ASTM B668	N08028	Z 2 NCDU 31 27		min.						26.00	30.00	3.00				
	DIN 17440 / EN 10088-1 / Rustproof steel / Parts for heat exchangers / Resistant to sulphuric and phosphoric acids containing Cl and S / Good resistance to localised and crevice corrosion.								max.	0.02	1.00	2.00	0.020	0.015	28.00	32.00	4.00				Cu 0.80–1.40
4539	1.4539	X1 NiCrMoCuN25 20 5	X1 NiCrMoCuN25 20 5	904S13	ASTM A240	N08904	Z 2 NCDU 25 20		min.		0.30	0.50			19.00	24.00	4.00				
	DIN 17440 / EN 10088-1 / Rustproof steel / Parts for heat exchangers / Resistant to sulphuric and phosphoric acids containing Cl and S / Good resistance to localised and stress corrosion.								max.	0.02	0.70	1.50	0.030	0.010	21.00	26.00	5.00				Cu 1.00–2.00 N 0.050–0.150
A182F44	1.4547	X1 CrNiMoCuN 20 18 7	X1 CrNiMoCuN 20 18 7	X1 CrNiMoCuN 20 18 7	A182 F44	S31254	X1CrNiMoCuN 20 18 7		min.						19.50	17.50	6.00				
	ASTM A 182 / Rustproof steel / Parts for valves. / (254SMO)								max.	0.02	0.80	1.00	0.030	0.010	20.50	18.50	6.50				Cu 0.50–1.00 N 0.18–0.22
A316L	1.4404	X 2 CrNiMo 17 12 2	X 2 CrNiMo 17 12 2	316S11	A182 F 316L	S31603	Z 3 CND 17 11 02	SUS F316L	min.						16.50	11.00	2.00				
	ASTM A 182 / DIN 17440 / Rustproof steel / Parts for valves, pressure vessels, heat exchangers								max.	0.03	0.75	2.00	0.040	0.015	18.00	13.00	2.50				Co max. 0.20 Ti max. 0.05 N max. 0.100
F316LN M1	(1.4406)	X 2 CrNiMoN 17 11 2	X 2 CrNiMoN 17 11 2	316S61	A182 F316LN		Z 3 CND 17 11 Az	SUS F316LN	min.						18.00	10.00	2.00				
	ASTM A182 / Modified analysis for valve parts								max.	0.03	0.75	2.00	0.030	0.030	19.00	12.00	2.50				N 0.15–0.25
Other chrome-nickel steels																					
4313	1.4313	X 5 CrNi 13 4	X 3CrNi 13 4	425C11	ASTM 182 F6NM	S41500	Z 6 CN 13 04	SCS 5	min.	0.025	0.20	0.50			12.50	4.00	0.50		0.010		Co max. 0.20 Cu max. 0.20
	DIN 17440 / EN 10088 / SEW 400 / Rustproof steel / Good for welding / Power station and reactor manufacture / Turbine rotor disks, compressor and pump wheels								max.	0.040	0.60	1.00	0.025	0.015	13.50	4.50	0.70	0.08	0.030		N 0.020–0.040 Ti max. 0.050
4313 M1	1.4313	Modified analysis		425C11	CA6NM	S41500	Z 6 CN 13 04		min.	0.015	0.30	0.50			12.50	3.75	0.50		0.010		Co max. 0.10 Cu max. 0.20
	Vd TÜV Bl. 395 / ASTM 182 F6NM / NACE MR-01-75 / Hardness HRC max. 23 / HB max. 255								max.	0.025	0.60	1.00	0.025	0.015	13.00	4.25	0.70	0.08	0.030	0.05	N 0.010–0.035 Ti max. 0.050 C+N max. 0.055
4418	1.4418	X 4 CrNiMo 16 5 1	X 4 CrNiMo 16 5 1	X 4 CrNiMo 16 5 1		S45000	Z 6 CND 16 5 1		min.	0.020	0.15	0.50			15.00	5.00	0.80				
	SEW 400 / EN 10088 / Rustproof and acidproof steel / Centrifuge and pump manufacture / Resistant to H20 corrosion								max.	0.030	0.40	0.80	0.030	0.010	15.50	5.40	1.10	0.15		0.20	N 0.040–0.080
4462 M1	1.4462	X 2 CrNiMoN 22 5 3			ASTM A182 F51	S31803	Z 3 CND 22 05 Az	SUS 329J3L	min.						21.00	4.50	2.50				
	Vd TÜV sheet 418 / Duplex steel / PRE min. 35								max.	0.03	1.00	2.00	0.030	0.015	23.00	6.50	3.50	0.07	0.020	0.02	N 0.150–0.200 Ti max. 0.010
4462 M2	1.4462	Modified analysis							min.						23.50	5.00	3.20	0.08			
	Vd TÜV sheet 418 / Duplex steel / PRE min. 37.5								max.	0.03	1.00	2.00	0.030	0.010	24.50	6.00	3.50	0.15	0.020		N 0.190–0.250
A564T630	(1.4542)	X 5 CrNiMoCuNb 16 4	X 5 CrNiMoCuNb 16 4	X 5 CrNiMoCuNb 16 4	A564T630	S17400	X5CrNiMoCuNb 16 4	SUS 630	min.	0.020		0.50			15.50	3.00				0.20	Cu 3.00–5.00 Nb+Ta 0.20–0.45 Ti max. 0.020 N 0.020–0.040
	ASTM A564 / EN 10088 / Rustproof steel / 17-4 PH								max.	0.050	0.70	1.00	0.025	0.015	17.00	5.00	0.60	0.060	0.030	0.40	Co max. 0.10 C+N max. 0.080
S 32750	(1.4410)	X 2 CrNiMoN 25 7 4	X 2 CrNiMoN 25 7 4	X 2 CrNiMoN 25 7 4	ASTM A182 F53	S32750	25CND20.10M	SCS 14A	min.		0.30	0.60			25.30	6.70	3.50				
	ASTM A182 / SABE 1874 / API 6a / SAF 2507 / Super duplex steel / PRE min. 42								max.	0.03	0.70	1.20	0.025	0.003	26.00	7.30	3.90	0.070	0.015		Cu max. 0.50 N 0.240–0.300 Ti max. 0.010
S 32760	(1.4501)	X2CrNiMoCuWN 25 7 4	X2CrNiMoCuWN 25 7 4	X2CrNiMoCuWN 25 7 4	ASTM A182 F55	S32760	X2CrNiMoCuWN 25 7 4		min.						24.00	6.00	3.00				Cu 0.50–1.00 W 0.50–1.00
	ASTM A182 / SABE M1788/89 / API 6a / NACE MR-01-75 / ZERON 100 / Super duplex steel / PRE min. 41								max.	0.03	1.00	1.00	0.030	0.010	26.00	8.00	4.00				N 0.200–0.300

The chemical analysis conform to STOOSS purchasing specifications. The comparative national designations may differ from the STOOSS analysis and are purely for information purposes.

Details on material application are for description purposes only. They are provided to the best of our knowledge, but without any guarantee. Special agreements in writing are always required.