CUSTOMER INFORMATION

COMPARISON OF STEEL GRADES

Revision 0, May 2011

The following table, providing comparison of standards no longer valid with those currently in force, is intended by Dillinger Hütte GTS as an aid to its customers when ordering steel products. Please note under all circumstances that the steels are in most cases not absolute equivalents. There are, instead, more or less pronounced differences in chemical composition, mechanical properties and/or inspection and certification conditions. Deviations may also occur via reference to other standards for (for instance) tolerances, surface quality and ultrasonic inspection.

The following table, which is specifically orientated around our ”Heavy-plate” product range, is therefore of a purely informational character.

Revision 0
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Marketing Dillinger Hütte GTS

Steels for steel construction: non-alloy structural steels			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 4360	40 A, B	S 235 JR	BS EN 10025-2
	40 C	S 235 J0	
	40 D	S 235 J2+N	
	43 A, B	S 275 JR	
	43 C	S 275 J0	
	43 D	S 275 J2 +N	
	50 A, B	S 355 JR	
	50 C	S 355 J0	
	50 D	S 355 J2 +N	
	50 D D	S 355 K2 +N	
DIN 17100	St 33	S 185	DIN EN 10025-2
	St 37-2	S 235 JR	
	RSt 37-2	S 235 JR	
	RQSt 37-2	S 235 JRC	
	St 37-3	S 235 J2 +N	
	QSt 37-3	S 235 J2C +N	
	St 44-2	S 275 JR	
	QSt 44-2	S 275 JRC	
	St 44-3	S 275 J2 +N	
	QSt 44-3	S 275 J2C +N	
	St 52-3	S 355 J2 +N	
	QSt 52-3	S 355 J2C +N	
	St 50-2	E 295	
	St 60-2	E 335	
	St 70-2	E 360	
NBN A21101	AE 235 A, B	S 235 JR	NBN EN 10025-2
	AE 235 C	S 235 J0	
	AE 235 D	S 235 J2 +N	
	AE 355 B	S 355 JR	
	AE 355 C	S 355 J0	
	AE 355 D, DD	S 355 K2 +N	
NF A35501	A 33	S 185	NF EN 10025-2
	E 24-2 (NE)	S235 JR	
	E 24-3	S 235 J0	
	E 24-4	S 235 J2 +N	
	E 28-2	S 275 JR	
	E 28-3	S 275 J0	
	E 28-4	S 275 J2 +N	
	E 36-3	S 355 J2 +N	
	E 36-4	S 355 K2 +N	
	A 50-2	E 295	
	A 60-2	E 335	
	A 70-2	E 360	

Previous standard	Previous steel grade	Current steel grade	Current standard
SS 14 ...	1312-00	S 235 JR	SS EN 10025-2
	1412-00	S 275 JR	
	1414-01	S 275 J2 +N	
	2172-00	S 355 JR	
	2174-01	S 355 JR +N	
UNI 7070	Fe 360 B (FN)	S 235 JR	UNI EN 10025-2
	Fe 360 C	S 235 J0	
	Fe 360 D	S 235 J2 +N	
	Fe 430 B	S 275 JR	
	Fe 430 C	S 275 J0	
	Fe 430 D	S 275 J2 +N	
	Fe 510 B	S 355 JR	
	Fe 510 C	S 355 J0	
	Fe 510 D	S 355 J2 +N	
	Fe 510 DD	S 355 K2 +N	
EN 10025	S 185	S 185	EN 10025-2
	S 235 JR	S 235 JR	
	S 235 JRC	S 235 JRC	
	S 235 JRG1	S 235 JR	
	S 235 JRG1C	S 235 JRC	
	S 235 JRG2	S 235 JR	
	S 235 JRG2C	S 235 JRC	
	S 235 J0	S 235 J0	
	S 235 J0C	S 235 J0C	
	S 235 J2G3	S 235 J2 +N	
	S 235 J2G3C	S 235 J2C +N	
	S 235 J2G4	S 235 J2	
	S 235 J2G4C	S 235 J2C	
	S 275 JR	S 275 JR	
	S 275 JRC	S 275 JRC	
	S 275 J0	S 275 J0	
	S 275 J0C	S 275 J0C	
	S 275 J2G3	S 275 J2 +N	
	S 275 J2G3C	S 275 J2C +N	
	S 275 J2G4	S 275 J2	
	S 275 J2G4C	S 275 J2C	
	S 355 JR	S 355 JR	
	S 355 JRC	S 355 JRC	
	S 355 J0	S 355 J0	
	S 355 J0C	S 355 J0C	
	S 355 J2G3	S 355 J2 +N	
	S 355 J2G3C	S 355 J2C +N	
	S 355 J2G4	S 355 J2	
	S 355 J2G4C	S 355 J2C	
	S 355 K2G3	S 355 K2 +N	
	S 355 K2G3C	S 355 K2C +N	
	S 355 K2G4	S 355 K2	
	S 355 K2G4C	S 355 K2C	

Previous standard	Previous steel grade	Current steel grade	Current standard
EN 10025	E 295	E 295	EN 10025-2
	E 335	E 335	
	E 360	E 360	
Steels for steel construction: fine grain structural steels			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 4360	40 EE, 43 EE	S 275 NL	BS EN 10025-3
	50 EE	S 355 NL	
	55 C	S 460 N	
	55 EE	S 460 NL	
DIN 17102	StE 255, StE 285	S 275 N	DIN EN 10025-3
	TStE 255, TStE 285, EStE 255, EStE 285	S 275 NL	
	StE 315	S 275 N or S 355 N	
	TStE 315, EStE 315	S 275 NL or S 355 NL	
	StE 355	S 355 N	
	TStE 355, EStE 355	S 355 NL	
	StE 380	S 355 N or S 420 N	
	TStE 380, EStE 380	S 355 NL or S 420 NL	
	StE 420	S 420 N	
	TStE 420, EStE 420	S 420 NL	
	StE 460	S 460 N	
	TStE 460, EStE 460	S 460 NL	
NF A36201	E 355 R	S 355 N	NF EN 10025-3
	E 355 FP1, FP2	S 355 NL	
	E 375 R	S 355 N or S 420 N	
	E 375 FP1, FP2	S 355 NL or S 420 NL	
	E 420 R	S 420 N	
	E 420 FP1, FP2	S 420 NL	
	E 460 R	S 460 N	
	E 460 FP	S 460 NL	
SS 14 ...	2132-01, 2134-01	S 355 N	SS EN 10025-3
	2135-01	S 355 NL	
	2142-01, 2144-01	S 420 N	
	2145-01	S 420 NL	
Steels for steel construction: structural steels with improved atmospheric corrosion resistance			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 4360	WR 50 B, C	S 355 J2W +N	BS EN 10025-5
NF A35502	E 24 W2	S 235 J0W	NF EN 10025-5
	E 24 W3	S 235 J0W	
	E 24 W4	S 235 J2W +N	
	E 36 WB3	S 355 J0W	
	E 36 WB4	S 355 K2W +N	
SEW 087	WTSt 37-2	S 235 J0W	DIN EN 10025-5

Previous standard	Previous steel grade	Current steel grade	Current standard
SEW 087	WTSt 37-3	S 235 J2W +N	DIN EN 10025-5
	WTSt 52-3	S 355 J2W +N	
EN 10155	S 235 J0W	S 235 J0W	EN 10025-5
	S 235 J2W	S 235 J2W +N	
	S 355 J0WP	S 355 J0WP	
	S 355 J2WP	S 355 J2WP +N	
	S 355 J0W	S 355 J0W	
	S 355 J2G1W	S 355 J2W +N	
	S 355 J2G2W	S 355 J2W	
	S 355 K2G1W	S 355 K2W +N	
	S 355 K2G2W	S 355 K2W	
Steels for steel construction: quenched and tempered structural steels			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 4360	50 F, 55 F	S 460 QL1	BS EN 10025-6
NF A36204	E 460T-II-K2, …, E 690-II-K2	S 460 QL, ... , S 690 QL	NF EN 10025-6
	E 460T-II-K4, ... , E 690-II-K4	S 460 QL1, ... , S 690 QL1	
	E 960T-II-K2	S 960 QL	
SEW 090	StE 690V, TStE 690V, EStE 690V	S 690Q, S 690QL, S 690QL1	DIN EN 10025-6
Steels for cold forming			
Previous standard	Previous steel grade	Current steel grade	Current standard
SEW 092	QStE 340 M	S 355 MC	DIN EN 10149-2
	QStE 380 M	S 355 MC or S 420 MC	
	QStE 420 M	S 420 MC	
	QStE 460 M	S 460 MC	
	QStE 500 M	S 500 MC	
	QStE 550 M	S 550 MC	
	QStE 260 N	S 260 NC	DIN EN 10149-3
	QStE 340 N	S 355 NC	
	QStE 380 N	S 355 NC or S 420 NC	
	QStE 420 N	S 420 NC	
Steels for pressure vessel construction: non-alloy steels with elevated temperature properties			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 1501 P1-151	360 A, B	P 235 GH	BS EN 10028-2
	400 A, B	P 265 GH	
	430 A, B	P 295 GH	
BS 1501 P1-161	360 A, B	P 235 GH	BS EN 10028-2
	400 A, B	P 265 GH	
	430 A, B	P 295 GH	
BS 1501 P1-164	360 A, B & RT... LT20	P 235 GH	BS EN 10028-2
	400 A, B & RT... LT20	P 265 GH	
DIN 17155	HI	P 235 GH	DIN EN 10028-2
	HII	P 265 GH	
	17Mn4	P 295 GH	
	19Mn6	P 355 GH	
NF A36205	A 37 CP, AP	P 235 GH	NF EN 10028-2
	A 42 CP, AP	P 265 GH	
	A 48 CP, AP	P 295 GH	
	A 48 CPR, APR	P 295 GH or P 355 GH	
	A 52 CP, AP	P 355 GH	
	A 52 CPR, APR	P 355 GH	
SS 14 ...	1330-01, 1331-01	P 235 GH	SS EN 10028-2
	1430-01, 1431-01, 1432-01	P 265 GH	

Previous standard	Previous steel grade	Current steel grade	Current standard
SS 14 ...	2101-01, 2102-01, 2103-01	P 295 GH or P 355 GH	SS EN 10028-2
UNI 5869	Fe 360-1, -2 & KG, KW	P 235 GH	UNI EN 10028-2
	Fe 410-1, -2 & KG, KW	P 265 GH	
	Fe 460-1, -2 & KG, KW	P 295 GH	
	Fe 510-1, -2 & KG, KW	P 355 GH	
Steels for pressure vessel construction: alloy steels with elevated temperature properties			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 1501 P2	243 A, B	16 Mo 3	BS EN 10028-2
	620 A, B	13 CrMo 4-5	
	621 A, B	13 CrMoSi 5-5	
	622-515 A, B	10 CrMo 9-10	
DIN 17155	15 Mo 3	16 Mo 3	DIN EN 10028-2
	13 CrMo 4-4	13 CrMo 4-5	
	10 CrMo 9-10	10 CrMo 9-10	
NF A36206	15 D 3	16 Mo 3	NF EN 10028-2
	18 MD 4-05	18 MnMo 4-5	
	15 CD 4-05	13 CrMo 4-5	
	10 CD 9-10	10 CrMo 9-10	
UNI 5869	16 Mo 3	16 Mo 3	UNI EN 10028-2
	14 CrMo 4-5	13 CrMo 4-5	
	12 CrMo 9-10	10 CrMo 9-10	
Steels for pressure vessel construction: fine grain steels			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 1501 P1-223	460A ... 490A & RT ... LT15	P 355 N	BS EN 10028-3
	460A ... 490A & LT30	P 355 NL1	
	460B ... 490B & RT ... LT15	P 355 NH	
	460B ... 490B & LT30	P 355 NL1 & P 355 NH	
BS 1501 P1-224	400A & RT ... LT20	(P 275 N) no longer defined	BS EN 10028-3
	400A & LT30 ... LT40	P 275 NL1	
	400A & LT50	P 275 NL2	
	400B & RT ... LT20	P 275 NH	
	400B & LT30 ... LT40	P 275 NL1 & P 275 NH	
	400B & LT50	P 275 NL2 & P 275 NH	
	430A & RT ... LT20	(P 275 N) no longer defined or P 355 N	
	430A & LT30 ... LT40	P 275 NL1 or P 355 NL1	
	430A & LT50	P 275 NL2 or P 355 NL2	
	430B & RT ... LT20	P 275 NH or P 355 NH	
	430B & LT30 ... LT40	P 275 NL1 & P 275 NH or P 355 NL1 & P 355 NH	
	430B & LT50	P 275 NL2 & P 275 NH or P 355 NL2 & P 355 NH	
	460A ... 490A & RT ... LT20	P 355 N	
	460A ... 490A & LT30 ... LT40	P 355 NL1	
	460A ... 490A & LT50	P 355 NL2	
	460B ... 490B & RT ... LT20	P 355 NH	
	460B ... 490B & LT30 ... LT40	P 355 NL1 & P 355 NH	
	460B ... 490B & LT50	P 355 NL2 & P 355 NH	
BS 1501 P1-225	460A ... 490A & LT20	P 355 N	BS EN 10028-3
	460A ... 490A & LT30 ... LT40	P 355 NL1	
	460A ... 490A & LT50	P 355 NL2	
	460B ... 490B & LT20	P 355 NH	
	460B ... 490B & LT30 ... LT40	P 355 NL1 & P 355 NH	
	460B ... 490B & LT50	P 355 NL2 & P 355 NH	
DIN 17102	StE 255, StE 285	(P 275 N) no longer defined	DIN EN 10028-3
	WStE 255, WStE 285	P 275 NH	

Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17102	TStE 255, TStE 285	P 275 NL1	DIN EN 10028-3
	EStE 255, EStE 285	P 275 NL2	
	StE 315	(P 275 N) no longer defined or P 355 N	
	WStE 315	P 275 NH or P 355 NH	
	TStE 315	P 275 NL1 or P 355 NL1	
	EStE 315	P 275 NL2 or P 355 NL2	
	StE 355	P 355 N	
	WStE 355	P 355 NH	
	TStE 355	P 355 NL1	
	EStE 355	P 355 NL2	
	StE 380, StE 420	P 355 N or P 460 N	
	WStE 380, WStE 420	P 355 NH or P 460 NH	
	TStE 380, TStE 420	P 355 NL1 or P 460 NL1	
	EStE 380, EStE 420	P 355 NL2 or P 460 NL2	
	StE 460	(P 460 N) no longer defined	
	WStE 460	P 460 NH	
	TStE 460	P 460 NL1	
	EStE 460	P 460 NL2	
NF A36205	A 37 FP	P 275 NL1	NF EN 10028-3
	A 42 FP	P 275 NL1	
	A 48 FP	P 275 NL1 or P 355 NL1	
	A 48 FPR	P 275 NL1 or P 355 NL1	
	A 52 FP	P 355 NL1	
	A 52 FPR	P 355 NL1	

Steels for pressure vessel construction: ni-alloy steels with low-temperature properties

Previous standard	Previous steel grade	Current steel grade	Current standard
BS 1501 P2	503	12 Ni 14	BS EN 10028-4
	510	X 8 Ni 9 +QT680	
DIN 17280	11 MnNi 5-3	11 MnNi 5-3	DIN EN 10028-4
	13 MnNi 6-3	13 MnNi 6-3	
	10 Ni 14	12 Ni 14	
	12 Ni 19	X 12 Ni 5	
	X 8 Ni 9	X 8 Ni 9 +NT640, +QT640	
NF A36208	0,5Ni 285	11 MnNi 5-3	NF EN 10028-4
	0,5Ni 355	13 MnNi 6-3	
	3,5Ni 285	12 Ni 14	
	3,5Ni 355	12 Ni 14	
	5Ni 390	X 12 Ni 5	
	9Ni 490	X 8 Ni 9 +NT640, +QT640	
	9Ni 585	X 8 Ni 9 +QT680	

Steels for quenching and tempering: non-alloy steels for quenching and tempering

Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17200	C 22 N, ... , C 60 N	C35 +N, ... , C60 +N	DIN EN 10083-2
	C 22 U, ... , C 60 U	C35 +U, ... , C60 +U	
	Ck 22 N, ... , Ck 60 N	C22E +N, ... , C60E +N	
	Ck 22 U, ... , Ck 60 U	C22E +U, ... , C60E +U	
NF A35554	XC 18 S	C22E +N	NF EN 10083-2
	XC 38	C40E +N	
	XC 48	C50E +N	

Steels for quenching and tempering: alloy steels for quenching and tempering			
Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17200	25 CrMo 4 (N), ... , 50 CrMo 4 (N)	25 CrMo 4 , ... , 50 CrMo 4	DIN EN 10083-3
	50 CrV 4 (N)	50 CrV 4	
NF A35554	25 CD 4S	25 CrMo 4	NF EN 10083-1
Steels for case-hardening: non-alloy steels for case-hardening			
Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17210	C 10 N, Ck 10 N	C10E +N	DIN EN 10084
	C 10 U, Ck 10 U	C10E +U	
	C 15 N, Ck 15 N	C15E +N	
	C 15 U, Ck 15 U	C15E +U	
NF A35554	XC 10	C10E +N	NF EN 10084
Steels for case-hardening: alloy steels for case-hardening			
Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17210	16 MnCr 5 (N), 20 MnCr 5 (N)	16 MnCr 5(+N), 20 MnCr (+N)	DIN EN 10084
Steels for offshore structures			
Previous standard	Previous steel grade	Current steel grade	Current standard
BS 7191	355 D	S 355 G2+N	BS EN 10225
	355 E	S 355 G3+N	
	355 EM	S 355 G7+N	
	355 EMZ	S 355 G8+N	
	450 EM	S 460 G1+QT	
	450 EMZ	S 460 G2+QT	
Steels for line pipe			
Previous standard	Previous steel grade	Current steel grade	Current standard
DIN 17172	StE 210-7, StE 240-7	L 245 NB	DIN EN 10208-2
	StE 290-7	L 290 NB	
	StE 320-7	L 290 NB or L 360 NB	
	StE 360-7	L 360 NB	
	StE 385-7	L 360 NB or L 415 NB	
	StE 415-7	L 415 NB	
	StE 290-7 TM	L 290 MB	
	StE 320-7 TM	L 290 MB or L 360 MB	
	StE 360-7 TM	L 360 MB	
	StE 385-7 TM	L 360 MB or L 415 MB	
	StE 415-7 TM	L 415 MB	
	StE 445-7 TM	L 450 MB	
	StE 480-7 TM	L 485 MB	
	StE 480-7 TM	L 485 MB	