

Hongtuo Material Chemical Composition Standards

No.	Material	Material Standard	Chemical Composition										Materials Category	Heat Treatment Category	Tensile Strength(N/mm2)	Yield Strength(N/mm2)	Elongation(%)	Impact Value(J/cm2)	Hardness(HB)	Reduction of Area Ψ (%)	
			C	Si	Mn	P≤	S≤	Cr	Ni	Mo	Cu	others									
1	CF-8(304) (0418Ni9)	ASTM A743/A743M-93a	≤0.08	≤2.0	≤1.50	0.04	0.04	18.0-21.0	8.0-11.0					Austenitic stainless steel, corrosion resistant steel	Solute	≥485	≥205	≥35			
2	CF-8M (316)	ASTM A743/A743M-93a	≤0.08	≤2.0	≤1.5	0.04	0.04	18.0~21.0	9.0-12.0	2.0-3.0				Austenitic stainless steel, corrosion resistant steel	Solute	≥485	≥205	≥30			
3	CF-3M (316L)	ASTM A743/A743M-93a	≤0.03	≤1.5	≤1.5	0.04	0.04	17.0-21.0	9.0-13.0	2.0-3.0				Austenitic stainless steel, corrosion resistant steel	Solute	≥485	≥205	≥30			
4	①CD4MCu (CD4MCuN)	ASTM A297/A297M-2000	≤0.04	≤1.00	≤1.00	0.04	0.04	24.5-26.5	4.7-6.0	1.7-2.3	2.7-3.25	N 0.1-0.25		Duplex stainless steel, corrosion resistant steel	Solute	≥690	≥485	≥16			
5	A890 Gr6A (CD3MWCuN)	U. S.	≤0.03	≤1.00	≤1.00	0.025	0.03	24-26	6.5-8.5	3.0-4.0	0.5-1.0	W 0.5-1.0, N 0.2-0.3		Duplex stainless steel	Solute	≥700	≥450	≥25			
6	430	U. S.	≤0.12	≤1.00	≤1.00	0.04	0.03	16-18			≤0.75			Ferritic stainless	Annealed	≥450		≥22			
7	202	U. S.	≤0.15	≤1.00	7.5-10	0.06	0.03	17-19	4.0-6.0			N≤0.25		High nitrogen austenitic stainless steel	Solute	≥515	≥275	≥40		≥45	
8	A473 Type 410(1G13)	U. S.	≤0.15	≤0.5	≤1.00	0.04	0.03	11.5-13	0.75					Martensitic stainless steel	Annealed	≥485	≥275	≥20		≥45	
9	1.4460	Germany	≤0.05	≤1.00	≤2.00	0.035	0.015	25-28	4.5-6.5	1.3-2.0		N 0.05- 0.20		Duplex stainless steel	Solute	620-880	≥460	≥20	≥85	≤260	
10	1.4517	BSEN10213-4-1995	≤0.03	≤1.00	0.5-1	0.03	0.02	24.5-26.5	5.0-7.0	2.8-3.5	2.5-3.25	N 0.12- 0.22		Duplex stainless steel, corrosion resistant steel	Solute	650-850	≥480	≥22	≥50		
11	Incone1 718	U. S.	≤0.08	≤0.35	≤0.35	0.015	0.015	17-21	50-55	2.8-3.3	≤0.3	Co≤1.0 Al, 0.2-0.8 Nb4.75-5.5 Ti0.65- 1.15		Nickel-base superalloy	Solid solution hardening precipitation	≥1275	≥1034	≥6		≥331	≥8
12	哈氏C	U. S.	≤0.07	0.7	0.8			16	Margin	17		Co1.25;W4. 0; Fe5.75;v0. 03		Nickel-base superalloy	Solute						
13	310S A580 (0G25Ni20)	U. S.	≤0.08	≤2.00	≤1.5	0.045	0.03	24-26	19-22					Austenitic stainless steel, Heat-resistant steel	Solute	≥515	≥205	≥35		≥50	
14	1.4462	Germany	≤0.03	≤1.00	≤2.00	0.035	0.015	21-23	4.5-6.5	2.5-3.5		N 0.10- 0.22		Duplex stainless steel	Solute	650-880	≥450	≥25	≥100	≤270	

Hongtuo Material Chemical Composition Standards

No.	Material	Material Standard	Chemical Composition										Materials Category	Heat Treatment Category	Tensile Strength(N/mm ²)	Yield Strength(N/mm ²)	Elongation(%)	Impact Value(J/cm ²)	Hardness(HB)	Reduction of Area Ψ (%)	
			C	Si	Mn	P≤	S≤	Cr	Ni	Mo	Cu	others									
15	WCB (ZG25#)	ASTM A216/A216M-1998	≤0.30	≤0.50	≤0.90	0.04	0.04	≤0.35	≤0.30	≤0.20	≤0.30			High temperature carbon steel	Annealed	485-655	≥250	≥22			
16	1.4408	Germany DIN17445-1984	≤0.07	≤1.5	≤1.5	0.045	0.03	18-20	10.-12.0	2.0-3.0				Austenitic stainless steel, corrosion resistant steel	Solute	440-460	≥210	≥30	≥60		
17	1.4436	Germany	≤0.05	≤1.00	≤2.00	0.045	0.015	16.5-18.5	10.5-13	2.5-3.0		N≥0.11		Austenitic stainless steel	Solute	500-700	≥200	≥40/30	≥100/60	≤215	≥60
18	1.4571	Germany	≤0.08	≤1.00	≤2.00	0.045	0.015	16.5-18.5	10.5-13.5	2-2.5		Ti≥5×c% ≤0.70		Austenitic stainless steel	Solute	500-700	≥200	≥40/30	≥100/60	≤215	≥50
19	1.4552	Germany DIN17445-1984	≤0.06	≤1.5	≤1.5	0.045	0.03	18-20	9.0-11.0			Nb≥8×c%		Austenitic stainless steel, corrosion resistant steel	Solute	440-640	≥175	≥20	≥35	130-200	
20	C15	U. S.	≤0.08	≤1.00	≤1.50	0.035	0.035	17-19	11.0-13.0	5.5-6.5	≤0.18			Austenitic stainless steel, corrosion resistant steel	Solute	620-795	≥450	≥18			
21	1.4313	Germany DIN17445-1984	≤0.07	≤1.00	≤1.50	0.035	0.025	12-13.5	3.5-5	≤0.75				Martensitic stainless, corrosion resistant steel	Annealed	760-960	≥550	≥15	≥50	240-330	
22	2Gr13 (1.4021)	China (GB/T2100-1980)	0.16-0.25	≤1.00	≤1.00	0.035	0.03	12.0-14.0	≤0.60					Martensitic stainless, corrosion resistant steel	Annealed	≥618	≥441	≥16	≥58.8		≥40
23	1.4469	BSEN10213-4-1995	≤0.03	≤1.00	≤1.00	0.035	0.025	25-27	6.0-8.0	3.0-5.0	≤1.30	N 0.12-0.22		Duplex stainless steel, corrosion resistant steel	Solute	650-850	≥480	≥22	≥50		
24	1.4404	Germany	≤0.03	≤1.00	≤2.00	0.045	0.015	16.5-18.5	11.0-13.0	2.0-2.5		N≥0.11		Austenitic stainless steel, corrosion resistant steel	Solute	500-700	≥200	≥40/30	≥100/60	≤215	≥60
25	CN-7M	ASTM A743/A743M-1998a	≤0.07	≤1.5	≤1.5	0.04	0.04	19-22	27.5-30.5	2.0-3.0	3.0-4.0	cb= (8×2) min-1.0cb-		Austenitic stainless steel, corrosion resistant steel	Solute	≥425	≥170	≥35			
26	CF-3 (304L)	ASTM A743/A743M-1998a	≤0.03	≤2.0	≤1.5	0.04	0.04	17-21	8.0-12.0					Austenitic stainless steel, corrosion resistant steel	Solute	≥485	≥205	≥35			
27	34CrNiMo6	France (NF-EN10083-1/2/3)	0.30~0.38	≤0.4	0.5~0.8	0.035	0.035	1.3~1.7	1.3~1.7	0.15~0.3				Martensitic stainless, corrosion resistant steel	Annealed cast	≥980	≥835	≥12	≥78	≤269	≥55
28	1.4034 (4Gr13)	Germany	0.43~0.5	≤1.0	≤1.0	0.04	0.015	12.5~14.5						Martensitic stainless, corrosion resistant steel	Annealed cast	≤800				≤245	
29	SCS13A (304)	JIS G5121 1991	≤0.08	≤2.0	≤1.5	0.04	0.04	18.0-21.0	8.0-11.0					Austenitic stainless steel, corrosion resistant steel	Solute	≥480	≥205	≥33			
30	SCS14A (316)	JIS G5121 1991	≤0.08	≤1.5	≤1.5	0.04	0.04	18.0-21.0	9.0-12.0	2.0-3.0				Austenitic stainless steel, corrosion resistant steel	Solute	≥480	≥205	≥33			
31	SCS16A (316L)	JIS G5121 1991	≤0.03	≤1.5	≤1.5	0.04	0.04	17.0-20.0	9.0-13.0	2.0-3.0				Austenitic stainless steel, corrosion resistant steel	Solute	≥480	≥205	≥33			

Note:1. The name between brackets is the close name of other standards.

2. ①As to the CD4mcu, we won't add nitrogen into the steel during melting without customer's requirements.