Low alloy steels — Part 2

Stooss specification	DIN material no.	Short specification according to DIN	EN specification	GB	USA Type	USA UNS	F	J		C	Si	Mn	P	S	Cr	Ni	Mo	V	Al	Nb	Other
										Chemical analysis in weight per cent Upper and lower range											
Low alloy tempering steels																					
23 CrNiMo 7 4 7	1.6749	23 CrNiMo 7 4 7			ASTM A471	K32800			min.	0.20		0.50			1.70	0.90	0.60				
	SEW 555 / Turbine and generator construction / Hub and cover disks								max.	0.25	0.30	0.80	0.010	0.015	2.00	1.20	0.80	0.05	0.025		Cu max. 0.20
30 CrNiMo 8	1.6580HH	30 CrNiMo 8 HH	30 CrNiMo 8	823M30			30CND8	SNC M1	min.	0.30	0.15	0.50			1.80	1.80	0.30				
	DIN 17201 / SEW 550 / EN 10083-1 / Machine and equipment construction								max.	0.34	0.40	0.80	0.015	0.007	2.20	2.20	0.50				Sn max. 0.025 Cu max. 0.20
31 CrMoV 9	1.8519	31 CrMoV 9							min.	0.28	0.15	0.40			2.30		0.15	0.10			
	DIN 17211 / Nitride steel / crankshafts, valve spindles								max.	0.34	0.40	0.70	0.009	0.007	2.70		0.25	0.20			Sn max. 0.010 Cu max. 0.20
34 CrAlNi 7	1.8550	34 CrAlNi 7			ASTM A355	K52440			min.	0.30	0.15	0.40			1.50	0.90	0.15		0.80		
	DIN 17211 / Nitride steel / piston rods, spindles								max.	0.37	0.35	0.60	0.025	0.025	1.80	1.10	0.25		1.10		
56 NiCrMoV 7	1.2714	56 NiCrMoV 7	35CrMo8						min.	0.50	0.10	0.65			1.00	1.50	0.45	0.07	0.008		
	DIN 17350 / Tool steel / tools for hot work / forging dies								max.	0.60	0.40	0.95	0.030	0.030	1.20	1.80	0.55	0.12	0.020		Cu+10Sn max. 0.50
40 NiCrMo 6	1.6565	40 NiCrMo 6		818M40	AISI 4340			SNC M8	min.	0.36	0.15	0.50			1.00	1.40	0.20				
	Tool steel / dies for briquetting and compacting equipment								max.	0.44	0.35	0.70	0.025	0.025	1.40	1.70	0.30				
15 Mo 3	1.5415	15 Mo 3	16Mo3	243B		K11820	15D3	STBA 12	min.	0.12	0.15	0.50					0.25				
	DIN 17243 / EN 10028 / High temperature steel / application temperature up to max. 500°c. / power station construction / flanges								max.	0.20	0.35	0.70	0.035	0.030	0.25	0.30	0.35		0.050		
22 Mo 4	1.5419	22 Mo 4	G20Mo5	245	SAE 4422			SCPH 11	min.	0.18	0.20	0.40					0.30				
	DIN 17245 / EN 10213-2 / High temperature steel / application temperature up to max. 500°c. / power station construction / flanges								max.	0.25	0.40	0.70	0.015	0.018	0.30		0.50				
20 CrMoNiV 4 7	1.6979	20 CrMoNiV 4 7							min.	0.17		0.30			1.20	0.50	0.80	0.25			
	SEW 555 / Turbine construction and generator devices								max.	0.25	0.30	0.50	0.015	0.018	1.40	0.60	1.00	0.35	0.020		
13 CrMo 4 4	1.7335	13 CrMo 4 4	13CrMo4-5	620		K11562	15CD4-05	STBA 20	min.	0.10	0.10	0.40			0.80		0.45				
	DIN 17243 / EN 10028-2 / High temperature steel / application temperature up to max. 530°c. / power station construction								max.	0.18	0.35	0.70	0.025	0.015	1.10	0.30	0.60		0.030		
10 CrMo 9 10	1.7380	10 CrMo 9 10	10CrMo9-10	622		K21390	12CD9-10	STBA 24	min.	0.10	0.15	0.40			2.00		0.90		0.010		
	DIN 17243 / EN 10028 / SEW 595 / High temperature steel / application temperature up to max. 500°c. / power station construction								max.	0.14	0.30	0.60	0.015	0.010	2.50		1.10		0.040		Cu max. 0.25 N max. 0.012
3520	1.3520	100 CrMn 6	100CrMn6			K19195	100CM6		min.	0.90	0.55	1.05			1.45				0.005		Ti max. 0.003 Cu max. 0.25
	DIN 17230 / Roller bearing steel / WD to 50 mm								max.	1.00	0.70	1.20	0.025	0.008	1.65	0.30	0.080		0.050		O max. 0.0015
3539	1.3539	100 CrMnMo 8					100CrMnMo8		min.	0.90	0.40	0.80			1.80		0.50		0.015		Ti max. 0.003 Cu max. 0.25
	DIN 17230 / Roller bearing steel / WD > 50 mm								max.	1.00	0.60	1.10	0.025	0.008	2.05	0.30	0.60		0.050		O max. 0.0015
3536	1.3536	100 CrMo 7 3	100CrMnMo7		ASTM A485		100CrMo7-3		min.	0.90	0.20	0.60			1.65		0.20		0.015		Ti max. 0.003 Cu max. 0.25
	DIN 17230 / Roller bearing steel / WD > 50 mm								max.	1.00	0.40	0.80	0.025	0.008	1.95	0.30	0.35		0.050		O max. 0.0015
100 Cr 6	1.3505	100 Cr 6	100Cr6	2S.135	SAE 52100		100C6	SUJ 2	min.	0.98	0.20	0.25			1.40						
	DIN 17230 / Roller bearing steel / WD up to 30 mm								max.	1.05	0.30	0.45	0.025	0.025	1.60	0.30					Cu max. 0.30
100 Cr 6 M1	1.3505	100 Cr 6	Modified Analysis						min.	0.90	0.20	0.30			1.45				0.010	Cu	As max. 0.04 Sn max. 0.03 Ti max. 0.003
	DIN 17230 / Roller bearing steel / WD up to 30 mm								max.	1.00	0.35	0.45	0.025	0.008	1.65	0.25	0.080		0.050	0.25	O max. 0.0015 Sb max. 0.005 Pb max. 0.002
65 Cr 3	1.7017	65 Cr 3							min.	0.63	0.25	0.55			0.30						
	Alloy construction steel / rail vehicle construction / wheel tyres								max.	0.68	0.40	0.70	0.035	0.035	0.50						N max. 0.0070
AISI 4130	(1.7218)	25 CrMo 4	25CrMo4		AISI 4130		25CD4	SCCr M1	min.	0.28	0.20	0.40			0.80	0.20	0.15				
	ASTM A29 / General machine construction								max.	0.33	0.30	0.60	0.015	0.015	1.10	0.25	0.25	0.05			Cu max. 0.35
AISI 4130 M1	Modified Analysis				AISI 4130				min.	0.28	0.20	0.40			0.80		0.15				
	ASTM A29 / General machine construction								max.	0.33	0.30	0.60	0.010	0.010	1.10	0.25	0.25				Cu max. 0.35
AISI 4130 M2	Modified Analysis				AISI 4130				min.	0.29	0.20	0.50			0.95	0.60	0.20		0.020		As max. 0.025 Sn max. 0.025 N max. 0.010 B max. 0.0005
	ASTM A29 / Ni-alloy / General machine construction								max.	0.32	0.30	0.60	0.012	0.010	1.10	0.70	0.25	0.05	0.040	0.01	Sb max. 0.002 Pb max. 0.0015 Cu max. 0.20
AISI 4135	(1.7220)	34 CrMo 4	34CrMo4	708A30	AISI 4135		34CD4	SCCr M3	min.	0.33	0.15	0.70			0.90		0.15				
	ASTM A29 / General machine construction								max.	0.37	0.30	0.90	0.020	0.015	1.10	0.25	0.25				Cu max. 0.35
AISI 4140	(1.7225)	42 CrMo 4	42CrMo4	708M40	AISI 4140		42CD4	SCCr M4	min.	0.39	0.15	0.75			0.90		0.15				
	ASTM A 29 / General machine construction								max.	0.43	0.30	0.90	0.020	0.015	1.10	0.25	0.25	0.30			Cu max. 0.35
AISI 4140 M1	Modified Analysis				AISI 4140				min.	0.39	0.20	0.80			0.90		0.15				
	ASTM A 29 / General machine construction								max.	0.43	0.30	1.10	0.025	0.025	1.10		0.25	0.03			
AISI 4340	(1.6565)	40 NiCrMo 6		818M40	AISI 4340	G43400		SNC M8	min.	0.38	0.15	0.60			0.70	1.65	0.20		0.020		As max. 0.025 Sn max. 0.025 N max. 0.010 B max. 0.0005
	ASTM A182 Tool steel								max.	0.43	0.30	0.80	0.025	0.010	0.90	2.00	0.30	0.05	0.040	0.01	Sb max. 0.002 Pb max. 0.0015 Cu max. 0.20
A 182 F12	(1.7335)	13 CrMo 44	13CrMo4-5	620 - 440	ASTM A182F12	K11564	15CD4.05	STBa 20	min.	0.10	0.10	0.30			0.80		0.44				
	ASTM A 182 / Parts for valves / pipe flanges								max.	0.15	0.60	0.80	0.015	0.010	1.25		0.65				
AISI 8620	(1.6523)	20 NiCrMo 22	20NiCrMo2-2	805M20	AISI 8620	G86200	20NCD2	SNC M21	min.	0.18	0.20	0.70		0.010	0.40	0.40	0.15				
	ASTM A29 / General machine construction								max.	0.23	0.35	0.95	0.025	0.025	0.65	0.75	0.25				
AISI 8630	(6545)	30 NiCrMo 22	30NiCrMo2 KD		AISI 8630	G86300	30NCD2		min.	0.28	0.15	0.70			0.40	0.40	0.15				
	ASTM A29 / General machine construction								max.	0.33	0.35	0.90	0.035	0.040	0.60	0.70	0.25				
AISI 8630 M1	Modified Analysis				AISI 8630				min.	0.28	0.15	0.75			0.85	0.80	0.35		0.010		
	ASTM A29 / General machine construction								max.	0.33	0.35	0.90	0.015	0.010	1.00	0.90	0.45	0.006	0.020	0.006	Cu max. 0.20 Ti max. 0.007

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.