



STAHLWERK THÜRINGEN
Grupo Alfonso Gallardo

Certificate No. 1977/3-2009 1/4
Advice No. A090330034
Inspection Certificate 3.1
according to ASTM A6

40112

A01 Stahlwerk Thüringen GmbH
A05 Quality Assurance Department
Kronacher Straße 6
07333 Unterwellenborn
Germany

A04 **SWT**
A06 Ferre Barniedo S.A. de C.V.
Col. san Cristóbal
Av. Revolucion N°81
55024 Ecatepec
MEXICO

A08 Our Order No.: 2006003109
A07 Your Order No.: TAC 37

B02 Grade: GRADE 50
according to: ASTM A572M

Pos.	Charge	Dimension	Length	Pieces	Weight [kg]	Customer No.
A10	B07	B01	B09	B08	B13	A11
001	68446	C 10X15,3	480 in	224	61 030	
001	68445	C 10X15,3	480 in	32	8 800	
001	68447	C 10X15,3	480 in	112	30 535	
002	68461	C 10X20	480 in	168	61 225	
002	68460	C 10X20	480 in	24	8 735	
002	68462	C 10X20	480 in	84	30 570	
003	68468	C 10X25	480 in	80	36 355	
003	68469	C 10X25	480 in	136	61,985	
003	68470	C 10X25	480 in	128	58 445	
004	68474	C 10X30	480 in	56	30 815	
004	68475	C 10X30	480 in	105	57 565	
005	67793	C 12X20,7	480 in	84	31 505	
005	67798	C 12X20,7	480 in	54	20 205	
005	67796	C 12X20,7	480 in	102	38 010	
005	67795	C 12X20,7	480 in	180	66 675	
005	67794	C 12X20,7	480 in	144	53 205	
006	67786	C 12X30	480 in	88	47 450	
006	67787	C 12X30	480 in	6	3 265	
007	68271	C 15X33,9	480 in	8	4 895	
007	68270	C 15X33,9	480 in	76	46 730	
007	68269	C 15X33,9	480 in	88	52 980	
008	68267	C 15X40	480 in	18	12 950	
008	68268	C 15X40	480 in	25	89 705	

Heat Analysis [%]

Charge	C	Si	Mn	P	S	N	Nb	V
B07	C71	C72	C73	C74	C75	C76	C77	C78
max	0.23	0.40		0.040	0.050		0.050	0.150
min							0.005	
67786	0.09	0.19	1.19	0.021	0.028	0.008	0.019	0.007
67787	0.08	0.19	1.19	0.020	0.030	0.008	0.018	0.006
67793	0.08	0.18	1.25	0.028	0.043	0.007	0.014	0.007
67794	0.09	0.20	1.16	0.024	0.034	0.009	0.014	0.006
67795	0.07	0.18	1.05	0.026	0.043	0.009	0.012	0.004
67796	0.09	0.20	1.16	0.024	0.034	0.009	0.014	0.006
67798	0.09	0.19	1.12	0.019	0.024	0.006	0.014	0.006

Z03 Works inspector
Renate Schmidt

Z02 Mar 31, 2009

FERRE BARNIEDO S.A. DE C.V. ES COMPRA NUESTROS ARCHIVOS
 ESTE CERTIFICADO DE REMISION No. 1977/3-2009 VERBOS@ferrebarniedo.com.mx
 DEL ORIGINAL LA REMISION No. 1977/3-2009 VERBOS@ferrebarniedo.com.mx
 TEL. 58-26-10-00



STAHLWERK THÜRINGEN
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A03 **Certificate No. 1977/3-2009** 2 / 4

Advice No. A090330034

A02 Inspection Certificate 3.1

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Heat Analysis [%]

Charge	C	Si	Mn	P	S	N	Nb	V
B07	C71	C72	C73	C74	C75	C76	C77	C78
max	0.23	0.40		0.040	0.050		0.050	0.150
min							0.005	
68267	0.09	0.23	1.16	0.015	0.016	0.007	0.014	0.007
68268	0.09	0.23	1.16	0.015	0.016	0.007	0.014	0.007
68269	0.08	0.21	1.12	0.016	0.022	0.008	0.012	0.007
68270	0.08	0.21	1.14	0.018	0.021	0.007	0.013	0.007
68271	0.08	0.22	1.14	0.019	0.026	0.007	0.013	0.007
68445	0.08	0.21	1.13	0.018	0.021	0.007	0.012	0.007
68446	0.08	0.21	1.13	0.018	0.023	0.009	0.011	0.007
68447	0.08	0.20	1.12	0.018	0.024	0.007	0.012	0.007
68460	0.09	0.20	1.14	0.019	0.024	0.009	0.014	0.007
68461	0.08	0.21	1.17	0.015	0.021	0.010	0.012	0.007
68462	0.09	0.20	1.14	0.019	0.024	0.009	0.014	0.007
68468	0.09	0.22	1.13	0.017	0.024	0.008	0.013	0.006
68469	0.07	0.20	1.14	0.017	0.025	0.009	0.012	0.007
68470	0.08	0.20	1.14	0.019	0.020	0.007	0.013	0.006
68474	0.09	0.22	1.15	0.019	0.025	0.009	0.012	0.008
68475	0.08	0.20	1.16	0.019	0.025	0.010	0.012	0.007

Tensile test

Charge	Yield stress [PSI]	Tensile strength [PSI]	Elongation 2 in [%]	Ys/Ts
B07	C11	C12	C13	C14
max	50000	65000	21.0	
min				
67786/1	55245	75690	43.6	0.73
67786/2	57420	74095	42.9	0.77
67787	54085	75690	42.2	0.71
67793/1	51475	73225	42.2	0.70
67793/2	54665	73660	42.9	0.74
67794/1	51330	72935	44.9	0.70
67794/2	57130	72210	43.6	0.79
67795/1	51475	73660	42.2	0.70
67795/2	53940	71775	43.6	0.75
67796/1	51040	73225	40.9	0.70

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MEXICO

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B02

Grade: GRADE 50
according to: ASTM A572M

Tensile test

Charge

Yield stress

Tensile strength

Elongation

Ys/Ts

[B07]

[PSI]

[PSI]

2 in [%]

[C14]

[C11]

[C12]

[C13]

max

min

67796/2

50000

65000

21.0

0.79

67798/1

57130

72210

43.6

0.71

67798/2

50750

71485

43.6

0.76

68267/1

55245

72935

43.6

0.73

68267/2

54085

74240

40.9

0.76

68268/1

55825

73225

42.2

0.72

68268/2

52925

73515

42.2

0.76

68269/1

55825

73225

42.2

0.72

68269/2

52490

73080

38.3

0.78

68270/1

53215

72500

42.9

0.74

68270/2

52490

71195

39.6

0.74

68271

53215

73080

42.9

0.73

68271

55390

74385

40.9

0.74

68445

53795

74385

38.3

0.72

68446/1

55970

76125

37.0

0.74

68446/2

53360

71920

43.6

0.74

68447/1

52780

70760

37.0

0.75

68447/2

53795

71050

42.9

0.76

68460

52490

71195

43.6

0.74

68461/1

54665

73515

38.3

0.74

68461/2

54810

72790

43.6

0.75

68462/1

54230

71920

43.6

0.75

68462/2

55245

72790

42.9

0.76

68468/1

57275

75110

43.6

0.76

68468/2

54810

72065

42.9

0.76

68469/1

54665

72790

43.6

0.75

68469/2

53650

72065

42.9

0.74

68470/1

55970

74240

43.6

0.75

68470/2

54230

72500

42.9

0.75

68474/1

58290

75690

40.9

0.77

68474/2

54810

72355

42.9

0.76

68475/1

55100

72210

39.6

0.76

68475/2

54085

72355

43.6

0.75

Z03

Works inspector
Renate Schmidt

Z02

Mar 31, 2009

FERRE BARNIEDO S.A. DE C.V.
 ESTE CERTIFICADO ES UNA COPIA DE NUESTROS ARCHIVOS
 ORIGINAL DE REMISION P.O. ventas@ferrebarniedo.com.mx
 PARA TEL 5846-10-00



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A03

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Advice No. A090330034

A02

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A04

Ferre Barniedo S.A. de C.V.
Col. san Cristóbal
Av. Revolucion N° 81
55024 Ecatepec
MEXICO

A06

A01

Stahlwerk Thüringen GmbH

A05

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Kronacher Straße 6
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Germany

A08

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A07

Your Order No.: TAC 37

B02

Grade: GRADE 50
according to: ASTM A572M

B14

FERRE BARNIEDO S.A. DE C.V.
ESTE CERTIFICADO ES COPIA FIEL
DEL ORIGINAL DE NUESTROS ARCHIVOS,
AMPARADO LA REMISION No. _____
TEL 58-36-10-00 ventas@ferrebarniedo.com.mx

Z03

Works inspector
Renate Schmidt

Z02

Mar 31, 2009