Comparison of German and Chinese material designations, Basis SN359

No guarantee in respect of completeness and substitution of materials!

Status: 01.06.2004

ATL2 Standardisation

German Basis: SN 359					Chinese				
Material designation	**Mat. No.**	**Former designat.**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
Engineering steels					**Engineering steels**				
S185	1. 0035	St 33	DIN EN 10025		**Q 195**	GB 700-88	Unalloyed engineering steels	accept only in killed condition Z, yield point and notch impact energy not guaranteed	**do not use**
S235JR	1. 0037	St 37-2	DIN EN 10025	KV at room temperature,	**Q 235 A**	GB 700-88	Unalloyed engineering steels	F = unkilled, do not use	**do not use**
S235JRG1	1. 0036	U St 37-2	DIN EN 10025	KV at room temperature, unkilled	**Q 235 A**	GB 700-88	Unalloyed engineering steels	F = unkilled, do not use	**similar**
S235JRG1C	1. 0121	UQ St 37-2	DIN EN 10025	KV at room temperature, unkilled, suitable for cold forming,	**-**				
S235JRG2	1. 0038	R St 37-2	DIN EN 10025	KV at room temperature, unkilled not permitted	**Q 235 B**	GB 700-88	Unalloyed engineering steels	Z = killed	**similar**
S235JRG2C	1. 0122	RQ St 37-2	DIN EN 10025	KV at room temperature, unkilled not permitted, suitable for cold forming,	**Q 235 B**	GB 700-88	Unalloyed engineering steels	Z = killed	**similar**
S235J0	1. 0114	St 37-3 U	DIN EN 10025	KV at 0°C	**Q 235 C**	GB 700-88	Unalloyed engineering steels	Z = killed or TZ = double-killed	**similar**
S235J0C	1. 0115	Q St 37-3U	DIN EN 10025	KV at 0°C, suitable for cold forming,	**Q 235 C**	GB 700-88	Unalloyed engineering steels	Z = killed or TZ = double-killed	**similar**
S235J2G3	1. 0116	St 37-3N	DIN EN 10025	KV at -20°C, fully killed steel	**Q 235 D**	GB 700-88	Unalloyed engineering steels	Z = killed or TZ = double-killed	**similar**
S235J2G4	1. 0117	-	DIN EN 10025	KV at -20°C, fully killed steel	**Q 235 D**	GB 700-88	Unalloyed engineering steels	Z = killed or TZ = double-killed	**similar**
S235J2G3C	1. 0118	Q St 37-3N	DIN EN 10025	KV at -20°C, fully killed steel, suitable for cold forming,	**Q 235 D**	GB 700-88	Unalloyed engineering steels	Z = killed or TZ = double-killed	**similar**
S275JR	1. 0044	St 44-2	DIN EN 10025	KV at room temperature	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, otherwise only limited weldability, notch impact energy not guaranteed.	**similar**
S275JRC	1. 0128	Q St 44-2	DIN EN 10025	KV at room temperature, suitable for cold forming,	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S275J0	1. 0143	St 44-3	DIN EN 10025	KV at 0°C	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S275J0C	1. 0140	Q St 44-3U	DIN EN 10025	KV at 0°C, suitable for cold forming,	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S275J2G3	1. 0144	St 44-3N	DIN EN 10025	KV at -20°C, fully killed steel	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S275J2G4	1. 0145	-	DIN EN 10025	KV at -20°C, fully killed steel	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S275J2G3C	1. 0141	Q St 44-3N	DIN EN 10025	KV at -20°C, fully killed steel, suitable for cold forming,	**Q 275**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, notch impact energy not guaranteed.	**do not use**
S355JRC	1. 0551	St 52-3U	DIN EN 10025	KV at room temperature, suitable for cold forming,	**16Mn**	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick, KV only at room temperature,**	**identical**
S355J0	1. 0553	-	DIN EN 10025	KV at 0°C	**16Mn**	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick, KV only at room temperature,**	**do not use**
S355J2G3	1. 0570	St 52-3N	DIN EN 10025	KV at -20°C, fully killed steel	**16Mn**	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick, KV only at room temperature,**	**do not use**
S355J2G3C	1. 0569	-	DIN EN 10025	KV at -20°C, fully killed steel, suitable for cold forming,	**16Mn**	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick, KV only at room temperature,**	**do not use**
E295	1. 0050	St 50-2	DIN EN 10025	-	**Q275**	GB 700-88	Unalloyed engineering steels	**C content 0.28 to 0.38%, only limited weldability**	**identical**
E335	1. 0060	St 60-2	DIN EN 10025	-	**45**	GB 699-88	Plain carbon quality steel	**C content 0.42 to 0.50%, only limited weldability**	**identical**
					16Mn	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick,**	**similar**
E360	1. 0070	St 70-2	DIN EN 10025	-	**55**	GB 699-88	Plain carbon quality steel	**C content 0.52 to 0.60%, not weldable**	**identical**
					16Mn	GB 1591-88	High strength low alloy structural steels	**Important! No accepting of open hearth furnace steel, for plate up to 60 mm thick,**	**similar**

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ATL2 Standardisation

German Basis: SN 359					Chinese				
Material designation	Mat. No.	Former designat.	Standard	Remark	Material designation	Standard	Title	Remark	Matching of properties:
Fine-grained engineering steels, weldable					**Fine-grained engineering steels, weldable**				
S355N	1. 0545	StE 355	DIN EN 10113-2	normalised	**Not known**	Not known			
S420N	1. 8902	StE 420	DIN EN 10113-2	normalised	**Q 420 C**	GB T 16270-96	High-strength engineering-steel sheet/plate and strip products, heat-treated or produced by controlled rolling		similar
S460N	1. 8901	StE 460	DIN EN 10113-2	normalised	**Not known**	Not known			
Cold-drawn steels, unalloyed					**Cold-drawn steels, unalloyed**				
C45 +C	1. 0503	C 45 K	DIN EN 10083-2	Cold-drawn	**Not known**	Not known			
E 295GC +C	1. 0533	St 50-2 KG	DIN EN 10277-2	Cold-drawn	**Not known**	Not known			
Sheets					**Sheets**				
DC01 +LC	1. 0330	St 12 03	DIN EN 10130		**08F**	GB 699-88	Plain carbon quality steel	Sameness must be checked in every case	similar
Pipes, tubes					**Pipes, tubes**				
St 37.0	1. 0254	**St 37.0**	DIN 2448 ???	normalised	**20**	GB 8163-87	Seamless tubes for transport of liquids	**Limit C content to 0.17%**	similar
					20	GB 8162-87	Seamless tubes for structures	**Limit C content to 0.17%**	similar
St 37.4 NBK	1. 0255	**St 37.4 NBK**	DIN 2391	normalised	**20**	GB 8163-87	Seamless tubes for transport of liquids	**Limit C content to 0.17%**	similar
					20	GB 8162-87	Seamless tubes for structures	**Limit C content to 0.17%**	similar
P235GH	1. 0345	**St 35.8**	DIN 17175	normalised	**20**	GB 8162-87	Seamless tubes for structures	**Limit C content to 0.17%**	similar
St 52.4	1. 0581	**St 52.4**	DIN 1628 + DIN 1630	normalised and bright-annealed	**Not known**	Not known			
Tubes in stainless steels					**Tubes in stainless steels**				
X6CrNiTi18-10	1. 4541	X10CrNiTi 18 9	DIN 17457	austenitised	**0Cr18Ni10Ti**	GB 13296-91	Seamless boiler and heat exchanger tubes (austenitic)		similar
					0Cr18Ni10Ti	GB T 14975-94	Seamless tubes		similar
					0Cr18Ni10Ti	GB T 14976-94	Seamless tubes for liquids		similar
					0Cr18Ni10Ti	GB 12771-91	Welded pipes for transport of liquids		similar
					0Cr18Ni10Ti	GB 13296-91	Seamless boiler and heat exchanger tubes (austenitic)		similar
X6CrNiMoTi17-12-2	1. 4571	X10CrNiMoTi 18 10	DIN 17458	austenitised	**0Cr18Ni12Mo2Ti**	GB T 14975-94	Seamless tubes		similar
					0Cr18Ni12Mo2Ti	GB T 14976-94	Seamless tubes for liquids		similar
					1Cr18Ni12Mo2Ti	GB 13296-91	Seamless boiler and heat exchanger tubes (austenitic)		similar

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Material designation	Mat. No.	Former designat.	Standard	Remark	Material designation	Standard	Title	Remark	Matching of properties:
Qenched and tempered steels, unalloyed					**Quenched and tempered steels, unalloyed**				
C22 +N	1. 0402	C 22 N	DIN EN 10083-2	normalised	**20**	GB 699-88	Plain carbon quality steel		**identical**
C35 +N	1. 0501	C 35 N	DIN EN 10083-2	normalised	**35**	GB 699-88	Plain carbon quality steel		**identical**
C35 +QT	1. 0501	C 35 V		quenched & tempered	**35**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
C35E +QT	1. 1181	Ck 35 V	DIN EN 10083-1	quenched & tempered	**35**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising. Yield point at small nom. thickness differs from European material.	**similar**
C45 +N	1. 0503	C 45 N	DIN EN 10083-2	normalised	**45**	GB 699-88	Plain carbon quality steel		**identical**
C45 +QT	1. 0503	C 45 V		quenched & tempered	**45**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
C45E +QT	1. 1191	Ck 45 V	DIN EN 10083-1	quenched & tempered	**45**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising. Yield point at small nom. thickness differs from European material.	**similar**
C55 +QT	1. 0535	C 55 V	DIN EN 10083-2	quenched & tempered	**55**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
C55E +QT	1. 1203	Ck 55 V	DIN EN 10083-1	quenched & tempered	**55**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising. Yield point at small nom. thickness differs from European material.	**similar**
C60 +N	1. 0601	C 60 N	DIN EN 10083-2	normalised	**60**	GB 699-88	Plain carbon quality steel		**identical**
Flame hardening steels					**Flame hardening steels**				
Cf 35 V	1. 1183.05	Cf 35 V	DIN 17212	quenched & tempered	**35**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
Cf 45 V	1. 1193.05	Cf 45 V	DIN 17212	quenched & tempered	**45**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
Cf 55 V	1. 1213.05	Cf 55 V	DIN 17212	quenched & tempered	**55**	GB 699-88	Plain carbon quality steel	Agreement required for QT instead of normalising.	**similar**
Quenched and tempered steels, alloyed					**Quenched and tempered steels, alloyed**				
25CrMo4+QT	1.7218	25 CrMo 4 V	DIN EN 10083-1	quenched & tempered	**30CrMo**	GB 3077-88	Alloyed structural steels	Heat treatment strength to be agreed upon	**similar**
42CrMo4+QT	1.7225	42 CrMo 4 V	DIN EN 10083-1	quenched & tempered	**42CrMo**	GB 3077-88	Alloyed structural steels	Heat treatment strength to be agreed upon	**similar**
50CrMo4+QT	1.7228	50 CrMo 4 V	DIN EN 10083-1	quenched & tempered	**50CrMo**	EZB 1184-93	(Title not known)		
34CrNiMo6+QT	1.6582	34 CrNiMo 6 V	DIN EN 10083-1	quenched & tempered	**34CrNi3Mo**	EZB 1184-93	(Title not known)		
30CrNiMo8+QT	1.6580	30 CrNiMo 8 V	DIN EN 10083-1	quenched & tempered	**30Cr2Ni2Mo**	EZB 1184-93	(Title not known)		
Case hardening steels					**Case hardening steels**				
16MnCr5+TH	1.7131	16 MnCr 5 BF	DIN EN 10084		**20CrMnTi**	GB 3077-88	Alloyed structural steels		
					16MnCr	JB T 6396-92	Large forged piece of alloyed structural steel		
20MnCr5+TH	1.7147	20 MnCr 5 BF	DIN EN 10084		**20CrMnTi**	GB 3077-88	Alloyed structural steels		
					20MnCr	JB T 6396-92	Large forged piece of alloyed structural steel		
18CrNiMo7-6+TH	1.6587	17 CrNiMo 6 BF	DIN EN 10084		**Not known**	Not known			

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Material designation	Mat. No.	Former designat.	Standard	Remark	Material designation	Standard	Title	Remark	Matching of properties:
Heat-resisting steels					**Heat-resisting steels**				
X20CrMoV11-1	1.4922	X 22 CrMoV 12 1	DIN EN 10222-2		**1Cr11MoV**	GB 1221-92	Heat-resisting steels (austenitic)		
Tool steel					**Tool steel**				
60WCrV 7	1.2550	60 WCrV7	DIN ISO 4957		**6 Cr W 2 Si**	GB 1299-85	Alloyed cold work steel		**similar**
Steels for forgings					**Steels for forgings**				
X20CrMoV11-1	1.4922	X 20 CrMoV 12 1	DIN EN 10222-2		**1Cr11MoV**	GB 1221-92	Heat-resisting steels (austenitic)		
S355J2G3	1.0570	St 52-3	DIN EN 10250-2		**16MnDR**	GB 3531-96	Plate for pressure vessels for use at low temperatures		
C22	1.0402	C 22	DIN EN 10250-2		**Not known**	Not known			
20Mn5	1.1133	20 Mn 5	DIN EN 10250-2		**Not known**	Not known			
C35E	1.1181	Ck 35	DIN EN 10250-2		**35**	GB 699-88	Plain carbon quality steel		
C45E	1.1191	Ck 45	DIN EN 10250-2		**45**	GB 699-88	Plain carbon quality steel		
					45H	GB 5216-85	Structural steels with defined hardenability scatterband		
C60E	1.1221	Ck 60	DIN EN 10250-2		**60**	GB 699-88	Plain carbon quality steel		
25CrMo4	1.7218	25 CrMo 4	DIN EN 10250-3		**30CrMo**	GB 3077-88	Alloyed structural steels		
34CrMo4	1.7220	34 CrMo 4	DIN EN 10250-3		**35CrMo**	GB 3077-88	Alloyed structural steels		
42CrMo4	1.7225	42 CrMo 4	DIN EN 10250-3		**42CrMo**	GB 3077-88	Alloyed structural steels		
50CrMo4	1.7228	50 CrMo 4	DIN EN 10250-3		**50CrMo**	EZB 1184-93	Title not known		**similar**
30CrNiMo8	1.6580	30 CrNiMo 8	DIN EN 10250-3		**30Cr2Ni2Mo**	EZB 1184-93	Title not known		**similar**
					34CrNi3Mo	Not known			
34CrNiMo6	1.6582	34 CrNiMo 6	DIN EN 10250-3		**34CrNiMo**	EZB 1184-93	Title not known		**similar**
33NiCrMoV14-5	1.6956	33 NiCrMoV 14 5	DIN EN 10250-3		**Not known**	Not known			
X20Cr13	1.4021	X 20 Cr 13	DIN EN 10250-4		**2Cr13**	GB 1220-92	Stainless steels (austenitic)		
					2Cr13	GB 1221-92	Heat-resisting steels (austenitic)		
					2Cr13	GB 8732-88	Steel for steam turbine blades		
					SM 2Cr13	YB 094-97	Slabs for plastic moulds		
X17CrNi16-2	1.4057	X 17 CrNi 16 2	DIN EN 10250-4		**1Cr17Ni2**	GB 1220-92	Stainless steels (austenitic)		
					1Cr17Ni2	GB 1221-92	Heat-resisting steels (austenitic)		
X4CrNi18-10	1.4301	X 5 CrNi 18 9	DIN EN 10250-4		**0Cr18Ni9**	GB T 1220-92	Stainless steel bar		
X6CrNiTi18-10	1.4541	X 10 CrNiTi 18 9	DIN EN 10250-4		**0Cr18Ni10Ti**	GB 1220-92	Stainless steels (austenitic)		
					0Cr18Ni10Ti	GB 1221-92	Heat-resisting steels (austenitic)		
X6CrNiMoTi17-12-2	1.4571	X 10 CrNiMoTi 18 10	DIN EN 10250-4		**0Cr18Ni12Mo2Ti**	GB 1220-92	Stainless steels (austenitic)		
X5CrNiMo17-12-2	1.4401	X 5 CrNiMo17 12 2	DIN EN 10250-4		**0Cr17Ni12Mo2**	GB 1220-92	Stainless steels (austenitic)		
					0Cr17Ni12Mo2	GB 1221-92	Heat-resisting steels (austenitic)		
X4CrNiMo16-5-1	1.4418	-	DIN EN 10250-4		**Not known**	Not known			

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Stainless steels					**Stainless steels**				
X20Cr13	1.4021	X 20 Cr 13	DIN 17440+DIN EN 10088-1 to 3		**X20Cr13**	GB 1220-92	Stainless steels (austenitic)		
X17CrNi16-2	1.4057	X 17 CrNi 16 2	DIN 17440+DIN EN 10088-1 to 3		**1Cr17Ni2**	GB 1220-92	Stainless steels (austenitic)		
					1Cr17Ni2	GB 1221-92	Heat-resisting steels (austenitic)		
					1Cr17Ni2	GB 3280-92	Cold-rolled plate and strip (austenitic)		
					1Cr17Ni2	GB 4356-84	Wire in rod shape		
					1Cr17Ni2 (-R)	GB T 4240-93	Wire		
					1Cr17Ni2	GB T 4231-93	Cold-rolled strip in stainless steel for springs		
					ML1Cr17Ni2	GB 4232-93	Wire for cold heading		
X39CrMo17-1	1.4122	X 39 CrMo 17 1	DIN 17440+DIN EN 10088-1 to 3		**Not known**	Not known			
X4CrNi18-10	1.4301	X 5 CrNi 18 9	DIN 17440+DIN EN 10088-1 to 3		**0Cr18Ni9**	GB 1220-92	Stainless steels (austenitic)		
X5CrNiMo17-12-2	1.4401	X 5 CrNiMo17 12 2	DIN 17440+DIN EN 10088-1 to 3		**0Cr17Ni12Mo2**	GB 1220-92	Stainless steels (austenitic)		
X6CrNiTi18-10	1.4541	X 10 CrNiTi 18 9	DIN 17440+DIN EN 10088-1 to 3		**0Cr18Ni10Ti**	GB 1220-92	Stainless steels (austenitic)		
					0Cr18Ni10Ti	GB 1221-92	Heat-resisting steels (austenitic)		
					0Cr18Ni10Ti	GB 3280-92	Cold-rolled sheet/plate and strip (austenitic)		
					0Cr18Ni10Ti	GB 4237-92	Hot-rolled sheet/plate and strip in stainless steel (austenitic)		
					0Cr18Ni10Ti	GB 4238-92	Hot-rolled sheet/plate in heat-resisting steel (austenitic)		
					0Cr18Ni10Ti	GB 13296-91	Seamless boiler and heat exchanger tubes (austenitic)		
					0Cr18Ni10Ti	GB T 14975-94	Seamless tubes		
					0Cr18Ni10Ti	GB T 14976-94	Seamless tubes for liquids		
					0Cr18Ni10Ti	GB 4356-84	Wire in rod shape		
					0Cr18Ni10Ti	GB 12771-91	Welded pipes for transport of liquids		
					0Cr18Ni10Ti (-Q,-R)	GB T 4240-93	Wire		
					1Cr18Ni11Ti	GB 13296-91	Seamless boiler and heat exchanger tubes (austenitic)		
					H0Cr20Ni10Ti	YB T 5092-96	Stainless steel wire for welding		
X6CrNiMoTi17-12-2	1.4571	X 10 CrNiMoTi 18 10	DIN 17440+DIN EN 10088-1 to 3		**0Cr18Ni12Mo2Ti**	GB T 4237-92	Hot rolled stainless steel sheets and plates		
Grey cast iron					**Grey cast iron**				
EN-GJL-200	EN-JL1030	GGL-20	DIN EN 1561	-	**HT20 - 40**	GB 9439-88	Grey iron castings		**identical**
					HT 200	n. bek.			
EN-GJL-250	EN-JL1040	GGL-25	DIN EN 1561	-	**HT25 - 47**	GB 9439-88	Grey iron castings		**identical**
					HT 250	n. bek.			
EN-GJL-300	EN-JL1050	GGL-30	DIN EN 1561	-	**HT3 - 54**	GB 9439-88	Grey iron castings		**identical**
					HT 300	n. bek.			

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Spheroidal graphite cast iron					**Spheroidal graphite cast iron**				
GJS-400-18U	1062	GGG-40	DIN EN 1563	-	**Not known**	Not known			identical
GJS-400-18	1020				**Not known**				
GJS-400-15U	1072/1073	GGG-40	DIN EN 1563	-	**QT 400-15**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-400-15	1030				**QT 400-15**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-500-7U	1082/1083	GGG-50	DIN EN 1563	-	**QT 500-7**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-500-7	1050				**QT 500-7**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-600-3U	1092/1093	GGG-60	DIN EN 1563	-	**QT 600-3**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-600-3	1060				**QT 600-3**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-700-2U	1102/1103	GGG-70	DIN EN 1563	-	**QT 700-2**	GB 1348-88	Spheroidal graphite iron castings		identical
GJS-700-2	1070				**QT 700-2**	GB 1348-88	Spheroidal graphite iron castings		identical
Malleable cast iron					**Malleable cast iron**				
EN-GJMW-360-12	EN-JM 1020	GTW-S 38-12	DIN EN 1562		**Not known**	Not known			
EN-GJMW-400-5	EN-JM 1030	GTW-40-05	DIN EN 1562		**Not known**	Not known			
General purpose cast steel					**General purpose cast steel**				
GS-38N	1.O420	GS-38N	DIN 1681	normalised	**ZG 200 - 400**	GB 11352-89	General-purpose unalloyed cast steel	C content max. 0.20%	similar
GS-45N	1.O446	GS-45N	DIN 1681	normalised	**ZG 230 - 450**	GB 11352-89	General-purpose unalloyed cast steel	C content max. 0.30% must be limited to max. 0.25%!	similar
					ZGD 270 - 480	GB T 14408-93	Low-alloy cast steel for general purpose and structural steel engineering	No composition specification, only P and S max. 0.040 each	similar
GS-52N	1.O552	GS-52N	DIN 1681	normalised	**ZG 270 - 500**	GB 11352-89	General-purpose unalloyed cast steel	C content max. 0.40% must be limited to 0.35%!	similar
					ZGD 290 - 510	GB T 14408-93	Low-alloy cast steel for general purpose and structural steel engineering	No composition specification, only P and S max. 0.040 each	similar
					ZG 310-570	GB 11352-89	General-purpose unalloyed cast steel		similar
GS-60N	1.O558	GS-60N	DIN 1681	normalised	**ZG 310 - 570**	GB 11352-89	General-purpose unalloyed cast steel	Important! C content 0.50 to 0.60 %, only limited weldability.	similar
					ZG340 - 640	GB 11352-89	General-purpose unalloyed cast steel	Important! C content 0.50 to 0.60 %, only limited weldability.	similar
					ZGD 345 - 570	GB T 14408-93	Low-alloy cast steel for general purpose and structural steel engineering	No composition specification, only P and S max. 0.040 each	similar
					ZGD 410 - 620	GB T 14408-93	Low-alloy cast steel for general purpose and structural steel engineering	No composition specification, only P and S max. 0.040 each	similar
GS-20Mn5V	1 .1120	GS-20Mn5V	DIN 17182	quenched & tempered	**ZG 20 SiMn**	JB T 6402-92	Castings in low-alloy steel		similar
Quenched and tempered steel castings					**Quenched and tempered steel castings**				
GS-30Mn5V	1. 1165	GS-30Mn5V	DIN 17205	quenched & tempered	**ZG 35 SiMn**	JB T 6402-92	Castings in low-alloy steel		similar
GS-25 CrMo4V	1. 7218	GS-25 CrMo4V	DIN 17205	quenched & tempered	**ZG 20 CrMo**	EZB 1162-92	Title not known		similar
GS-34 CrMo4V	1. 7220	GS-34 CrMo4V	DIN 17205	quenched & tempered	**ZG 35CrMo**	EZB 1162-92	Title not known		similar
GS-42 CrMo4V	1. 7225	GS-42 CrMo4V	DIN 17205	quenched & tempered	**ZG 42 CrMo**	JB T 6402-92	Castings in low-alloy steel		similar
GS-34CrNiMo6V	1. 6582	GS-34CrNiMo6V	DIN 17205	quenched & tempered	**ZG 34 CrNiMo**	JB T 6402-92	Castings in low-alloy steel		similar
Flame and induction hardening steel castings					**Flame and induction hardening steel castings**				
G42CrMo4	1. 7231	GS-42CrMo4	SEW 835	quenched & tempered	**ZG 42 CrMo**	JB ZQ 4297-88	Alloyed cast steels. Non-standardised cast steels.		similar
G50CrMo4	1. 7232	GS-50CrMo4	SEW 835	quenched & tempered	**ZG 50 CrMo**	JB ZQ 4297-88	Alloyed cast steels. Non-standardised cast steels.		similar

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Comparison of German and Chinese material designations, Basis SN359

No guarantee in respect of completeness and substitution of materials!

Status: 01.06.2004

ATL2 Standardisation

German Basis: SN 359					Chinese				
Material designation	Mat. No.	Former designat.	Standard	Remark	Material designation	Standard	Title	Remark	Matching of properties:
Heat-resistant steel castings					**Heat-resistant steel castings**				
GP240GH+N	1.O619	GS-C25N	DIN EN 10213-2	normalised	**ZG 230-450**	EZB 1165-93	Title not known		similar
GP240GH+QT	1.O619	GS-C25V	DIN EN 10213-2	quenched & tempered	**ZG 230-450**	EZB 1165-93	Title not known		similar
G20Mo5+QT	1. 5419	GS-22Mo4V	DIN EN 10213-2	quenched & tempered	**Not known**	Not known			
G17CrMo5-5+QT	1. 7357	GS-17CrMo55V	DIN EN 10213-2	quenched & tempered	**ZG 20CrMoV**	JB / T 7024-93	Title not known	C content higher, V alloyed, Rm and Re identical	**similar**
G17CrMoV5-10+QT	1. 7706	GS-17CrMoV5 11V	DIN EN 10213-2	quenched & tempered	**ZG 15Cr1Mo1V**	JB / T 7024-93	Title not known	Cr content higher, Rm and Re lower	**similar**
GX23CrMoV12-1+QT	1. 4931	G-X22CrMoV12 1V	DIN EN 10213-2	quenched & tempered	**Not known**	Not known			
Manganese steel castings, austenitic					**Manganese steel castings, austenitic**				
GX 120Mn12	1. 3401				**ZG MN 13-1**	GB 5680-98	Austenitic cast steels with high manganese content		similar
Not known	1. 3401				**ZG MN 13-2**	GB 5680-98	Austenitic cast steels with high manganese content		
Not known	1. 3401				**ZG MN 13-3**	GB 5680-98	Austenitic cast steels with high manganese content		
Not known	1. 3401				**ZG MN 13-4**	GB 5680-98	Austenitic cast steels with high manganese content		
	-				**ZG MN 13-4**	GB 5680-98	Austenitic cast steels with high manganese content		
Copper-tin-zinc cast alloys (red brass)					**Copper-tin-zinc cast alloys (red brass)**				
GK-CuSn10Zn	-	GK-S1	DIN EN 1982		**ZCuSn10Zn2**	GB/T 1176-1987	Specification for cast copper alloys		
CuSn7Zn4Pb7-C-GS	CC493K-GS	G-CuSn7ZnPb	DIN EN 1982		**ZCuSn7Zn4Pb6**	EZB 1179-93	Title not known		
CuSn7Zn4Pb7-C-GZ	CC493K-GZ	GZ-CuSn7ZnPb	DIN EN 1982		**ZCuSn7Zn4Pb6**	EZB 1179-93	Title not known		
CuSn7Zn4Pb7-C-GC	CC493K-GC	GC-CuSn7ZnPb	DIN EN 1982		**ZCuSn7Zn4Pb6**	EZB 1179-93	Title not known		
Copper-tin cast alloys (tin bronze)					**Copper-tin cast alloys (tin bronze)**				
CuSn12-C-GS	CC483K-GS	G-CuSn12	DIN EN 1982		**ZCuSn12Pb1**	EZB 1179-93	Title not known		
CuSn12-C-GZ	CC483K-GZ	GZ-CuSn12	DIN EN 1982		**ZCuSn12Ni2**	EZB 1179-93	Title not known		
					ZCuSn10Pb1	Not known			
CuSn12-C-GC	CC483K-GC	GC-CuSn12	DIN EN 1982		**ZCuSn12Ni2**	EZB 1179-93	Title not known		
CuSn12Ni2-C-GS	CC484K-GS	G-CuSn12Ni	DIN EN 1982		**ZCuSn12Ni2**	EZB 1179-93	Title not known		
CuSn12Ni2-C-GZ	CC484K-GZ	GZ-CuSn12Ni	DIN EN 1982		**ZCuSn12Ni2**	EZB 1179-93	Title not known		
CuSn12Ni2-C-GC	CC484K-GC	GC-CuSn12Ni	DIN EN 1982		**ZCuSn12Ni2**	EZB 1179-93	Title not known		
CuSn11Pb2-C-GS	CC482K-GS	G-CuSn12Pb	DIN EN 1982		**ZCuSn12Pb1**	EZB 1179-93	Title not known		
CuSn11Pb2-C-GZ	CC482K-GZ	GZ-CuSn12Pb	DIN EN 1982		**ZCuSn12Pb1**	EZB 1179-93	Title not known		
CuSn11Pb2-C-GC	CC482K-GC	GC-CuSn12Pb	DIN EN 1982		**ZCuSn12Pb1**	EZB 1179-93	Title not known		
Copper-lead-tin cast alloys					**Copper-lead-tin cast alloys**				
CuSn10Pb10-C-GS	CC495K-GS	G-CuPb10Sn	DIN EN 1982		**ZCuPb10Sn10**	GB/T 1176-1987	Specification for cast copper alloys		
CuSn10Pb10-C-GZ	CC495K-GZ	GZ-CuPb10Sn	DIN EN 1982		**ZCuPb10Sn10**	GB/T 1176-1987	Specification for cast copper alloys		

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Comparison of German and Chinese material designations, Basis SN359

No guarantee in respect of completeness and substitution of materials!

Status: 01.06.2004

ATL2 Standardisation

German Basis: SN 359					Chinese				
Material designation	Mat. No.	Former designat.	Standard	Remark	Material designation	Standard	Title	Remark	Matching of properties:
Copper-aluminium cast alloys					**Copper-aluminium cast alloys**				
CuAl10Fe5Ni5-C-GS	CC333G-GS	G-CuAl10Ni	DIN EN 1982		**ZCuAl10Ni6Fe5**	EZB 1179-93	Title not known		
CuAl10Fe5Ni5-C-GZ	CC333G-GZ	GZ-CuAl10Ni	DIN EN 1982		**ZCuAl10Ni6Fe5**	EZB 1179-93	Title not known		
Copper-zinc cast alloys (cast special brass)					**Copper-zinc cast alloys (cast special brass)**				
CuZn35Mn2Al1Fe1-GS	CC765-GS	G-CuZn35Al1	DIN EN 1982		**ZCuZn35Al1Fe1Mn2**	EZB 1179-93	Title not known		
CuZn35Mn2Al1Fe1-GZ	CC765-GZ	GZ-CuZn35Al1	DIN EN 1982		**ZCuZn35Al1Fe1Mn2**	EZB 1179-93	Title not known		
CuZn34Mn3Al2Fe1-C-GS	CC764-GS	G-CuZn34Al2	DIN EN 1982		**ZCuZn34Al2Fe2Mn3**	EZB 1179-93	Title not known		
CuZn34Mn3Al2Fe1-C-GZ	CC764-GZ	GZ-CuZn34Al2	DIN EN 1982		**ZCuZn34Al2Fe2Mn3**	EZB 1179-93	Title not known		
CuZn25Al5Mn4Fe3-C-GS	CC762-GS	G-CuZn25Al5	DIN EN 1982		**ZCuZn25Al5Fe3Mn4**	EZB 1179-93	Title not known		
CuZn25Al5Mn4Fe3-C-GZ	CC762-GZ	GZ-CuZn25Al5	DIN EN 1982		**ZCuZn25Al5Fe3Mn4**	EZB 1179-93	Title not known		
CuZn37Mn3Al2PbSi-R540	CW713R-R540	CuZn40Al2F54	DIN EN 12164		**Not known**	Not known			

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