

Range of Werkstoff Numbers

Quenched and tempered steels

Werkstoff Nr.	Material	Marking
1.0501	C 35	Y
1.0503	C 45	
1.0540	C 50	
1.0601	C 60	
1.1151	C22E (Ck 22)	
1.1181	C35E (Ck 35)	Yk
1.1191	C45E (Ck 45)	
1.1221	C22E (Ck 22)	
1.6511	36CrNiMo4	
1.6580	30CrNiMo8	
1.6582	34CrNiMo6	
1.7033	34Cr4	
1.7035	41Cr4	
1.7218	25CrMo4	
1.7220	34CrMo4	
1.7225	42CrMo4	
1.7227	42CrMoS4	
1.7228	50CrMo4	

Low temperature steels

Temperature	Werkstoff Nr.	DIN/ EN	Marking	AD-2000	Norm	Equivalent
-40 °C	1.6582	34CrNiMo6	-	-	DIN EN 10269	-
	1.6580	30CrNiMo8	-	-	DIN EN 10269	-
-60 °C	1.7218	25CrMo4	KG	W10	DIN EN 10269	-SAE 4130
	1.7258	24CrMo5	G	-	secluded	-
	1.7219	26CrMo4	KA	-	secluded	-
-100 °C	1.7225	42CrMo4	GC	-	DIN EN 10269	-ASTM A320 L7
-120 °C	1.5680	X12Ni5	KB	W10	DIN EN 10269	-SAE 2515
-196 °C	1.4301	X5CrNi18-10	A2	W10	DIN EN 10269	-AISI 304
	1.4307	X2CrNi18-9	A2	W10	DIN EN 10269	-AISI 304 L
	1.4401	X5CrNiMo17-12-2	A4	W10	DIN EN 10269	-AISI 316
	1.4404	X2CrNiMo17-12-2	A4	W10	DIN EN 10269	-AISI 316 L
	1.4980	X6NiCrTiMoVB25-15-2	SD	-	DIN EN 10269	-AISI 660
	2.4952	NiCr20TiAl	SB	-	DIN EN 10269	-Alloy 80A
	2.4669	NiCr15Fe7TiAl	-	-	DIN EN 10269	-Alloy X-750
-270 °C	1.4429	X2CrNiMoN17-13-3	-	W10	DIN EN 10269	-AISI 316 LN
	1.4910	X3CrNiMoBN17-13-3	-	W10	DIN EN 10269	-

Heat-resistant steels

Temperature	Werkstoff Nr.	DIN/ EN	Marking	AD-2000	Norm	Equivalent
600°C	1.4913	X19CrMoNbVN11-1	VW	-	DIN EN 10269	-
	1.7711	40CrMoV4-6	GB	-	DIN EN 10269	-
500°C	1.4923	X22CrMoV12-1	V/VH	W7	DIN EN 10269	-
	1.7225	42CrMo4	GC	W7	DIN EN 10269	ASTM A193 B7
	1.7709	21CrMoV5-7	GA	W7	DIN EN 10269	-
400°C	1.4404	X2CrNiMo17-12-2	A4	W2	DIN EN 10269	-AISI 316 L
	1.4429	X2CrNiMoN17-13-3	-	W2	DIN EN 10269	-AISI 316 LN
	1.4571	X6CrNiMoTi17-12-2	A5	W2	DIN EN 10088-3	-AISI 316 Ti
	1.4541	X6CrNiTi18-10	-	W2	DIN EN 10088-3	-AISI 321
	1.4539	X1NiCrMoCuN25-20-5	-	W2	DIN EN 10088-3	-AISI 904 L
	1.7218	25CrMo4	KG	W7	DIN EN 10269	SAE 4130
	1.7258	24CrMo5	G	-	secluded	-
	1.7219	26CrMo4	KA	-	secluded	-
	1.5511	35B2	YB	W7	DIN EN 10269	-
	1.1181	C35E	YK	W7	DIN EN 10269	-
	350°C	1.4548	X5CrNi CuNb17-4-4	-	-	WL 1.4548 Teil 2
1.4542		X5CrNiCuNb16-4	-	-	DIN EN 10088-3	AISI 630/ 17-4 PH
1.1191		C45E	-	-	DIN EN 10269	-
300°C	1.4401	X5CrNiMo17-12-2	A4	W2	DIN EN 10269	-AISI 316
	1.4301	X5CrNi18-10	A2	W2	DIN EN 10269	-AISI 304

Non-magnetizable steels

Werkstoff Nr.	DIN / EN	Material
1.3948	X4CrNiMnMoN 19 13 8	-
1.3952	X2CrNiMoN 18 14	-
1.3957	X2CrNiMoNbN 21 15	-
1.3964	X2CrNiMnMoNNb21 16 5 3	-
1.3974	X3CrNiMoNbN 23 17	-

Heat-resistant steels and nickel alloys

Werkstoff Nr.	DIN/ EN	Brand/Norm
1.4713	X10CrAlSi7	SICRO® 8
1.4724	X10CrAlSi13	SICRO® 9
1.4742	X10CrAlSi18	SICRO® 10®
1.4762	X10CrAlSi25	SICRO® 12
1.4821	X15CrNiSi25-4	-
1.4828	X15CrNiSi20-12	AISI 309
1.4835	X9CrNiSiNCe21-11-2	253 MA®
1.4841	X15CrNiSi2521	AISI 314 (310)
1.4845	X8CrNi25-21	AISI 310S
1.4864	X12NiCrSi35-16	AISI 330
1.4876	X10NiCrAlTi32-21	Incoloy® 800®
1.4876 H	X10NiCrAlTi3220	Incoloy® 800 H
1.4876 HT	X8NiCrAlTi3221	Incoloy® 800 HT®
1.4878	X8CrNiTi18-10	-
2.4816	NiCr15Fe	Inconel® 600
2.4851	NiCr23Fe	Inconel® 601
2.4856	NiCr22Mo9Nb	Inconel® 625
2.4951	NiCr20Ti	Nimonic® 75

Rust and acid resistant materials

Werkstoff Nr.	DIN/ EN	Brand/Norm
1.4006	X12Cr13	-
1.4016	X6Cr17	-
1.4021	X20Cr13	AISI 420
1.4024	X15Cr13	-
1.4028	X30Cr13	-
1.4034	X46Cr13	-
1.4057	X17CrNi16-2	AISI 431
1.4104	X14CrMoS17	AISI 430F
1.4112	X90CrMoV18	-
1.4122	X35CrMo17-1	-
1.4301	X5CrNi18-10	AISI 304
1.4305	X8CrNiS18-9	AISI 303
1.4306	X2CrNi19-11	AISI 304L
1.4310	X10CrNi18-8	-
1.4313	X3CrNiMo13-4	-
1.4361	X1CrNiSi18-15-4	-
1.4362	X2CrNiN23-4	SAF™ 2304®
1.4371	X2CrMnNiN17-7-5	-
1.4401	X5CrNiMo17-12-2	AISI 316
1.4404	X2CrNiMo17-12-2	AISI 316L
1.4410	X2CrNiMoN25-7-4	SAF™ 2507®
1.4418	X4CrNiMo16-5-1	-
1.4429	X2CrNiMoN17-13-3	AISI 316LN
1.4435	X2CrNiMo18-14-3	AISI 316L
1.4436	X3CrNiMo17-13-3	AISI 316
1.4438	X2CrNiMo18-15-4	AISI 317L

1.4439	X2CrNiMoN17-13-5	AISI 317LNM
1.4460	X3CrNiMoN27-5-2	AISI 329
1.4462	X2CrNiMoN22-5-3	SAF™ 2507®
1.4501	X2CrNiMoCuWN25-7-4	Zeron® 100
1.4507	X2CrNiMoCuN25-7-4	-
1.4529	X1NiCrMoCuN25-20-7	Alloy 926
1.4539	X1NiCrMoCu25-20-5	Uranus® B6
1.4541	X6CrNiTi18-10	AISI 321
1.4542	X5CrNiCuNb16-4	17-4PH®
1.4547	X1CrNiMoCuN20-18-7	254SMO®
1.4550	X6CrNiNb18-10	AISI 347/348
1.4562	X1NiCrMoCu32-28-7	Alloy 31
1.4563	X1NiCrMoCu31-27-4	Sanicro® 28®
1.4571	X6CrNiMoTi17-12-2	AISI 316 Ti
1.4578	X3CrNiCuMo17-11-3-2	-
1.4580	X6CrNiMoNb17-12-2	-
1.4586	X5NiCrMoCuNb2218	-

Duplex and super duplex steels

Werkstoff Nr.	DIN/EN	Brand/Norm
1.4362	X2CrNiN23-4	SAF™ 2304®
1.4410	X2CrNiMoN25-7-4	SAF™ 2507®
1.4460	X3CrNiMoN27-5-2	AISI 329
1.4462	X2CrNiMoN22-5-3	SAF™ 2507®
1.4501	X2CrNiMoCuWN25-7-4	(Zeron® 100)

Highly corrosion resistant nickel materials

Werkstoff Nr.	DIN/EN	Brand/Material
2.4066	Ni 99,2	Nickel® 200
2.4068	LC-Ni 99	Nickel® 201
2.4360	NiCu30Fe	Monel® 400
2.4375	NiCu30Al	Monel®K 500
2.4600	NiMo29Cr	Hastelloy® B-3®
2.4602	NiCr21Mo14W	Hastelloy® C-22®
2.4603	-	Hastelloy® G-30®
2.4605	NiCr23Mo16Al	Alloy 59
2.4606	-	Inconel® 686
2.4610	NiMo16Cr16Ti	Hastelloy® C-4
2.4617	NiMo28	Hastelloy® B-2
2.4619	NiCr22Mo7Cu	Hastelloy® G-3
2.4630 (2.4951)	NiCr20Ti	Nimonic® 75
2.4631 (2.4952)	NiCr20TiAl	Nimonic® 80A
2.4632 (2.4969)	NiCr20Co18Ti	Nimonic® 90
2.4633	NiCr25FeAlY (Nicrofer6025 HT)	Alloy 602 CA
2.4634	NiCo20Cr15MoAlTi	Nimonic® 105
2.4654	NiCr19Co14Mo4Ti	Waspaloy®
2.4658	NiCr7030	Cronix70
2.4660	NiCr20CuMo	20Cb3®/Alloy 20

2.4663	NiCr23Co12Mo	Inconel® 617
2.4665	NiCr19NbMo	Hastelloy® X
2.4668	NiCr19NbMo	Inconel® 718
2.4669	NiCr15Fe7TiAl	Inconel® X--750
2.4675	NiCr23Mo16Cu	Hastelloy® C-2000®
2.4816	NiCr15Fe	Inconel® 600
2.4819	NiMo16Cr15W	Hastelloy® C-276
2.4851	NiCr23Fe	Inconel® 601
2.4856	NiCr22Mo9Nb	Inconel® 625
2.4858	NiCr21Mo	Incoloy® 825®
2.4951	NiCr20Ti	Nimonic® 75
2.4952	NiCr20TiAl	Nimonic® 80A
2.4969	NiCr20Co18Ti	Nimonic® 90

Titanium and titanium alloys

Werkstoff Nr.	Material	ASTM Nr.
3.7035	Titan	Titan Gr.2
3.7165	TiAl6V4	Titan Gr.5
3.7235	Ti2Pd	Titan Gr.7

Special materials

Werkstoff Nr.	Brand/Material	UNS Nr.
1.4542	17-4PH®	UNS S17400
1.4547	254 SMO®	UNS S31254
	AerMet® 100 Alloy	UNS K92580
	Ferralium® 255®	-
1.6772	Monix 3 K	-
1.3964	Nitronic®50®	-
	Nitronic®60®	UNS S21800
1.4462	SAF™ 2205	UNS S31803
1.4362	SAF™ 2304®	UNS S32304
1.4410	SAF™ 2507®	UNS S32750
1.4563	SANICRO® 28	-
	Tantal	-
	Uranus 50	-
(1.4501)	Zeron® 100	UNS S32760
	Zirkonium 702	UNS R60702

ASTM/ASME

identification	Norm	Description	Material	Comparable EN material	
No Grade Mark	SAE J429 Grade 1	Bolts, Screws, Studs	Low or Medium Carbon Steel	-	
	ASTM A307 Grade A & B		Low Carbon Steel	-	
	SAE J429 Grade 2		Low or Medium Carbon Steel	-	
No Grade mark	SAE J429 Grade 4	Studs	Medium Carbon Cold Drawn Steel	-	
B5	ASTM A193 Grade B5	Bolts, Screws, Studs for High Temperature Service <u>Class 1:</u> Carbide Solution treated	AISI 501	-1.7362	
B6	ASTM A193 Grade B6		AISI 410	-1.4006	
B7	ASTM A193 Grade B7		AISI 4140, 4142 4105	-1.7225	
B16	ASTM A193 Grade B16		CrMoVa Alloy Steel	-1.7711	
B8	ASTM A193 Grade B8 Class 1		AISI 304	-1.4301	
B8C	ASTM A193 Grade B8C Class 1		AISI 347	-1.4550	
B8M	ASTM A193 Grade B8M Class 1		AISI 316	-1.4401	
B8T	ASTM A193 Grade B8T Class 1		AISI 321	-1.4541	
B8	ASTM A193 Grade B8 Class 2		Bolts, Screws, Studs for High Temperature Service <u>Class 2:</u> Carbide Solution treated and strain hardend	AISI 304 Strain Hardend	-1.4301
B8C	ASTM A193 Grade B8C Class 2			AISI 347 Strain Hardend	-1.4550
B8M	ASTM A193 Grade B8M Class 2	AISI 316 Strain Hardend		-1.4401	
B8T	ASTM A193 Grade B8T Class 2	AISI 321 Strain Hardend		-1.4541	
L7	ASTM A320 Grade L7	Bolts, Screws, Studs for Low Temperature Service	AISI 4140, 4142 4145	-1.7225	
L7A	ASTM A320 Grade L7A		AISI 4037	-	
L7B	ASTM A320 Grade L7B		AISI 4137	-1.7220	



solutions in fasteners

L7C	ASTM A320 Grade L7C	Quenched and Tempered	AISI 8740	-1.6546
L43	ASTM A320 Grade L43		AISI 4340	-1.6580
B8	ASTM A320 Grade B8 Class 1	Bolts, Screws, Studs for Low Temperature Service <u>Class 1:</u> Carbide solution treated	AISI 304	-1.4301
B8C	ASTM A320 Grade B8 Class 1		AISI 347	-1.4550
B8T	ASTM A320 Grade B8 Class 1		AISI 321	-1.4541
B8F	ASTM A320 Grade B8 Class 1		AISI 303 (Se)	-1.4305
B8M	ASTM A320 Grade B8 Class 1		AISI 316	-1.4401
B8	ASTM A320 Grade B8 Class 1		Bolts, Screws, Studs for Low Temperature Service <u>Class 2:</u> Carbide Solution Treated and strain hardend	AISI 304
B8C	ASTM A320 Grade B8C Class 2	AISI 347		-1.4550
B8T	ASTM A320 Grade B8T Class 2	AISI 321		-1.4541
B8F	ASTM A320 Grade B8F Class 2	AISI 303 (Se)		-1.4305
B8M	ASTM A320 Grade B8M Class 2	AISI 316		-1.4401
3 Radial Lines 120°	SAE J429 Grade 5	Bolts, Screws, Studs		Medium Carbon Steel Quenched and Temperd
	ASTM A449			
3 Radial Lines 90°	SAE J429 Grade 5.1	Bolts, Screws, Studs	Low or Medium Carbon Steel Quenched and Temperd	-
3 Radial Lines 60°	SAE J429 Grade 5.2	Bolts, Screws, Studs	Low Carbon Martensitic Steel Quenched and Tempered	-
A325	ASTM A325 Type 1	High Strength Structural Bolts	Medium Carbon Steel Quenched and Temperd	-
-	ASTM 325 Type 2 (Withdrawn)		Low Carbon Martensitic Steel Quenched and Tempered	-

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solutions in fasteners

A325	ASTM A325 Type 3		Atmospheric Corrosion Resisting Steel Quenched and Temperd	-
BD	ASTM A354 Grade BD	Bolts, Studs	Alloy Steel Quenched and Tempered	-
BC	ASTM A354 Grade BC			-
5 Radial Lines	SAE J429 Grade 7	Bolts, Screws	Medium Carbon Alloy Steel Quenched and Tempered	-
6 Radial Lines 60°	SAE J429 Grade 8	Bolts, Screws, Studs	Medium Carbon Alloy Steel Quenched and Tempered	-
No Grade Mark	SAE J429 Grade 8.1	Studs	Medium Carbon Alloy or SAE 1041 Modified Elevated Temperature Drawn Steel	-
A490	ASTM A490	High Strength Structural Bolts	Alloy Steel Quenched and Tempered	-1.0050

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