SMS DEMAG
SMS group

Comparison of German and Chinese material designations, Basis SN359

No guarantee in respect of completeness and substitution of materials!

Status: 01.01.2006
AEK2 Design Consulting
kuwe@sms-demag.com

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
Engineering steels					**Engineering steels**				
E295	1. 0050	St 50-2	DIN EN 10025-2	-	**Q275 Z**	GB 700-88	Unalloyed engineering steels	**C content 0.28 to 0.38%, only limited weldability, Z = Fully killed steel only is permissible,**	**identical**
E335	1. 0060	St 60-2	DIN EN 10025-2	-	**Q 345 C**	GB T 1591-94	High strength low alloy structural steels		**identical**
E360	1. 0070	St 70-2	DIN EN 10025-2	-	**Q 390 C**	GB T 1591-94	High strength low alloy structural steels		**identical**
S235JR	1. 0038	R St 37-2 S235JRG2	DIN EN 10025-2	KV at room temperature, unkilled not permitted	**Q 235 B** **Q 235 D**	GB 700-88 GB 700-88	Unalloyed engineering steels Unalloyed engineering steels	**Fully killed steel only is permissible**	**similar** **identical**
S275JR	1. 0044	St 44-2 S275JRG2	DIN EN 10025-2	KV at room temperature, unkilled not permitted	**Q 275 Z**	GB 700-88	Unalloyed engineering steels	C content must be limited to 0.22%, otherwise only limited weldability, notch impact energy not guaranteed.	**similar**
S355J2	1. 0577	St 52-3N S355J2G3	DIN EN 10025-2	KV at -20°C, fully killed steel	**Q 345 D**	GB T 1591-94	High strength low alloy structural steels	**Fully killed steel only is permissible**	**similar**
S355JR	1. 0045	-	DIN EN 10025-2	KV at room temperature, unkilled not permitted	**Q 345 C**	GB T 1591-94	High strength low alloy structural steels	**Fully killed steel only is permissible, KV only at room temperature,**	**identical**
S235J0	1. 0114	St 37-3 U	DIN EN 10025 (invalid)	KV at 0°C	**Q 235 C**	GB 700-88	Unalloyed engineering steels	**Fully killed steel only is permissible, KV at 0°C ,**	**similar**
S235J0C	1. 0115	Q St 37-3U	DIN EN 10025 (invalid)	KV at 0°C, suitable for cold forming,	**Q 235 C**	GB 700-88	Unalloyed engineering steels	**Fully killed steel only is permissible, KV at 0°C ,**	**similar**
S235J2G3	1. 0116	St 37-3N	DIN EN 10025 (invalid)	KV at -20°C, fully killed steel	**Q 235 D**	GB 700-88	Unalloyed engineering steels	**Fully killed or double-killed steel only is permissible, KV at -20°C ,**	**similar**
S235J2G3C	1. 0118	Q St 37-3N	DIN EN 10025 (invalid)	KV at -20°C, fully killed steel, suitable for cold forming,	**Q 235 D**	GB 700-88	Unalloyed engineering steels	**Fully killed or double-killed steel only is permissible, KV at -20°C ,**	**similar**
S235J2G4	1. 0117	-	DIN EN 10025 (invalid)	KV at -20°C, fully killed steel	**Q 235 D**	GB 700-88	Unalloyed engineering steels	**Fully killed or double-killed steel only is permissible, KV at -20°C ,**	**similar**
S235JR	1. 0037	St 37-2	DIN EN 10025 (invalid)	KV at room temperature,	**Q 235 A** **Q 235 B**	GB 700-88	Unalloyed engineering steels	Z = killed only is permissible	**do not use** **similar**
S235JRG1	1. 0036	U St 37-2	DIN EN 10025 (invalid)	KV at room temperature, unkilled	**Q 235 A** **Q 235 B**	GB 700-88	Unalloyed engineering steels		**do not use** **similar**
S235JRG1C	1. 0121	UQ St 37-2	DIN EN 10025 (invalid)	KV at room temperature, unkilled, suitable for cold forming,	**Not known**				
S275J0	1. 0143	St 44-3	DIN EN 10025 (invalid)	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 (invalid)	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 (invalid)	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**

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
S275J2G3C	1. 0141	Q St 44-3N	DIN EN 10025 (invalid)	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**
S275J2G4	1. 0145	-	DIN EN 10025 (invalid)	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**
S275JRC	1. 0128	Q St 44-2	DIN EN 10025 (invalid)	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**
S355J0	1. 0553	-	DIN EN 10025 (invalid)	KV at 0°C	**16Mn**	GB 1591-88	High strength low alloy structural steels	**KV only at room temperature, Z= Fully killed steel only is permissible**	**similar**
S355J2G3C	1. 0569	-	DIN EN 10025 (invalid)	KV at -20°C, fully killed steel, suitable for cold forming,	**16Mn**	GB 1591-88	High strength low alloy structural steels	**KV only at room temperature, Z= Fully killed steel only is permissible**	**similar**
Fine-grained engineering steels, weldable					**Fine-grained engineering steels, weldable**				
S355N	1. 0545	StE 355	DIN EN 10025-3	normalised, KV at -20°C,	**Q 345 D**	GB T 1591-94	High strength low alloy structural steels	**KV at -20°C**	**similar**
S355NL	1. 0546	TStE 355	DIN EN 10025-3	normalised KV at -50°C,	**Q 345 E**	GB T 1591-94	High strength low alloy structural steels	**KV at -40°C !**	**similar**
S420N	1. 8902	StE 420	DIN EN 10025-3	normalised KV at -20°C,	**Q 420 D**	GB T 16270-96	High-strength engineering-steel sheet/plate and strip products, heat-treated or produced by controlled rolling	**KV at -20°C !**	**similar**
S420NL	1. 8912	TStE 420	DIN EN 10025-3	normalised KV at -50°C,	**Q 420 E**	GB T 16270-96	High-strength engineering-steel sheet/plate and strip products, heat-treated or produced by controlled rolling	**KV at -40°C !**	**similar**
S460N	1. 8901	StE 460	DIN EN 10025-3	normalised KV at -20°C,	**Q 460 D**	GB T 1591-94	High strength low alloy structural steels	**KV at -20°C !**	**similar**
S460NL	1. 8903	TStE 460	DIN EN 10025-3	normalised KV at -50°C,	**Q 460 E**	GB T 1591-94	High strength low alloy structural steels	**KV at -40°C !**	**similar**
Bright steel products for general engineering purposes					**Bright steel products for general engineering purposes**				
C45 +C or +SH	1. 0503	C 45	DIN EN 10277-2	Bright steel products, +C = cold drawn +SH = as rolled and turned	**45**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**similar**
C15 +C or +SH	1. 0401	C15	DIN EN 10277-2		**15**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**similar**
E 295GC +C or +SH	1. 0533	St 50-2 KG	DIN EN 10277-2		**Q 275**	GB 700-88	Unalloyed engineering steels		**similar**
Sheets					**Sheets**				
DC01	1. 0330	St 12	DIN EN 10130		**08F**	GB 699-88	Plain carbon quality steel	Sameness must be checked in every case	**similar**
Pipes, tubes					**Pipes, tubes**				
P235TR1	1. 0254	**St 37.0**	DIN EN 10216-1	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 EN 10216-2	normalised	**20**	GB 8162-87	Seamless tubes for structures	**Limit C content to 0.17%**	**similar**
P355N	1.0562	**StE 355**	DIN EN 10216-3	normalised	**16Mn**	GB 6479-86	Seamless steel tubes for equipment of chemical industry for high pressure service	**Limit C content to 0.17%**	**similar**
					16Mn	GB 8162-87	Seamless steel tubes for structural purposes	**Limit C content to 0.17%**	**similar**
					16Mn	GB 8163-87	Seamless steel pipes for liquid service	**Limit C content to 0.17%**	**similar**
					16Mn	GB/T 8164-87	Strips for welding stel pipe	**Limit C content to 0.17%**	**similar**
E235	1.0308	**-**	DIN EN 10305-4	normalised	**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**

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
Tubes in stainless steels					**Tubes in stainless steels**				
X2CrNiMo 17-12-2	1.4404	-	DIN EN 10216-5 DIN EN 10217-7	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**
X6CrNiTi18-10	1. 4541	X10CrNiTi 18 9	DIN EN 10216-5 DIN EN 10217-7	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 EN 10216-5 DIN EN 10217-7	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**
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	Quality carbon structure steel	Z = killed only is permissible	**identical**
C35 +N	1. 0501	C 35 N	DIN EN 10083-2	normalised	**35**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**identical**
C35 +QT	1. 0501	C 35 V	DIN EN 10083-2	quenched & tempered	**35**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible	**identical**
C45 +QT	1. 0503	C 45 V	DIN EN 10083-2	quenched & tempered	**45**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible, 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	Quality carbon structure steel	Z = killed only is permissible	**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	Z = killed only is permissible, 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	Z = killed only is permissible, 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	Z = killed only is permissible, Agreement required for QT instead of normalising.	**similar**
Quenched and tempered steels, alloyed					**Quenched and tempered steels, alloyed**				

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
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		**similar**
					16MnCr	JB T 6396-92	Large forged piece of alloyed structural steel		**similar**
20MnCr5+TH	1.7147	20 MnCr 5 BF	DIN EN 10084		**20CrMnTi**	GB 3077-88	Alloyed structural steels		**similar**
					20MnCr	JB T 6396-92	Large forged piece of alloyed structural steel		**similar**
18CrNiMo7-6	1.6587	17 CrNiMo 6 BF	DIN EN 10084		**17Cr2Ni2Mo**	JB/T 6396-92 EZB 1187-93	Large forged piece of alloyed structural steel		**similar**
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		**similar**
Tool steel					**Tool steel**				
60WCrV 7	1.2550	60 WCrV7	DIN EN ISO 4957		**6 Cr W 2 Si**	GB 1299-85	Alloyed cold work steel		**similar**
102Cr6	1.2067	100Cr6	DIN EN ISO 4957		**Cr2**	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		**similar**
S355J2G3	1.0570	St 52-3	DIN EN 10250-2		**20**	GB 699-88	Quality carbon structure steel	**Notch impact energy not guaranteed**	**do not use**
					16MnDR	GB 3531-96	Plate for pressure vessels for use at low temperatures		**similar**
					20Mn2	GB 3077-88	Alloyed structural steels		**similar**
C22	1.0402	C 22	DIN EN 10250-2		**20**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**similar**
20Mn5	1.1133	20 Mn 5	DIN EN 10250-2		**20Mn2**	GB 3077-88	Alloyed structural steels		**similar**
C35E	1.1181	Ck 35	DIN EN 10250-2		**35**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**identical**
C45E	1.1191	Ck 45	DIN EN 10250-2		**45**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**identical**
					45H	GB 5216-85	Structural steels with defined hardenability scatterband		**similar**
C60E	1.1221	Ck 60	DIN EN 10250-2		**60**	GB 699-88	Quality carbon structure steel	Z = killed only is permissible	**identical**
25CrMo4	1.7218	25 CrMo 4	DIN EN 10250-3		**30CrMo**	GB 3077-88	Alloyed structural steels		**similar**
34CrMo4	1.7220	34 CrMo 4	DIN EN 10250-3		**35CrMo**	GB 3077-88	Alloyed structural steels		**similar**
42CrMo4	1.7225	42 CrMo 4	DIN EN 10250-3		**42CrMo**	GB 3077-88	Alloyed structural steels		**similar**
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)		**similar**
					2Cr13	GB 1221-92	Heat-resisting steels (austenitic)		**similar**
					2Cr13	GB 8732-88	Steel for steam turbine blades		**similar**
					SM 2Cr13	YB 094-97	Slabs for plastic moulds		**similar**
X17CrNi16-2	1.4057	X 17 CrNi 16 2	DIN EN 10250-4		**1Cr17Ni2**	GB 1220-92	Stainless steels (austenitic)		**similar**
					1Cr17Ni2	GB 1221-92	Heat-resisting steels (austenitic)		**similar**
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)		

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
X5CrNiMo17-12-2	1.4401	X 5 CrNiMo17 12 2	DIN EN 10250-4		**0Cr17Ni12Mo2** **0Cr17Ni12Mo2**	GB 1220-92 GB 1221-92	Stainless steels (austenitic) Heat-resisting steels (austenitic)		
X4CrNiMo16-5-1	1.4418	-	DIN EN 10250-4		**Not known**	Not known			
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** **1Cr17Ni2** **1Cr17Ni2** **1Cr17Ni2** **1Cr17Ni2 (-R)** **1Cr17Ni2** **ML1Cr17Ni2**	GB 1220-92 GB 1221-92 GB 3280-92 GB 4356-84 GB T 4240-93 GB T 4231-93 GB 4232-93	Stainless steels (austenitic) Heat-resisting steels (austenitic) Cold-rolled plate and strip (austenitic) Wire in rod shape Wire Cold-rolled strip in stainless steel for springs 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** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti** **0Cr18Ni10Ti (-Q,-R)** **1Cr18Ni11Ti** **H0Cr20Ni10Ti**	GB 1220-92 GB 1221-92 GB 3280-92 GB 4237-92 GB 4238-92 GB 13296-91 GB T 14975-94 GB T 14976-94 GB 4356-84 GB 12771-91 GB T 4240-93 GB 13296-91 YB T 5092-96	Stainless steels (austenitic) Heat-resisting steels (austenitic) Cold-rolled sheet/plate and strip (austenitic) Hot-rolled sheet/plate and strip in stainless steel (austenitic) Hot-rolled sheet/plate in heat-resisting steel (austenitic) Seamless boiler and heat exchanger tubes (austenitic) Seamless tubes Seamless tubes for liquids Wire in rod shape Welded pipes for transport of liquids Wire Seamless boiler and heat exchanger tubes (austenitic) 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** **HT 200**	GB 9439-88 Not known	Grey iron castings		**identical**
EN-GJL-250	EN-JL1040	GGL-25	DIN EN 1561	-	**HT25 - 47** **HT 250**	GB 9439-88 Not known	Grey iron castings		**identical**
EN-GJL-300	EN-JL1050	GGL-30	DIN EN 1561	-	**HT3 - 54** **HT 300**	GB 9439-88 Not known	Grey iron castings		**identical**
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**	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**

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
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**				
GS200	1. 0449	GS-38N	DIN EN 10293	normalised	**ZG 200 - 400**	GB 11352-89	General-purpose unalloyed cast steel	C content max. 0.18%	**similar**
GS240	1.O445	GS-45N	DIN EN 10293	normalised	**ZG 230 - 450**	GB 11352-89	General-purpose unalloyed cast steel	C content max. 0.30% must be limited to max. 0.23%!	**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	**do not use**
GE300	1.O558	GS-60N	DIN EN 10293	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**
G20Mn5 +N or +QT	1 .6220	GS-20Mn5V	DIN EN 10293	quenched & tempered	**ZG 20 SiMn**	JB T 6402-92	Castings in low-alloy steel		**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%!	**do not use**
					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	**do not use**
					ZG 310-570	GB 11352-89	General-purpose unalloyed cast steel		**do not use**
Quenched and tempered steel castings					**Quenched and tempered steel castings**				
G28Mn6 +QT1 or QT2	1. 1165	GS-30Mn5V	DIN EN 10293	quenched & tempered	**ZG 35 SiMn**	JB T 6402-92	Castings in low-alloy steel		**similar**
G26 CrMo4 +QT1 or +QT2	1. 7221	GS-25 CrMo4V	DIN EN 10293	quenched & tempered	**ZG 20 CrMo**	EZB 1162-92	Title not known		**similar**
G42 CrMo4 +QT1 or QT2	1. 7231	GS-42 CrMo4V	DIN EN 10293	quenched & tempered	**ZG 42 CrMo**	JB T 6402-92	Castings in low-alloy steel		**similar**
G35CrNiMo6-6 +N or +QT1 or QT2	1. 6582	GS-34CrNiMo6V	DIN EN 10293	quenched & tempered	**ZG 34 CrNiMo**	JB T 6402-92	Castings in low-alloy steel		**similar**
GS-34 CrMo4V	1. 7220	GS-34 CrMo4V	DIN 17205	quenched & tempered	**ZG 35CrMo**	EZB 1162-92	Title not known		**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**
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			

German					Chinese				
Material designation Basis SN359	**Material No.**	**Former designation**	**Standard**	**Remark**	**Material designation**	**Standard**	**Title**	**Remark**	**Matching of properties:**
Manganese steel castings, austenitic					**Manganese steel castings, austenitic**				
GX 120Mn12	1. 3401	-	without standard	-	**ZG MN 13-1**	GB 5680-98	Austenitic cast steels with high manganese content		**similar**
Not known	-		without standard		**ZG MN 13-2**	GB 5680-98	Austenitic cast steels with high manganese content		
Not known	-		without standard		**ZG MN 13-3**	GB 5680-98	Austenitic cast steels with high manganese content		
Not known	-		without standard		**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** **ZCuSn10Pb1**	EZB 1179-93 Not known	Title 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		
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			