Unalloyed 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
Unalloyed hardened steels																					
CK 10	1.1121	Ck 10	C10E	040 A 10	SAE 1010		C10E	S 10	min.	0.07	0.15	0.40									
									max.	0.10	0.40	0.60	0.025	0.015	0.10	0.50					
	DIN 17210																				
CK 15	1.1141	Ck 15	C15E		SAE 1015		C15E	S 15	min.	0.12	0.15	0.40							0.020		
									max.	0.17	0.35	0.60	0.035	0.035							
	DIN 17210 / EN 10084																				
ST 37-2	1.0038	Rst37-2	S235JRG2	EN 40B	A252(1)		S235JRG2	S 10	min.	0.12											
									max.	0.17	0.50	1.60	0.050	0.050	0.30	0.30	0.080				Cu max. 0.40 N max. 0.0070
	DIN 17100 / EN 10025																				
Unalloyed steels for hardening and tempering																					
Ck 22	1.1151	Ck 22	C22E	070M20	SAE 1023		XC25	S 22 C	min.	0.18	0.15	0.40							0.020		
									max.	0.23	0.30	0.60	0.035	0.030	0.30				0.050		
	DIN 17201 / EN 10083-1 / General machine construction / DIN 17243 - C22.8																				
CK 35	1.1181	Ck 35	C35E	080M38	SAE 1035		XC25	S 35 C	min.	0.33	0.15	0.50									
									max.	0.39	0.35	0.80	0.025	0.030	0.40	0.40	0.100				
	DIN 17204 / EN 10083-1 / General machine construction																				
CK 45 M1	1.1191	Ck 45	C45E	080M46	SAE 1045		XC45	S 45 C	min.	0.44	0.15	0.50		0.010							
									max.	0.49	0.35	0.80	0.020	0.025							
	DIN 17200 / EN 10083-1 / General machine construction																				
CK 60	1.1221	Ck 60	C60E	070M60	SAE 1064		XC65	S 60 MC	min.	0.57	0.15	0.60									
									max.	0.65	0.35	0.90	0.035	0.030							
	DIN 17201 / EN 10083-1 / General machine construction																				
CK 67	1.1231	Ck 67	2C567	060A67	SAE 1070		XC68	S 70 CM	min.	0.65	0.15	0.60									
									max.	0.72	0.35	0.90	0.035	0.035							
	DIN 17222 / Spring steel, parts for rail vehicles																				
ST 52-3 M1/M2	1.0570	St 52-3	S355J2G3	EN50D	SAE 1025		S355J2G3	SM 50 A	min.	0.17	0.30	1.40							0.020	0.03	
									max.	0.20	0.55	1.60	0.025	0.015	0.30	1.00	0.080	0.20		0.05	Ti max. 0.020 N max. 0.0200
	DIN 17100 / EN 10025 / General machine construction																				
30 Mn 5	1.1165	30 Mn 5		A5	SAE 1330			SCMn 2	min.	0.27	0.15	1.20									
									max.	0.34	0.40	1.50	0.035	0.035	0.30						
	DIN 17205 / General machine construction SEW 550 - 28Mn6																				
TStE 500	1.8917	TStE 500			ASTM A225	K11523			min.	0.10	0.10	1.40			0.02	0.50			0.020		
									max.	0.18	0.50	1.70	0.015	0.005	0.30	0.80	0.100	0.012	0.050	0.05	Cu max. 0.20 N max. 0.0150 H_2 max. 0.0002
	DIN 17103 / General machine construction / High-tensile tempering steel / suitable for welding																				
A 105	(1.0432)	C21			ASTM A105				min.	0.18	0.15	0.90									
									max.	0.22	0.30	1.05	0.025	0.010	0.30	0.40	0.120	0.01		0.02	Ti max. 0.05 Cu max. 0.20
	ASTM A105 / For usage in offshore industries / flanges, ball valves																				
LF2	Modified analysis				ASTM A350 LF2				min.	0.17	0.15	1.00							0.020		
									max.	0.20	0.30	1.30	0.015	0.015	0.30	0.40	0.120	0.03		0.02	Cu max. 0.40
	ASTM A350 / For usage in offshore industries / flanges, ball valves																				
LF2 M1	Modified analysis				ASTM A350LF2				min.	0.20	0.15	1.10							0.020		
									max.	0.24	0.30	1.35	0.015	0.015	0.20	0.25	0.060	0.03	0.050	0.02	Cu max. 0.20 N max. 0.0200
	ASTM A350 / For usage in offshore industries / flanges, ball valves																				
LF2 M10	1.0566	TStE 355							min.	0.13	0.15	0.90			0.15	0.15			0.020		Cu max. 0.165 As max. 0.080
									max.	0.17	0.30	1.35	0.025	0.005	0.25	0.25	0.10	0.01	0.040	0.02	N max. 0.0150
	ASTM A350 / DIN 17103 / For usage in offshore industries / flanges, ball valves																				
X 65					API 5L				min.	0.09	0.15	1.25					0.15	0.05	0.020	0.03	Cu max. 0.20 N 0.007–0.012
									max.	0.12	0.35	1.40	0.015	0.003	0.15	0.12	0.20	0.07	0.040	0.05	Ti max. 0.020 Sn max. 0.035
	API 5 LX / Flanges / good weldability / A 694 F 65																				

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.