

Travel Sheet

Authorized Inspector to be given travel sheet prior to construction so that he can indicate hold points and Inspection Points.

"A"-Hold Point, "I"- Inspection Point, "R"-Revision, "W"- Witness Point

Hold Points established - Sign & Date

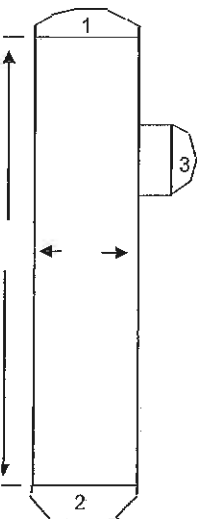
(Authorized Inspector)

Vessel Serial # **12317** DWG # **V85-05** (A) #

Vessel Title: **8" Fuel Gas Scrubber** CRN # **F6388.231**

ITEM	COMMENTS	AUTH Insp., Hold Rev., Witness POINTS	DATE FUNCTION COMPLETE & INSPECTORS INITIALS	
			QC INSPECTOR	AUTHORIZED INSPECTOR
APPROVED DRAWING			Sept 12, 2011	
CALCULATIONS ON FILE			Sept 12, 2011	
MATERIAL CHECKED AGAINST DRAWING, MATERIAL LIST			Sept 12, 2011	
MTR'S CHECKED			Sept 12, 2011	
VESSEL LAYOUT			Sept 14, 2011	
NOZZLES	ORIENTATION		Sept 14, 2011	
& FITTINGS	RATINGS		Sept 14, 2011	
FIT	NOZZLES&FITTINGS		Sept 16, 2011	
UP	SHELL & HEAD		Sept 17, 2011	
INTERNALS (tray, baffles, etc)				
INTERNAL INSPECTION				
WELD SIZES			Aug 30, 2011	
WELDERS I.D.			Aug 30, 2011	
EXTERNAL AFTER COMPLETION OF ALL WELDING			Aug 30, 2011	
RADIOGRAPHS				
OTHER N.D.E.				
IMPACT TESTS				
POST WELD HEAT TREATMENT	YES: NO: ☒			
EXTERNAL BEFORE PWHT				
PWHT CHART CHECKED				
NAMEPLATE			Sept 30, 2011	
HYDROSTATIC TEST			Sept 30, 2011	
DATA REPORT			Sept 30, 2011	
NONCONFORMANCES				

		SPECIFICATIONS		HEAT NUMBER	VERIFIED THICKNESS
		C1	C2		
SHELL		SA-106-B		D08-2-8014	8.1mm
HEADS	1	SA-234-WPB		0Y291	7.16mm
	2	SA-516-70		28250-62313	19.05mm
	3				
REPADS	1				
	2				
	3				
	4				
		SPECIFICATIONS		SIZE	SCHEDULE
NOZZLES					
FITTINGS		SA-105		1", 2", 3/4"	#3000 cplg.
TUBES					



**Awaji**

INSPECTION CERTIFICATE

AWAJI MATERIA (THAILAND) CO.,LTD.
 31,MOO4, PRAKASA ROAD, TAMBOL BANGMUANG, AMPHUR MUANG
 SAMUTPRAKARN THAILAND 10270, Tel : (662)701-5226

Purchaser : THE BROADHEAD GROUP/MCJUNKIN CANADA

Date : FEBRUARY 28, 2011

Certificate No. : T11-2927/1

Order No.	Job No.	Product										Raw Material Pipe Maker											
CS759-074521/WPB/16	-	CARBON STEEL BUTT WELDING FITTINGS										SUMITOMO METAL INDUSTRIES, LTD.											
Inspection Standard ASME B16.9-07 ASTM A350-08a NACE MR-0175-03, MR-0103-05	Material Standard		Appearance		GOOD		Dimension		GOOD		e-3		Note. "ALL FITTING MANUFACTURED BY AWAJI MATERIA (THAILAND) CO.,LTD. ARE PRODUCED FROM A105 GR.B SEAMLESS PIPE"										
	ASTM A234-07 WPB		except nuclear usage																				
	ASME SA234-07 WPB																						
	CSA Z245.11-09, GR241 CATTI																						
Manufacturing No.	Product code	Material		Article & Size										Quantity		Note.							
07231		WPB		STD CAP 8"										91 Pcs.									
Chemical Composition (%)																							
C Si Mn P S Cu Ni Cr Mo V Nb Ti B Ca N Al C.E Y.S. T.S. E																							
Specification	X100	X100	X100	X1000	X1000	X100	X100	X100	X100	X100	X100	X1000	X1000	X1000	X100	MPa	%	HB					
	Min.	10	29	-	-	-	-	-	-	-	-	-	-	-	-	240	415	30	-				
Pipe Charge No.	30	-	106	50	53	40	40	15	8	2	2	5	65	8	-	-	655	-	197				
	Max.	20	22	70	13	5	2	6	2	0	0	0	12	8	16	34	326	484	43.9				
JOL7326																			137				

ISO 9001: 2008 Manufacturing Company
 Certified by BV. Certificate No. TH10000101

*1 Y.S.= Yield Strength, T.S. = Tensile Strength, E = Elongation, *3 UT = Ultrasonic thickness inspection.

*2 For each reduction of 0.01% below the specified carbon(C) Maximum, an increase of 0.06% manganese(Mn) above specified maximum will be permitted, up to a maximum of 1.35% as per foot note D of ASTM A234/A234M-07 Table 1.

ELBOW / Forming temperature 760°C - 930°C and cooled in still air

TEE, REDUCER & CAP / Manufacturing : 900°C

"We hereby certify that the material described herein has been duly inspected and conforms to the standard as specified above."

Surveyor to

Chief of Inspection Section S.MAEKAWA

AT-24(2)12

894080

MILL TEST CERTIFICATE

No. 375, Zhongheng Rd. Xiayang Town Jiangyin City
Jiangsu Province, China (214442) <http://www.ojg.com>
Tel: 86-510-86160723 Fax: 86-510-86160732

质量管理部门负责人: Quality Manager:	审核人: Auditor:	制证人: Certification-number:
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edmonton exchanger
& manufacturing ltd.

CERTIFICATE OF COMPLIANCE

5545-89 Street Edmonton, Alberta Canada T6E 5W9 www.edmontonexchanger.com tel 780.468.6722 • QC fax 780.466.4668 • sales fax 780.466.5155

Customer **RJV GASFIELD LTD.**

PO **2725**

Work Order **C89772** Date **2011/05/31** ColC# **25156** Page 1 of 1

Item#	Description	Qty	Heat#
P89772-1	DISC(S) - 0.7500" NOM X 12" OD (Material Spec: SA 516-70 Normalized)	9	328250-62333
		3	G0641-873030610
		3	SB13585-PC43393002
		4	296831-86513
		6	SB56276-PB25630603
		6	SB64460-PB30263501
		4	G7992-Y71221304
		7	350403-13308
		4	418443-8B04100200
		4	SB13585-PC43392102

Material being supplied conforms to the latest ASME Code Section II, Part A, 2010 Edition. All welders and procedures are qualified to ASME Code Section IX.

Supplementary Examination - Items

JUN 17 2011

POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호: 061110-PPSA-002-015
Date of Issue/발행일자: Nov., 17, 2008

Order No./계약번호: 0002574516

PO No./주문번호: E10568
(ASME2004 EDITION)

Supplier/주조사: DAE WOO INTERNATIONAL CORP.

Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)

Customer/고객사: EDMONTON EXCHANGER

Spec & Type/규격: ASTM SA516-70 (VACUUM DEGASSED)



Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	P O S I T I O N	Tensile/인장시험			Impact/충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	D I V I S I O N	Chemical Composition/화합성분(%)												
						YP (KSI)	TS (KSI)	EL (%)			C	Si	Mn	P	S	Cr	Ni	Cu	Mo	Nb	Ti	V	Sol-Al
0.75"x96.5"x480"	PC21414101-4102	2	8,934 19,696	SB56276	T	51.9	78.0	28	A-112 139 289 396 A-91 1:114 2:122 3:117 A-118 147,719 (LBS)	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
	PC21414201-4202	2	8,934 19,696	SB56276	T	52.2	78.3	28	A-112 139 289 396 A-91 1:114 2:122 3:117 A-118 147,719 (LBS)	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
--- Sub Total (030) --- 15																							
--- HEAT TREATMENT --->>> Normalized : 890°C 30min. ---																							
0.75"x120.5"x480"	PB25630001-0003	3	16,737 36,897	SB56272	T	50.9	76.1	27	1:110 2:117 3:117 A-115 1:115 2:95 3:116 A-108	L	1922	368	1131	91	19	2	21	93	Tr	1	1	17	30
	PB25630101-0103	3	16,737 36,897	SB56272	T	51.9	77.0	28	1:110 2:117 3:117 A-115 1:115 2:95 3:116 A-108	L	1922	368	1131	91	19	2	21	93	Tr	1	1	17	30

- * Position - T : Top, M : Middle, B : Bottom
- * Tensile Test Direction : Transversal, Gauge Length : 200mm (Rectangular).
- * YP Method : 0.2% offset
- * Impact Test Direction : Longitudinal, T.L.R (Trans Longitude Ratio)
- * Division - L: Lade Analysis
- * Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
- * Tr : It is within the standard range (<0.008%) and include trace element.
- * Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQ001 Rev.0 dated JUL.01.2008 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (or) KEPIC MNAJ SNA4300.

B) No repair welding was performed to the products.

C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

* This Mill Test Certificate cannot be copied for any purpose.



Surveyor To:

Na, Chai Bong

KT-001, 01 MAR 21 2005

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B

Certificate No./증명서번호:061110-PPSA-002-016
Date of Issue/발행일자:Nov., 17, 2006

POSCO Mill Test Certificate/검사증명서

Order No./계약번호:0002574516
Supplier/주요자:DAE WOO INTERNATIONAL CORP.
Customer/고객사:EDMONTON EXCHANGER

PO No./주문번호:10568
(ASME2004EDITION)
Commodity/품명:HR STEEL PLATE (ISO10474/3.1B)
Spec & Type/규격:ASTM SA516-70 (VACUUM DEGASSED)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재질번호	P O S I T I O N	Tensile/인장시험 Y.P. TS (KSI)	Impact/충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화학성분(%) C. Si Mn P S Cr Ni Cu Mo Nb Ti V S O N
0.75"x120.5"x480"	PB25630201-0203	3	16,737 36,897	S856272	T	52.6 77.3 28	1:85 2:108 3:111 A:102	1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30
0.75"x120.5"x480"	PB25630701-0703	3	16,737 36,897	S856272	T	53.2 77.5 28	1:73 2:122 3:99 A:98	1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30
0.75"x120.5"x480"	PB25642801-2803	3	16,737 36,897	S856272	T	52.4 77.9 33	1:98 2:116 3:106 A:107	1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30
0.75"x120.5"x480"	PB25650501-0603	3	16,737 36,897	S856272	T	52.5 77.9 30	1:83 2:97 3:77 A:86	1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30
0.75"x120.5"x480"	PB25660701-0703	3	16,737 36,897	S856272	T	53.1 77.7 28	1:103 2:115 3:131	1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30

* Position - T : Top, M : Middle, B : Bottom
* Tensile Test Direction : Transversal, Gauge Length : 200mm(Rectangular),
Y.P Method : 0.2% offset
* Impact Test Direction : Longitudinal,
T.L.R(Trans Longitude Ratio)
* Division - L:Ladle Analysis
* Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
* Tr : It is within the standard range(<0.008%) and include trace element.
* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3000 and (or) KEPIC MNA SNA-4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
- This Mill Test Certificate cannot be copied for any purpose.



Surveyor To:

Na, Chai Bong

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B



POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호: 061110-PPSA-002-017
Date of Issue/발행일자: Nov., 17, 2006

Order No./계약번호: 0002574516

Supplier/주조사: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10568

(ASME2004 EDITION)

Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)

Spec & Type/규격: ASTM SA516-70 (VACUUM DEGAESSED)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	P O S T O N	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/ 충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	D I V I S I O N	Chemical Composition/화학적성분(%)												
									C	Si	Mn	P	S	Cr	Ni	Cu	Mo	Nb	Ti	V	Al
0.75"X120.5"X480"	PB25629901-9902	2	11,152 24,598	S856276	T	51.9 77.2 27	A-117 1:126 2:100 3:96	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
0.75"X120.5"X480"	PB25630301-0303	3	16,737 36,897	S856276	T	52.1 76.9 27	A-107 1:121 2:101 3:98	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
0.75"X120.5"X480"	PB25630401-0403	3	16,737 36,897	S856276	T	51.3 77.3 28	A-107 1:185 2:214 3:193	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
0.75"X120.5"X480"	PB25630501-0503	3	16,737 36,897	S856276	T	52.2 77.7 30	A-201 1:207 2:207 3:196	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28
0.75"X120.5"X480"	PB25630601-0603	3	16,737	S856276	T	52.4 77.5 28	A-204 1:129	L	1878	353	1142	102	16	3	22	111	Tr	1	1	17	28

* Position - T: Top, M: Middle, B: Bottom.
* Tensile Test. Direction : Transversal, Gauge Length : 200mm (Rectangular).
* YP Method : 0.2% offset

* Impact Test. Direction : Longitudinal,

T.L.R. (Trans. Longitudinal Ratio)

- Division - L: Lade Analysis

* Chemical Composition Unit: -2x1/100, -3x1/100, -4x1/100, -5x1/100,000

* Tr: It is within the standard range (<0.008%) and include trace element.

* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL01.2006 and PQ001 Rev.0 dated JUL01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3600 and/or KEPIC MINA/ SNA4300.

B) No repair welding was performed to the products.

C) The product numbers listed on this test report identifies the material

- We hereby certify that the material herein has been made and tested in accordance with the above

specification and also with the requirements called for by the above order.

* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

Na, Cha, Bong

KT-15L 10 MAR 2006

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section

Na, C.S

POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호: 061110-PPSA-002-018
Date of issue/발행일자: Nov., 17, 2006

Order No./계약번호: 0002574516
Supplier/주요자: DAE WOO INTERNATIONAL CORP.
Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10568
(ASME2004 EDITION)
Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)
Spec & Type/규격: ASTM SA516-70 (VACUUM DEGAISED)

Size/지수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 제강번호	Position	Tensile YP (KSI)	Tensile TS (%)	Impact/ V notch Energy (FT-LBS)	Chemical Composition/화학성분(%)	
0.75"x120.5"x480"	PB25842701-2703	3	16,737 36,897	S856276	T	51.3	76.7	2.94 3.131 A-118	C 0.25 Si 0.35 Mn 0.42 P 0.012 S 0.005 Ni 0.005 Cu 0.005 Nb 0.005 Mo 0.005 Ti 0.005 V 0.005	1 17 28
0.75"x120.5"x480"	PB2585301-5303	3	16,737 36,897	S856276	T	50.6	76.9	2.94 3.131 A-118	C 0.25 Si 0.35 Mn 0.42 P 0.012 S 0.005 Ni 0.005 Cu 0.005 Nb 0.005 Mo 0.005 Ti 0.005 V 0.005	1 17 28
0.75"x120.5"x480"	PB2585301-5303	3	16,737 36,897	S856276	T	51.2	76.9	2.94 3.131 A-118	C 0.25 Si 0.35 Mn 0.42 P 0.012 S 0.005 Ni 0.005 Cu 0.005 Nb 0.005 Mo 0.005 Ti 0.005 V 0.005	1 17 28
0.75"x120.5"x480"	PB2585301-5303	3	16,737 36,897	S856276	T	51.8	77.6	2.94 3.131 A-118	C 0.25 Si 0.35 Mn 0.42 P 0.012 S 0.005 Ni 0.005 Cu 0.005 Nb 0.005 Mo 0.005 Ti 0.005 V 0.005	1 17 28

* Position - T: Top, M: Middle, B: Bottom
* Tensile Test Direction: Transverse, Gauge Length: 200mm (Rectangular),
YP Method: 0.2% offset
* Impact Test Direction: Longitudinal
T.L.R (Transverse Longitudinal Ratio)
* Division - L: Laid Analysis
* Chemical Composition Unit: -x1/1000, -x1/10000, -x1/100000
* Tr: It is within the standard range (<0.008%) and include trace element.
* Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL 01, 2006 and POS301 Rev.0 dated JUL 01, 2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NOA-3800 and (or) KEPIC MNAI SMA4300.
B) No repair welding was performed on this test report identifies the material.
C) The product numbers listed on this test report identifies the material.
* We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
* This Mill Test Certificate cannot be copied for any purpose.



Surveyor To:

Na, Chai Bong

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B

posco Mill Test Certificate/검사증명서

Certificate No./증명서번호: 061110-PPSA-002-019
Date of Issue/발행일자: Nov., 17, 2006

Order No./계약번호: 0002574516

PO No./주문번호: E10568
(ASME2004 EDITION)

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)

Customer/고객사: EDMONTON EXCHANGER

Spec & Type/규격: ASTM SA516-70 (VACUUM DEGASSED)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 제강번호	P O S I T I O N	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/충격시험 V notch 50°F Energy SF (FT-LBS) (%)	Chemical Composition/화학적성분(%) C Si Mn P S Cr Ni Cu Mo Nb Ti V Sol-Al
0.75"x120.5"x480"	PB26020301-0303	3	16,737 36,897	S856919	T	51.5 77.3 30	1.90 2.83 3.78 A:83 614,970 (LBS)	L 1842 339 1168 81 20 2 24 105 Tr Tr 1 18 34
*** Sub Total (940) *** *** HEAT TREATMENT *** 1"x96.5"x480"	PB25641401-1403	3	17,874 39,405	S856272	T	51.3 77.7 32	1.94 2.89 3.74 A:86 614,970 (LBS)	L 1922 368 1131 91 19 2 21 93 Tr Tr 1 17 30
1"x96.5"x480"	PB25685101-1103	3	17,874 39,405	S856276	T	50.3 75.9 28	1.130 2.162 3.125 A:139	L 1878 353 1142 102 16 3 22 111 Tr 1 1 17 28
1"x96.5"x480"	PB25687101-7103	3	17,874 39,405	S856276	T	50.3 75.9 31	1.124 2.105 3.108 A:112	L 1878 353 1142 102 16 3 22 111 Tr 1 1 17 28
1"x96.5"x480"	PC21563801	1	5,958	S856919	T	52.2 76.7 31	1.89	L 1842 339 1168 81 20 2 24 105 Tr Tr 1 18 34

* Position - T: Top, M: Middle, B: Bottom
* Tensile Test. Direction: Transversal, Gauge Length: 200mm (Rectangular).
YP Method: 0.2% offset

* Impact Test. Direction: Longitudinal, T.L.R (Trans Longitude Ratio)

* Division - L: Ladle Analysis

* Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000

* Tr: It is within the standard range (<0.028%) and include trace element.

* Supply Condition: As-Rolled unless otherwise Heat Treated.



Surveyor To:



NT-001, Rev. 04.08.2000

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Na, Chai Bong
Chief of material testing section Na, C.B

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III
NCA-3800 and/or KEP/C MINA/ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
- This Mill Test Certificate cannot be copied for any purpose.

POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호: 070213-PPSA-002-021
Date of Issue/발행일자: Feb., 22, 2007

Order No./계약번호: 0002675602

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10577
(ASME2004 EDITION)

Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)

Spec & Type/규격: ASME SA516-70



Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	Position	Tensile/인장시험		Impact/충격시험 V Nomen -50°F Energy SF (FT-LBS) (%)	D I V I S I O N	Chemical Composition/화학성분(%)													
						YP (KSI)	TS (KSI) EL (%)			C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Sol-Al
0.625"x120.5"x480"	PB30301401-1402	2	9,300 20,502	SB64460	T	51.5	76.7 29	1:139 2:127 3:145 A:137	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29
	PB30301301-1302	2	9,300 20,502	SB64460	T	51.5	77.0 27	1:139 2:117 3:125 A:111 348,546 (LBS)	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29
0.75"x96.5"x430"	PA24489301	1	4,467 9,846	SA55523	T	50.8	78.5 30	1:111 2:128 3:115 A:118	L	1844	367	1170	66	26	2	25	Tr	98	Tr	1	2	21	40
	PA23976401	1	4,467 9,846	SA55523	T	49.5	76.3 29	1:115 2:128 3:138 A:127	L	1844	367	1170	66	26	2	25	Tr	98	Tr	1	2	21	40

* Position : T : Top, M : Middle, B : Bottom
* Tensile Test Direction : Transversal, Gauge Length : 200mm (Rectangular),
YP Method : 0.2% off-set
* Impact Test Direction : Longitudinal,
T.L.R (Trans Longitude Ratio)
* Division : L: Ladle Analysis
* Chemical Composition Unit: 2x1/100, 3x1/1000, 4x1/10000, 5x1/100000
* Tr : It is within the standard range (<0.008%) and include trace element.
* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL01.2006 and PQG01 Rev.0 dated JUL01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and/or KEPIC MINA/ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material.
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

Na, Chai Bong

Chief of material testing section Na, C.B

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea



POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호 : 070213-PPSA-002-022
Date of Issue/발행일자 : Feb., 22, 2007

Order No./계약번호 : 0002675602
Supplier/주문자 : DAE WOO INTERNATIONAL CORP.
Customer/고객사 : EDMONTON EXCHANGER

PO No./주문번호 : E10577
(ASME2004 EDITION)
Commodity/품명 : HR STEEL PLATE (ISO10474/3.1B)
Spec & Type/규격 : ASME SA516-70

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	P O S I T I O N	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/ 충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화합성분(%) C Si Mn P S Cr Ni B Cu Nb Ti V Sol-Al	
0.75"X96.5"X480"	PA23973801	1	4,467 9,848	SA55525	T	50.9 77.3 29	1:101 2:83 3:72 A:85	L 1830 349 1171 68 19 2 24 Tr 106 Tr Tr 2 20 39	
0.75"X96.5"X480"	PA24489401	1	4,467 9,848	SA55525	T	50.5 76.9 30	1:120 2:141 3:131 A:131	L 1830 349 1171 68 19 2 24 Tr 106 Tr Tr 2 20 39	
0.75"X96.5"X480"	PA24870401	1	4,467 9,848	SA57299	T	51.1 76.0 28	1:132 2:123 3:128 A:128	L 1748 375 1159 98 19 3 23 Tr 107 Tr 2 20 38	
0.75"X96.5"X480"	PA24870501	1	4,467 9,848	SA57299	T	50.9 75.9 28	1:107 2:117 3:118 A:114	L 1748 375 1159 98 19 3 23 Tr 107 Tr 2 20 38	
0.75"X96.5"X480"	PA24870701	1	4,467 9,848	SA57299	T	50.3 76.0 29	1:113 2:132 3:139	L 1748 375 1159 98 19 3 23 Tr 107 Tr 2 20 38	

- * Position - T : Top, M : Middle, B : Bottom
- Tensile Test, Direction : Transversal, Gauge Length : 200mm (Rectangular), YP Method : 0.2% offset
- Impact Test, Direction : Longitudinal, T.L.R (Trans Longitude Ratio)
- Division - L : Ladle Analysis
- Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
- Tr : It is within the standard range (<0.008%) and include trace element.
- Supply Condition : As-Rolled unless otherwise Heat Treated.

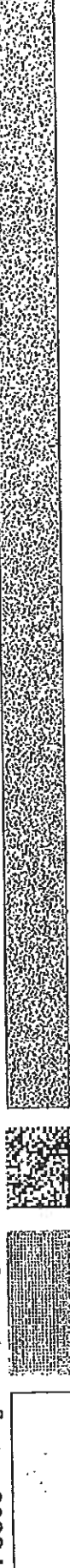
A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and POG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and/or KEPIC MNAI SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

Na, Chai Bong

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B



Certificate No./증명서번호: 070213-PPSA-002-023
Date of Issue/발행일자: Feb., 22, 2007

POSCO Mill Test Certificate/검사증명서

Order No./계약번호: 0002675602

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10577
(ASME2004 EDITION)

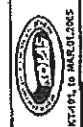
Commodity/품명: HR STEEL PLATE (ISO10474/3.1B)

Spec & Type/규격: ASME SA516-70

Size/지수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화합성분(%)													D I V I S I O N	
							C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V		Al
0.75"x96.5"x480"	PC23953401-3402	2	8,934 19,696	SB64080	53.2 78.6 28	A:128 1:114 2:95 3:96 A:102	L	1692	356	1167	117	16	2	21	Tr	93	Tr	Tr	1	17	32
0.75"x96.5"x480"	PC23953501-3502	2	8,934 19,696	SB64080	52.8 77.9 31	1:137 2:148 3:134 A:140	L	1692	356	1167	117	15	2	21	Tr	93	Tr	Tr	1	17	32
0.75"x96.5"x480"	PC23953601-3602	2	8,934 19,696	SB64080	51.9 77.0 28	1:147 2:148 3:136 A:144	L	1692	356	1167	117	15	2	21	Tr	93	Tr	Tr	1	17	32
0.75"x96.5"x480"	PB30263501-3503	3	13,401 29,544	SB64460	50.2 75.3 27	1:63 2:49 3:30 A:54	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29
0.75"x96.5"x480"	PB30267101-7102	3	13,401 29,544	SB64460	51.2 76.3 28	1:117 2:119	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29

- * Position : T : Top, M : Middle, B : Bottom
- * Tensile Test, Direction : Transversal, Gauge Length : 200mm (Rectangular), YP Method : 0.2% off-set
- * Impact Test, Direction : Longitudinal, T.L.R (Trans Longitude Radius)
- * Division : L: Ladle Analysis
- * Chemical Composition Unit : -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
- * Tr : It is within the standard range (<0.008%) and include trace element.
- * Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2005 and PQ001 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (or) KEPIC MNAJ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
* This Mill Test Certificate cannot be copied for any purpose.



Surveyor To:

KTAPL 10 JUNE 2005

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section

No. C.B

Na, Cha; Bong



Certificate No./증명서번호:070213-PPSA-002-024
Date of Issue/발행일자:Feb., 22, 2007

POSCO Mill Test Certificate/검사증명서

Order No./계약번호:0002675602
Supplier/주문자:DAE WOO INTERNATIONAL CORP.
Customer/고객사:EDMONTON EXCHANGER

PO No./주문번호:10577
(ASME2004EDITION)
Commodity/품명:HR STEEL PLATE (ISO10474/3.1B)
Spec & Type/규격:ASME SA516-70

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	P O S I T I O N	Tensile/인장시험			Impact/충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	P I S T I O N	Chemical Composition/화학성분(%)																	
						YP (KSI)	TS (%)	EL (%)			C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Tr	Ti	V	Al			
0.75"x96.5"x480"	PB30309601-9602	2	8,934 19,696	SB64460	T	51.8	76.3	27	3:117 A:118 2:103 2:131 3:133 A:122	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29				
0.75"x96.5"x480"	PB30309701-9702	2	8,934 19,696	SB64460	T	51.5	76.6	28	1:136 2:139 3:132 A:136	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29				
0.75"x96.5"x480"	PB30309801-9802	2	8,934 19,696	SB64460	T	51.5	76.6	29	1:150 2:135 3:146 A:144	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29				
0.75"x96.5"x480"	PB30309901-9902	2	8,934 19,696	SB64460	T	52.1	76.6	30	1:140 2:139 3:149 A:143	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29				
0.75"x96.5"x480"	PB30310001	1	4,467	SB64460	T	51.9	76.6	29	1:153	L	1800	343	1147	97	19	2	22	Tr	90	Tr	Tr	1	19	29				

Position - T: Top, M: Middle, B: Bottom
Tensile Test Direction: Transversal, Gauge Length: 200mm (Rectangular).
YP Method: 0.2% offset
Impact Test Direction: Longitudinal, T.L.R (Trans Longitude Ratio)
Division - L: Ladle Analysis
Chemical Composition Unit: 2x1/100, 3x1/1000, 4x1/10000, 5x1/100000
Tr: It is within the standard range (<0.008%) and include trace element.
Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2005 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (or) KEPIC MNA/ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

Na, Choi Bong

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B

POSCO Mill Test Certificate/검사증명서

Certificate No./증명서번호 :070213-PPSA-002-025
Date of Issue/발행일자:Feb., 22, 2007

Order No./계약번호:0002675602

PO No./주문번호:E10577
(ASME2004EDITION)

Supplier/주원자:DAE WOO INTERNATIONAL CORP.

Commodity/품명:HR STEEL PLATE (ISO10474/3.1B)

Customer/고객사:EDMONTON EXCHANGER

Spec & Type/규격:ASME SA516-70

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/ 충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화합성분(%)																			
							C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Sol-Al						
0.75"x120.5"x480"	--- Sub Total (060) --- --- HEAT TREATMENT ==> Normalized : 850 C 30min. --- 0.75"x120.5"x480"	3	9,848				2144 3:136 A:145 275,741 (LBS)																			
			16,737 35,897	S864078	53.4 78.5 28	1:105 2:126 3:123 A:118																				
0.75"x120.5"x480"	PB30062801-2803	3	16,737 35,897	S864078	54.0 80.4 29	1:143 2:117 3:122 A:128																				
0.75"x120.5"x480"	PB30062901-2903	3	16,737 35,897	S864078	54.2 80.8 29	1:120 2:125 3:131 A:125																				
0.75"x120.5"x480"	PB30063401-3403	3	16,737	S864078	53.7 78.8 27	1:139																				

* Position - T : Top, M : Middle, B : Bottom
* Tensile Test. Direction : Transversal, Gauge Length : 200mm(Rectangular).
YP Method : 0.2% off-set

* Impact Test. Direction : Longitudinal,
T.L.R.(Trans Longitude Ratio)

* Division - L:Ladle Analysis

* Chemical Composition Unit: 2x1/100, 3x1/1000, 4x1/10000, 5x1/100000

* Tr : It is within the standard range(<0.005%) and include trace element.

* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and/or KEPIC MINA/ SNA4300.

B) No repair welding was performed to the products.

C) The product numbers listed on this test report identifies the material

- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

Na, Chai Bong

RECEIVED MAR 22 2007

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B

Certificate No./증명서번호 :070213-PPSA-002-031
Date of Issue/발행일자:Feb., 22, 2007

posco Mill Test Certificate/검사증명서

Order No./계약번호:0002675602
Supplier/주문자:DAE WOO INTERNATIONAL CORP.
Customer/고객사:EDMONTON EXCHANGER
PO No./주문번호:E10577
(ASME2004EDITION)
Commodity/품명:HR STEEL PLATE (ISO10474/3.1B)
Spec & Type/규격:ASME SA516-70

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재질번호	Position	Tensile/인장시험 YP TS (KSI) EL (%)	Impact/충격시험 V Notch Energy SF (FT-LBS) (%)	Chemical Composition/화합성분(%) C Si Mn P S Cr Ni B Cu Mo Nb Ti V Sol-Al
*** HEAT TREATMENT *** *** Lot Total *** *** Grade Total *** *** Grand Total ***	Normalized : 890 C 43min. **		257 257 257			1,085,963 (kg) 1,085,963 (kg) 1,085,963 (kg)	2,394,103 (LBS) 2,394,103 (LBS) 2,394,103 (LBS) Last Item ***	* LOT NO ==> VACUUM DEGASSED



* Position - T : Top, M : Middle, B : Bottom
* Tensile Test: Direction : Transversal Gauge Length : 200mm(Rectangular).
YP Method : 0.2% off-set
* Impact Test: Direction : Longitudinal.
T.L.R(Trans Longitude Ratio)
* Division - L:Ladle Analysis
* Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
* Tr : It is within the standard range(<0.008%) and include trace element.
* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL 01,2005 and PQ001 Rev.0 dated JUL 01,2005 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and/or KEPIC MNAI SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
- This Mill Test Certificate cannot be copied for any purpose.



Surveyor To:

Na, Chai Bong

KL-001, 10 SEP 2005

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Na, C.B





DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08 Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07	321445-001	2/...
MATERIAL TEST REPORT (MTR)		B01 Product HOT ROLLED PLATES		
A05 Established inspecting body DH	A06 Purchaser Final receiver	A07.1 No. 70073 A07.2 No. E10436-J1010-LG		
B02/ Steel design. SA516-70	ARCELOR CANADA, BURLI			
B03. Any suppl. requirements	EDMONTON STEEL, EDMON			
DIL-HUE-2:R21-2006-04-27				

B01-B99 Description of the product

B08 Item No.	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass KG	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86451-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86458-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86458-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86458-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86460-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86460-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86460-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86461-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86461-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86461-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86463-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86463-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86463-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86465-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86465-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296829	86465-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86487-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86487-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86487-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86488-01	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86488-02	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86488-03	ITEM 1
01	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86501-01	ITEM 1

Z01/Z02/Z03 We hereby certify, that the above monitored materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



A04	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Inspector's stamp Date 12.07.07	KW 1
B. MUELLER Test House Manager			



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Short
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07	321445-001	3/-...
MATERIAL TEST REPORT (MTR)		B01 Product HOT ROLLED PLATES		
A05 Established inspecting body	A06 Purchaser	A07.1 No. 70073		
DE	Final receiver	A07.2 No. E10436-J1010-LG		
B02/ Steel design SA516-70				
B03 Any suppl. requirements		ASME-2A:04+A05 DIL-HUE-2:R21-2006-04-27		

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width INCH	B11 Length	B12 Theoretical mass KG	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchase article number
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86501-02	ITEM 1
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	296831	86501-03	ITEM 1
**	44				204600				
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86513-02	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86513-03	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86515-01	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86515-02	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86515-03	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86548-01	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86562-01	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	296831	86562-02	ITEM 2
02	1	0,7500 x	96,50000 x	480,00000 x	4469	N	297060	14435-01	ITEM 2
**	9				40221				
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86559-01	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86559-02	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86559-03	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86560-01	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86560-02	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86560-03	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86599-01	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86599-02	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86599-03	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000 x	5580	N	296831	86605-01	ITEM 3

A04	Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar inspection department	A01
D/H Manufacturer's mark	QM-System: Certification as per ISO 9001	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar inspection department	KW 1
	B. MUELLER Test House Manager	Inspector's stamp	Date 12.07.07



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ ACS Certificate No.		Sheet			
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07		321445-001		4/...			
MATERIAL TEST REPORT (MTR)									
A05 Established inspecting body		A06 Purchaser		A07.1 No. 70073		B01 Product			
DH		Final receiver		EDMONTON STEEL/EDMON		HOT ROLLED PLATES			
B02/ Steel design.		SA516-70							
B03 Any suppl. requirements		ASME-2A:04+A05							
DIL-HUE-2:R21-2006-04-27									
B01-B99 Description of the product									
B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B13 Product delivery condition	B14 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchase article number
03	1	0,7500 x	120,50000 x	480,00000	5580 N	N	296831	86605-02	ITEM 3
03	1	0,7500 x	120,50000 x	480,00000	5580 N	N	296831	86605-03	ITEM 3
**	12				66960				
***	65				311781				
B04 Product delivery condition									
ITEM NO.: 01-03									
N: RT: 1670 GR.F +36 -27 GR.F									
SOAKING TIME TO ATTAIN THE TARGET TEMPERATURE OVER THE WHOLE SECTION: 1-1,75 MIN/MM (25-45 MIN/INCH)									
COOLING IN STILL AIR									
B06 Marking of the product									
ITEM NO.: 01-03									
STEEL DESIGNATION SA516 70 MELTY SA516 60 MELTY									
HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP									
C10-C29 Tensile test									
B14 Item No.	B07.1 Heat No.	B05 Reference (heat) treatment	C01 C02/ C03 C01 Temp. GR.F	C10 C11 KSI	C12 C13 RM	C14-C15 A % LO-8IN	A % LO-2IN		
01	296618	99635	K1 Q RT	47,6	71,5	29,9			
01	296825	15025	K1 Q RT	52,1	76,4	28,0			
01	296829	86026	K1 Q RT	50,0	73,5	28,0			
01	296829	86027	K1 Q RT	49,2	73,4	27,5			
01	296829	86028	K1 Q RT	49,0	73,2	27,0			
A04 Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.									
D/H		AG der Dillinger Hüttenwerke		AG der Dillinger Hüttenwerke		AG der Dillinger Hüttenwerke			
Manufacturer's mark		Postfach 1580, D-65748 Dillingen/Saar		Postfach 1580, D-65748 Dillingen/Saar		Postfach 1580, D-65748 Dillingen/Saar			
		B. MUELLER		B. MUELLER		B. MUELLER			
		Test House Manager		Test House Manager		Test House Manager			
		Inspector's stamp		Inspector's stamp		Inspector's stamp			
		Date 12.07.07		Date 12.07.07		Date 12.07.07			



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/Sous reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A03 Manufacturer's order/ Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07	321445-001	5/...
MATERIAL TEST REPORT (MTR)		B01 Product HOT ROLLED PLATES		
A05 Established inspecting body DE	A06 Purchaser Final receiver	A07.1 No. 70073 A07.2 No. E10436-J1010-LG		
B02/ Steel design. SA516-70	ARCELOR CANADA, BURLI			
B03 Any suppl. requirements	EDMONTON STEEL, EDMON			
DIL-HUE-2:R21-2006-04-27				

C10-C29 Tensile test

B14 B07.2 Item Heat No.	B07.1 Rol-plate/ Test No.	B05 Reference (heat) treatment	C01 K1 Q	C02/ C01 Temp. GR.F	C10 KSI RP02	C12 RM	C13	A % LD-SIN	A % LD-2IN	C14-C15
01 296829	86029		K1 Q	RT	49,9	73,7		27,5		
01 296829	86451		K1 Q	RT	48,4	73,2		27,0		
01 296829	86458		K1 Q	RT	50,2	74,4		28,9		
01 296829	86460		K1 Q	RT	49,6	74,8			41,9	
01 296829	86461		K1 Q	RT	50,8	74,2		29,9		
01 296829	86463		K1 Q	RT	50,9	75,0		29,9		
01 296829	86465		K1 Q	RT	50,8	75,7		27,0		
01 296831	86487		K1 Q	RT	50,2	74,0		28,0		
01 296831	86488		K1 Q	RT	50,5	74,5		28,9		
01 296831	86501		K1 Q	RT	49,9	73,7		30,4		
02 296831	86513		K1 Q	RT	49,2	73,1		28,0		
02 296831	86515		K1 Q	RT	49,9	73,7		29,4		
02 296831	86548		K1 Q	RT	50,0	73,5		28,0		
02 296831	86562		K1 Q	RT	49,6	73,4		28,4		
02 297060	14435		K1 Q	RT	50,6	75,8		31,9		
03 296831	86559		K1 Q	RT	49,9	73,5		28,0		
03 296831	86560		K1 Q	RT	48,9	73,5		28,0		
03 296831	86599		K1 Q	RT	49,6	73,5		28,9		
03 296831	86605		K1 Q	RT	48,1	72,9		28,0		

Z01/Z02/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QMS-System: Certification as per ISO 9001

ADH

B. MUELLER
Test House Manager

Inspector's stamp

Date 12.07.07

KW 1

A01

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificates)

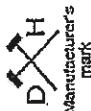
A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ A03 Certificate No.	Shoot
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07		321445-001	6/...
MATERIAL TEST REPORT (MTR)					
A05 Established inspecting body	A06 Purchaser	A07.1 No. 70073			
DH	Final receiver	A07.2 No. E10436-J1010-LG			
B02/ Steel design. SA516-70		ARCELOR CANADA, BURLI			
B03 Any suppl. ASME-2A: 04+A05		EDMONTON STEEL, EDMON			
requirements DIL-HUB-2:R21-2006-04-27					

C30-C39 Hardness test

B14 Item No.	B07.2 Heat No.	B07.1 Roll plate/ Test No.	B05 Reference (heat) treatment	C01	C02/C01	C03 Temp. GR.F	C33 Testing method	C35	C31 Individual values	C32 Mean value
01	296618	99635		K1	O	RT	HBW 10/3000	HB 144	143	140
01	296825	15025		K1	O	RT	HBW 10/3000	HB 145	146	145
01	296829	86026		K1	O	RT	HBW 10/3000	HB 146	147	146
01	296829	86027		K1	O	RT	HBW 10/3000	HB 143	143	143
01	296829	86028		K1	O	RT	HBW 10/3000	HB 144	144	144
01	296829	86029		K1	O	RT	HBW 10/3000	HB 141	142	141
01	296829	86451		K1	O	RT	HBW 10/3000	HB 145	146	145
01	296829	86458		K1	O	RT	HBW 10/3000	HB 147	148	149
01	296829	86460		K1	O	RT	HBW 10/3000	HB 145	149	147
01	296829	86461		K1	O	RT	HBW 10/3000	HB 145	147	146
01	296829	86463		K1	O	RT	HBW 10/3000	HB 145	145	144
01	296829	86465		K1	O	RT	HBW 10/3000	HB 148	149	149
01	296831	86487		K1	O	RT	HBW 10/3000	HB 146	146	145
01	296831	86488		K1	O	RT	HBW 10/3000	HB 149	151	148
01	296831	86501		K1	O	RT	HBW 10/3000	HB 147	146	147
02	296831	86513		K1	O	RT	HBW 10/3000	HB 144	143	143
02	296831	86515		K1	O	RT	HBW 10/3000	HB 143	143	143
02	296831	86548		K1	O	RT	HBW 10/3000	HB 145	146	145
02	296831	86562		K1	O	RT	HBW 10/3000	HB 145	144	144
02	297060	14435		K1	O	RT	HBW 10/3000	HB 149	148	149
03	296831	86559		K1	O	RT	HBW 10/3000	HB 144	145	144
03	296831	86560		K1	O	RT	HBW 10/3000	HB 145	145	144
03	296831	86599		K1	O	RT	HBW 10/3000	HB 143	145	144
03	296831	86605		K1	O	RT	HBW 10/3000	HB 143	141	142

Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



Manufacturer's mark

ADB

B. MOELLER

Test House Manager

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department
Date 12.07.07
KW 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07	321445-001	7/...
MATERIAL TEST REPORT (MTR)		B01 Product HOT ROLLED PLATES		
A05 Established inspecting body DH	A06 Purchaser Final receiver	A07.1 No. 70073 ARCELOR CANADA, BURLI		
B02/ Steel design. SA516-70		A07.2 No. E10436-J1010-LG EDMONTON STEEL, EDMON		
B03 Any suppl. requirements	DIL-HUE-2:R21-2006-04-27			

C40-C49 Impact test

B14 Item No.	B07.2 Heat No.	B07.1 Replated Test No.	B05 Reference (heat) treatment	C01	C02/C01	C03 Temp. GRF	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy	C45 Individual values AV-FTLBF	C43 Mean value
01	296618	99635		K1	LV	-51		CHP-V			AV 146	195
01	296825	15025		K1	LV	-51		CHP-V			AV 184	179
01	296829	86026		K1	LV	-51		CHP-V			AV 185	140
01	296829	86027		K1	LV	-51		CHP-V			AV 183	170
01	296829	86028		K1	LV	-51		CHP-V			AV 119	144
01	296829	86029		K1	LV	-51		CHP-V			AV 207	178
01	296829	86029		K1	LV	-51		CHP-V			AV 139	215
01	296829	86451		K1	LV	-51		CHP-V			AV 140	207
01	296829	86458		K1	LV	-51		CHP-V			AV 152	160
01	296829	86460		K1	LV	-51		CHP-V			AV 202	145
01	296829	86461		K1	LV	-51		CHP-V			AV 117	180
01	296829	86463		K1	LV	-51		CHP-V			AV 105	125
01	296829	86465		K1	LV	-51		CHP-V			AV 153	181
01	296831	86487		K1	LV	-51		CHP-V			AV 212	192
01	296831	86488		K1	LV	-51		CHP-V			AV 193	196
01	296831	86501		K1	LV	-51		CHP-V			AV 198	180
02	296831	86513		K1	LV	-51		CHP-V			AV 195	154
02	296831	86515		K1	LV	-51		CHP-V			AV 206	178
02	296831	86548		K1	LV	-51		CHP-V			AV 203	182
02	296831	86562		K1	LV	-51		CHP-V			AV 187	183
02	297060	14435		K1	LV	-51		CHP-V			AV 116	144
03	296831	86559		K1	LV	-51		CHP-V			AV 204	195
03	296831	86560		K1	LV	-51		CHP-V			AV 198	169
03	296831	86599		K1	LV	-51		CHP-V			AV 122	183
03	296831	86605		K1	LV	-51		CHP-V			AV 193	151
03	296831			K1	LV	-51		CHP-V				207
03	296831			K1	LV	-51		CHP-V				162
03	296831			K1	LV	-51		CHP-V				141

A04	Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Date 12.07.07	KW 1
		 B. MUELLER Test House Manager Inspector's stamp			
QM-System: Certification as per ISO 9001					



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ A03 Certificate No.		Shoot	
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		264362-11.07.07		321445-001		8/...	
MATERIAL TEST REPORT (MDR)				B01 Product			
A05 Established inspecting body		A06 Purchaser		A07.1 No. 70073			
DH		Final receiver		ARCELOR CANADA, BURLI		HOT ROLLED PLATES	
B02/ Steel design.		SA516-70		EDMONTON STEEL, EDMON		A07.2 No. E10436-J1010-LG	
B03 Any suppl. requirements		ASME-2A:04+A05 DIL-HUE-2:R21-2006-04-27					

C70-C99 Chemical composition % - Heat analysis

	C70	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NB	SN
B07.2 Heat															
296618	Y	0,174	0,330	1,13	0,012	0,0010	0,0039	0,035	0,038	0,010	0,047	0,045	0,001	0,000	0,002
296825	Y	0,185	0,362	1,17	0,008	0,0006	0,0058	0,042	0,020	0,008	0,044	0,023	0,001	0,000	0,000
296829	Y	0,175	0,337	1,14	0,010	0,0009	0,0047	0,035	0,019	0,008	0,037	0,029	0,000	0,000	0,001
296831	Y	0,168	0,340	1,13	0,010	0,0010	0,0059	0,033	0,031	0,011	0,045	0,030	0,000	0,000	0,001
297060	Y	0,183	0,367	1,18	0,010	0,0007	0,0065	0,035	0,020	0,013	0,027	0,035	0,000	0,000	0,000
B07.2 Heat															
296618	Y	0,003	0,0001	0,0013											
296825	Y	0,002	0,0000	0,0021											
296829	Y	0,002	0,0001	0,0023											
296831	Y	0,002	0,0001	0,0035											
297060	Y	0,003	0,0001	0,0016											

C94 Heat analysis Carbon equivalent / Alloying restrictions

	FO-02=	FO-55=	FO-78=	FO-91=
B07.2 Heat				
296618	0,38	0,14	0,06	6,5
296825	0,39	0,10	0,03	6,3
296829	0,38	0,09	0,04	6,5
296831	0,37	0,12	0,04	6,7
297060	0,39	0,10	0,05	6,4

C95 Ladle treatment

ITEM NO.: 01-03	HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL
-----------------	--

A04		Z01/202/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order. QM-System: Certification as per ISO 9001	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
B. MUELLER Test House Manager		AHB	Inspector's stamp Date 12.07.07	KW 1



DILLINGER HÜTTE

Erklärungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004

INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

MATERIAL TEST REPORT (MTR)

A05 Established inspecting body

A08 Purchaser

Final receiver

B02/ Steel design. SA516-70

B03 Any suppl. ASME-2A:04+A05

requirements DIL-HUE-2:R21-2006-04-27

ARCELOR CANADA, BURLI A07.1 No. 70073

EDMONTON STEEL, EDMON A07.2 No. E10436-J1010-IG

A10 Advice of dispatch No./

Date of dispatch

264362-11.07.07

A09/ Manufacturer's order/

A03 Certificate No.

321445-001

Sheet

9/...

B01 Product

HOT ROLLED PLATES

C70-C99 Chemical composition % - Product analysis

Heat	B07.1	C01	C	SI	MN	P	S	N	AL	CU	MO	NI	CR	V	NE	SN
296618	99635	K1	0,169	0,321	1,11	0,012	0,0024	0,0035	0,037	0,038	0,009	0,044	0,048	0,002	0,000	0,001
296825	15025	K1	0,186	0,358	1,15	0,008	0,0008	0,0060	0,041	0,020	0,007	0,040	0,022	0,001	0,000	0,000
296829	86460	K1	0,178	0,356	1,15	0,010	0,0007	0,0047	0,026	0,023	0,010	0,048	0,032	0,001	0,000	0,002
296831	86488	K1	0,165	0,333	1,12	0,010	0,0011	0,0058	0,032	0,033	0,012	0,047	0,030	0,000	0,000	0,001
296831	86515	K1	0,164	0,335	1,11	0,009	0,0010	0,0056	0,033	0,031	0,010	0,046	0,029	0,000	0,000	0,000
297060	14435	K1	0,185	0,356	1,16	0,009	0,0013	0,0050	0,029	0,021	0,011	0,033	0,035	0,000	0,000	0,001

B07.2 Heat

Test No.

296618 99635

296825 15025

296829 86460

296831 86488

296831 86515

297060 14435

C94 Product analysis Carbon equivalent / Alloying restrictions

Heat	B07.1	C01	K1	FO-02=	0,37	FO-55=	0,14
296618	99635	K1	FO-02=	0,37	FO-55=	0,09	
296825	15025	K1	FO-02=	0,39	FO-55=	0,11	
296829	86460	K1	FO-02=	0,38	FO-55=	0,12	
296831	86488	K1	FO-02=	0,37	FO-55=	0,12	
296831	86515	K1	FO-02=	0,36	FO-55=	0,12	
297060	14435	K1	FO-02=	0,39	FO-55=	0,10	

A04



Z01/Z02/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



B. MUELLER
Test House Manager

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Inspector's stamp

Date 12.07.07

KW 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004 INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991 MATERIAL TEST REPORT (MTR)		A10 Advice of dispatch No./ Date of dispatch 264362-11.07.07	A08 Manufacturer's order/ A03 Certificate No. 321445-001	Shoot 10
A05 Established inspecting body DIL-HUT-2:R21-2006-04-27		A06 Purchaser ARCELOR CANADA, BURLI A07.1 No. 70073 EDMONTON STEEL, EDMON A07.2 No. E10436-J1010-LG		
B02 Steel design. SA516-70				
B03 Any suppl. requirements				
C94 Carbon equivalent formula / Alloying restrictions FO-02 = C+(MN/6)+(CR+MO+V)/5+(NI+CU)/15 FO-55 = CU+MO+NI+CR FO-78 = CR+MO FO-91 = MN/C				
D01 Marking and identification, surface appearance, shape and dimensional properties ITEM NO.: 01-03 RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS SURFACE AS PER ASME-SA20 THICKNESS AS PER ASME-SA20 LENGTH AND WIDTH AS PER ASME-SA20 FLATNESS AS PER 1/2-ASME-SA20				
A04	201/2002/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order. QM-System: Certification as per ISO 9001		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department A01	
		Inspector's stamp A01B B. MUELLER Test House Manager Date 12.07.07 KW 1		

INSPECTION CERTIFICATE

证明番番号 : P-93181 PAGE 34

發行年月日 : 2008-02-25
DATE OF ISSUE
1001 2##DM*****

AS PER EN 10204 CERTIFICATE ON MATERIAL

TESTS 3.1

ON EXCHANGER GROUP OF C- 需要管理番号 :
ES CUSTOMER'S CONTROL No.

EDMONTON
: COMPANIES
CUSTOMER

文 藝 看 叢 書

[illegible][illegible]

第 1 号	第 2 号	第 3 号	第 4 号	第 5 号	第 6 号	第 7 号	第 8 号	第 9 号	第 10 号	第 11 号	第 12 号	第 13 号	第 14 号	第 15 号	第 16 号	第 17 号	第 18 号	第 19 号	第 20 号	第 21 号	第 22 号	第 23 号	第 24 号	第 25 号	第 26 号	第 27 号	第 28 号	第 29 号	第 30 号	第 31 号	第 32 号	第 33 号	第 34 号	第 35 号	第 36 号	第 37 号	第 38 号	第 39 号	第 40 号	第 41 号	第 42 号	第 43 号	第 44 号	第 45 号	第 46 号	第 47 号	第 48 号	第 49 号	第 50 号	第 51 号	第 52 号	第 53 号	第 54 号	第 55 号	第 56 号	第 57 号	第 58 号	第 59 号	第 60 号	第 61 号	第 62 号	第 63 号	第 64 号	第 65 号	第 66 号	第 67 号	第 68 号	第 69 号	第 70 号	第 71 号	第 72 号	第 73 号	第 74 号	第 75 号	第 76 号	第 77 号	第 78 号	第 79 号	第 80 号	第 81 号	第 82 号	第 83 号	第 84 号	第 85 号	第 86 号	第 87 号	第 88 号	第 89 号	第 90 号	第 91 号	第 92 号	第 93 号	第 94 号	第 95 号	第 96 号	第 97 号	第 98 号	第 99 号	第 100 号
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100

[illegible]

す。好し証明をといて、定済を原簿係取のそ、れを消滅つ、能に繰仕はた外、納税の使、預金は明文共に上

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi

君津製鐵所 厚板管理グループ
GROUP MANAGER
PLATE QUALITY CONTROL DE
KIMITSU WORKS

14152

注 文 者 :	HANWA CO., LTD.	社 址 :	〒100-8071 東京都千代田区大手町二丁目6番3号
SHIPPER		HEAD OFFICE	〒2-6-3 OTEMACHI, CHYODA-KU, TOKYO 100-8071, JAPAN
注文照会番号 :	228-38571050	君 様 販 売 所 :	〒239-1141 千葉県君津市天津1番地
REFERENCE NO.		KOMISUWORKS	1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 239-1141, JAPAN
契約番号 :	8-831-H1-5-1-A101		
CONTRACT NO.			
商 品 名 :	HOT ROLLED STEEL PLATES	証 明 書 番 号 :	P-93181
COMMODITY		CERTIFICATE No.	頁 : 63E
規 格 :	ASME SA-516 GRADE 70-E07	発 行 年 月 日 :	2008-02-25
SPECIFICATION		DATE OF ISSUE	1001
文書番号 :			2*2DM*****
DOCUMENT No.			*****CE*****
需要家 :	EDMONTON EXCHANGER GROUP OF C-TESTS 3.1)		E3001P05Q0 E07
CUSTOMER		需要家管理番号 :	CUSTOMER'S CONTROL No.

新日本製鐵株式會社
Nippon Steel Corporation
鋼材 検査 証明 書
INSPECTION CERTIFICATE

[illegible][illegible]

上記送文品は毎指定の規格に従って仕様がたは仕様不足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi

岩城鐵所 厚板管理グループリーダー
GROUP MANAGER
PLATE QUALITY CONTROL DEPT.
KUMIJI WORKS

posco Mill Test Certificate/검사증명서

Certificate No./증명서번호: 080909-PPSA-004-013
Date of Issue/발행일자: Sep., 16, 2008



Order No./계약번호: 00033339728
Supplier/주문자: DAE WOO INTERNATIONAL CORP.
Customer/고객사: EDMONTON EXCHANGER
PO No./주문번호: E10660 (ASME2004 EDITION)
Commodity/품명: HR STEEL PLATE (EN10204 3.1B)
Spec & Type/규격: ASME SA516-70 AND SA 20(ASME2004 EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 제강번호	Tensile/인장시험 Y.P. TS EL (KSI) (%)	Impact/ 충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화학성분(%)																
							P	T	S	I	T	I	O	N	C	Si	Mn	P	S	Cr	Ni	B	Cu
--- Sub Total (060) --- --- HEAT TREATMENT --- Normalized : 890°C 30min. --- 0.75"x120.5"x480"	PC43392701-2702	2	11,158 24,598	SB13583	50.2 75.3 28	1159 2138 3136 A-145 1140 2112 3136 A-129 1124 2148 3185 A-152 1142 2128 3169 A-113	L	1755	353	1180	113	26	2	22	Tr	Tr	101	101	Tr	1	1	18	34
0.75"x120.5"x480"	PC43392601-2602	2	11,158 24,598	SB13583	51.1 75.0 30	1140 2112 3136 A-129 1124 2148 3185 A-152 1142 2128 3169 A-113	L	1755	353	1180	113	26	2	22	Tr	Tr	101	101	Tr	1	1	18	34
0.75"x120.5"x480"	PC43392501-2502	2	11,158 24,598	SB13583	50.9 75.0 27	1124 2148 3185 A-152 1142 2128 3169 A-113	L	1755	353	1180	113	26	2	22	Tr	Tr	101	101	Tr	1	1	18	34
0.75"x120.5"x480"	PC43392401-2402	2	11,158 24,598	SB13583	50.2 74.3 27	1142 2128 3169 A-113	L	1755	353	1180	113	26	2	22	Tr	Tr	101	101	Tr	1	1	18	34

Rev. 5 dated 11/01/2006 and EC001 Rev.0

* Position : T : Top, M : Middle, B : Bottom
* Tensile Test. Direction : Transversal, Gauge Length : 200mm (Rectangular).
* YP Method : 0.2% off-set
* Impact Test. Direction : Longitudinal.
* T.L.R. (Trans Longitudinal Ratio)
* Division : L: Ladle Analysis
* Chemical Composition Unit : 2x1/100, 3x1/1000, 4x1/10000, 5x1/100000
* Tr : It is within the standard range (<0.008%) and include trace element.
* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006, and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (or) KEPIC MNA/ SNA-4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material.
We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
This material is fine grained steel.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To: *W.G. Jo*

Chief of material testing section Jo, Won Goc
POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea



Certificate No./증명서번호:080909-PPSA-004-014
Date of Issue/발행일자:Sep., 16, 2008

posco Mill Test Certificate/검사증명서

Order No./계약번호:0003339728

PO No./주문번호:10660 (ASME2004EDITION)

Supplier/주조사:DAE WOO INTERNATIONAL CORP.

Commodity/품명:HR STEEL PLATE (EN10204 3.1B)

Customer/고객사:EDMONTON EXCHANGER

Spec & Type/규격:ASME SA516-70 AND SA 20(ASME2004EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 제강번호	Tensile/인장시험 YP TS EL (KSI) (%)	Impact/충격시험 V _{Notch} -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화합성분(%)																	
							C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Al				
0.75"x120.5"x480"	PC43393501-3502	2	11,158 24,598	SB13583	46.7 74.4 31	1:145 2:136 3:138 A:139	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34			
0.75"x120.5"x480"	PC43393401-3402	2	11,158 24,598	SB13583	50.3 74.7 28	1:117 2:114 3:126 A:119	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34			
0.75"x120.5"x480"	PC43392301-2302	2	11,158 24,598	SB13583	49.9 74.7 29	1:150 2:136 3:133 A:139	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34			
0.75"x120.5"x480"	PC43392801-2802	2	11,158 24,598	SB13583	50.2 74.7 30	1:155 2:149 3:139 A:148	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34			
0.75"x120.5"x480"	PC43417401-7402	2	11,158 24,598	SB13583	49.7 75.3 32	1:135 2:148 3:145 A:148	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34			

* Position: T: Top, M: Middle, B: Bottom
* Tensile Test: Direction: Transversal, Gauge Length: 200mm (Rectangular)
* YP Method: 0.2% off-set
* Impact Test: Direction: Longitudinal, T.L.R (Trans Longitude Ratio)
* Division: L: Ladle Analysis
* Chemical Composition Unit: 2x1/100, 3x1/1000, 4x1/10000, 5x1/100000
* Tr: It is within the standard range (<0.008%) and include trace element
* Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL 01, 2006 and PQG01 Rev.0 dated JUL 01, 2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and/or KEPCO MNA/ SNA-4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
This material is fine grained steel.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

W.G. Jo

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Jo, Won Goc



posco Mill Test Certificate/검사증명서

Certificate No./증명서번호: 080909-PPSA-004-015
Date of Issue/발행일자: Sep., 16, 2008

Order No./계약번호: 0003339728

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10660
(ASME2004 EDITION)

Commodity/품명: HR STEEL PLATE (EN10204 3.1B)

Spec & Type/규격: ASME SA516-70 AND SA 20(ASME2004 EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight: 중량 (kg) (LBS)	Heat No. 제강번호	P O S T T O N	Tensile/인장시험			Impact/충격시험		Chemical Composition/화학성분(%)																		
						Y.P. (KSI)	T.S. (%)	EL (%)	V Notch 50°F	Energy (FT-LBS)	SF (%)	C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Tr	Tr	V	Al			
0.75"x120.5"x480"	PC43417301-7302	2	11,158 24,598	SB13583	T	50.6	75.7	29	A-143 1:150 2:148 3:134			L	1755	353	1180	113	26	2	22	Tr	101	101	Tr	1	1	18	34		
0.75"x120.5"x480"	PC43393201-3202	2	11,158 24,598	SB13583	T	50.5	76.0	27	A-144 1:139 2:115 3:130			L	1755	353	1180	113	26	2	22	Tr	101	101	Tr	1	1	18	34		
0.75"x120.5"x480"	PC43393101-3102	2	11,158 24,598	SB13583	T	50.6	76.7	28	A-128 1:138 2:138 3:128			L	1755	353	1180	113	26	2	22	Tr	101	101	Tr	1	1	18	34		
0.75"x120.5"x480"	PC43392201-2202	2	11,158 24,598	SB13585	T	51.1	75.4	30	A-134 1:142 2:146 3:133			L	1804	348	1198	99	20	2	22	Tr	98	98	Tr	1	1	18	33		
0.75"x120.5"x480"	PC43392101-2102	2	11,158 24,598	SB13586	T	50.9	75.6	29	A-140 1:118 2:128			L	1804	348	1198	99	20	2	22	Tr	98	98	Tr	1	1	18	33		

* Position - T: Top, M: Middle, B: Bottom

* Tensile Test Direction: Transversal, Gauge Length: 200mm (Rectangular).

* Y.P Method: 0.2% off-set

* Impact Test Direction: Longitudinal, T.L.R (Trans Longitudinal Ratio)

* Division - L: Ladle Analysis

* Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000

* Tr: It is within the standard range(<0.008%) and include trace element.

* Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (or) KERP MINA SNA4300.

B) No repair welding was performed to the products.

C) The product numbers listed on this test report identifies the material

- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

This material is fine grained steel.

* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

W.G. Jo

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Jo, Won Goo

posco Mill Test Certificate/검사증명서

Certificate No./증명서번호 : 080909-PPSA-004-016
Date of Issue/발행일자: Sep., 16, 2008

Order No./계약번호: 0003339728

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: E10660
(ASME2004 EDITION)

Commodity/품명: HR STEEL PLATE (EN10204 3.1B)

Spec & Type/규격: ASME SA516-70 AND SA 20 (ASME2004 EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	Tensile/인장시험		Impact/충격시험 V Notch 50°F Energy (FT-LBS) (%)	Chemical Composition/화학성분(%)																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							
					Y _P (KSI)	TS (KSI) EL (%)		C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Se/Al																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																										
0.75"x120.5"x480"	PC43393001-3002	2	11,158 24,598	SB13585	51.3 76.1 27		3:126 A:124 1:128 2:121 3:120	L 1804 348 1198 99 20 2 22 Tr 98 Tr 1 1 18 33																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																							</

Position - T: Top, M: Middle, B: Bottom
Tensile Test, Direction: Transversal, Gauge Length: 200mm (Rectangular)

Y_P Method: 0.2% offset

Impact Test, Direction: Longitudinal

T.L.R (Trans Longitudinal Ratio)

Division - L: Ladle Analysis

Chemical Composition Unit: -2x1/100, -3x1/100, -4x1/1000, -5x1/10000

Tr: It is within the standard range (<0.008%) and include trace element.

Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and PQG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III, NCA-3800 and/or KEPIC MNA/ SNA4300.

B) No repair welding was performed to the products.

C) The product numbers listed on this test report identifies the material.

We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.

This material is fine grained steel.

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Surveyor To:

W.G. Jo

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Jo, Won Go

posco Mill Test Certificate/검사증명서

Certificate No./증명서번호: 080909-PPSA-004-017
Date of Issue/발행일자: Sep., 16, 2008

Order No./계약번호: 0003339728

PO No./주문번호: E10660
(ASME2004 EDITION)

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Commodity/품명: HR STEEL PLATE (EN10204 3.1B)

Customer/고객사: EDMONTON EXCHANGER

Spec & Type/규격: ASME SA516-70 AND SA 20(ASME2004 EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 제강번호	POSITION	Tensiler/인장시험		Impact/ 충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화학성분(%)																		
						YP (KSI)	TS (KSI) EL (%)		C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Sei-Al					
0.75"x120.5"x480"	PC43416901-6902	2	24,596	SB13585	T	49.9	75.0 27		L	1804	348	1198	99	20	2	22	Tr	98	Tr	1	1	18	33				
			11,158																								
			24,596																								
0.875"x96.5"x480"	PC43859301-9303	3	40	SB14463	T	51.6	76.3 28		L	1807	321	1127	106	24	2	22	1	96	Tr	1	1	18	28				
			15,642																								
			34,485																								
0.875"x96.5"x480"	PC43859201-9203	3	15,642	SB14463	T	50.9	75.9 30		L	1807	321	1127	106	24	2	22	1	96	Tr	1	1	18	28				
			34,485																								
Sub Total (080) ***			5																								
Sub Total (080) ***																											

Position - T: Top, M: Middle, B: Bottom
Tensile Test: Direction: Transversal, Gauge Length: 200mm (Rectangular)
YP Method: 0.2% off-set
Impact Test: Direction: Longitudinal
T.L.R (Trans Longitude Ratio)
Division - L: Ladle Analysis
Chemical Composition Unit: -2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
Tr: It is within the standard range (<0.008%) and include trace element
Supply Condition: As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL.01.2006 and POG01 Rev.0 dated JUL.01.2006 audited and approved by customer as conforming to the requirements of ASME Sec. III
NCA-3809 and/or) XEPIC MNA/ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
- We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
This material is fine grained steel.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

W.G. Jo

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Jo, Won Gool



posco Mill Test Certificate/검사증명서

Certificate No./증명서번호: 080909-PPSA-004-023
Date of Issue/발행일자: Sep., 16, 2008

Order No./계약번호: 0003339728

Supplier/주문자: DAE WOO INTERNATIONAL CORP.

Customer/고객사: EDMONTON EXCHANGER

PO No./주문번호: 10660
(ASME2004EDITION)

Commodity/품명: HR STEEL PLATE (EN10204 3.1B)

Spec & Type/규격: ASME SA516-70 AND SA 20(ASME2004EDITION)

Size/치수	Product No. 제품번호	Quantity 수량	Weight 중량 (kg) (LBS)	Heat No. 재강번호	Tensile/인장시험 Y P T S E L (KSI) (%)	Impact/충격시험 V Notch -50°F Energy SF (FT-LBS) (%)	Chemical Composition/화학성분(%)																D I V I S I O N
							C	Si	Mn	P	S	Cr	Ni	B	Cu	Mo	Nb	Ti	V	Se	Al		
1.125"x121"x480"	PC43391401	1	8,405 18,530	SB13583	48.0 73.8 34	A-117 1:147 2:133 3:113 A-131	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34		
1.125"x121"x480"	PC43391001	1	8,405 18,530	SB13583	48.4 74.0 31	1:130 2:122 3:118 A-123	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34		
1.125"x121"x480"	PC43391501	1	8,405 18,530	SB13583	48.6 74.0 32	1:123 2:142 3:141 A-136 185,296 (LBS)	L	1755	353	1180	113	26	2	22	Tr	101	Tr	1	1	18	34		
Sub Total (30) ***			10		84,050 (kg)																		
HEAT TREATMENT ***			950 C 55min.																				
Lot ***			240		1,097,148 (kg)	2,418,762 (LBS)																	
Grade Total ***			240		1,097,148 (kg)	2,418,762 (LBS)																	
Grand Total ***			240		1,097,148 (kg)	2,418,762 (LBS)																	

APPROVED

REWORKING

DATE

* LOT NO ==> VACUUM DEGASSED

* LOT NO ==> VACUUM DEGASSED



* Position - T : Top, M : Middle, B : Bottom
* Tensile Test: Direction : Transversal, Gauge Length : 200mm (Rectangular).
YP Method : 0.2% off-set
* Impact Test: Direction : Longitudinal,
T.L.R.(Trans Longitude Ratio)
* Division - L:Ladle Analysts
* Chemical Composition Unit - 2x1/100, -3x1/1000, -4x1/10000, -5x1/100000
* Tr : It is within the standard range(<0.008%) and include trace element.
* Supply Condition : As-Rolled unless otherwise Heat Treated.

A) This material was produced under a quality system manual Rev.5 dated JUL 01,2006 and POG01 Rev.0 dated JUL 01,2006 audited and approved by customer as conforming to the requirements of ASME Sec. III NCA-3800 and (a) KEPIC MNA/ SNA4300.
B) No repair welding was performed to the products.
C) The product numbers listed on this test report identifies the material
We hereby certify that the material herein has been made and tested in accordance with the above specification and also with the requirements called for by the above order.
This material is fine grained steel.
* This Mill Test Certificate cannot be copied for any purpose.

Surveyor To:

W.G. Jo

POSCO Pohang Works, 5 Dongchon-dong, Nam-gu, Pohang-si, Gyeongsangbuk-do, 790-785, Korea

Chief of material testing section Jo, Won Goc





DAEWOO
INTERNATIONAL
www.daewoo.com

100-753 서울 중구 남대문로 5가 84-11 (한성제단 세브란스빌딩) 중앙사서함 2810호

C.P.O Box 2810 Seoul 100-753, Korea TEL : 759-2114 / FAX : 755-9489

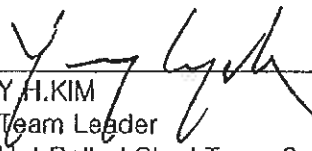
September 5, 2008

ATTN : Edmonton Exchanger.
C.C : To whom it may concern.

Subject: Posco Plate SA 516 Grade 70 for Pressure Vessel Quality.

This letter is written to certify that Posco/Daewoo guarantee the test coupon and the plate is normalized, and thereon its chemical & mechanical properties are same as shown in Mill Test Certificate provided by Posco for Edmonton Exchanger PO No.E10660. Our shipment complies with your requirement.

Best Regard,


Y.H.KIM
Team Leader
Hot Rolled Steel Team 3, Steel Division 1
Daewoo International Corporation





DAEWOO
INTERNATIONAL
www.daewoo.com

100-753 서울 중구 남대문로 5가 84-11 (연세제단 세브란스빌딩) 중원사서함 2810호

C.P.O Box 2810 Seoul 100-753, Korea TEL : 759-2114 / FAX : 753-9489

September 17, 2008

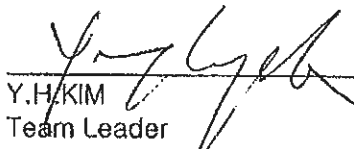
ATTN : Edmonton Exchanger.
C.C : To whom it may concern.

Subject: Posco Plate SA516 Grade 70 for Pressure Vessel Quality.

This letter is written to certify that Posco/Daewoo comply with DIN 50049/3.1B, EN10204(2004)/3.1, and ISO 10474/3.1B, also guarantee ASME 2004 Edition-2006 Addendum for PO no. E10647 and E10660 which was supplied by Posco for Edmonton Exchanger. Due to limited space in MTR electric system, It only shows ASME 2004 Edition and EN10204 3.1(or ISO10474 3.1B) which please understand.

Best Regard,




Y.H. KIM

Team Leader

Hot Rolled Steel Team 3, Steel Division 1
Daewoo International Corporation



注 文 者 : HANWA CO., LTD.
SHIPPER

注文者照会番号 : 228-38581020
REFERENCE No.

契約番号 : 8-831-H1-5-X-AT01
CONTRACT No.

商 品 名 : HOT ROLLED STEEL PLATES
COMMODITY

規 格 : ASME SA-516 GRADE 70-E07
SPECIFICATION

文 書 番 号 : 需要家 : EDMMONTON EXCHANGER GROUP OF C-
DOCUMENT No. CUSTOMER COMPANIES

新日本製鐵株式會社

Nippon Steel Corporation

鋼 材 検 査 証 明 書

INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL
TESTS 3.1)

需要家管理番号 : 3001P05Q1 E07
CUSTOMERS CONTROL No.

本 社 : 〒100-8071 東京都千代田区大手町二丁目6番3号
HEAD OFFICE : 2-6-3, OTEMACHI, CHITODA-KU, TOKYO 100-8071, JAPAN
支 店 所 : 〒299-1141 千葉県君津市君津1番地
KAMITSU WORKS : 1, KAMITSU, KUNITSU-CITY, CHIBA-PREF. 299-1141, JAPAN

証明書番号 : P-97187
CERTIFICATE No. : P-97187

発行年月日 : 2008-11-14
DATE OF ISSUE : 2008-11-14

2***DM****
*****CEW**

3001P05Q1 E07

寸 法 DIMENSION mm, inch, feet	数量 QUAN- TITY	質 量 MASS KG	製鋼番号 CAST No. 試験番号 TEST No.	製品番号 PLATE No.	引 張 試 験 TENSILE TEST				衝 撃 試 験 IMPACT TEST				HBW	化 学 成 分 CHEMICAL COMPOSITION %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																					
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注 釈 NOTES [1] Location Orientation: 位置・方向, T: 縦筋 Top, B: 底筋 Bottom, L: 圧延方向 Longitudinal, C: 垂直方向 Transverse, Z: 圧延方向 Through Thickness, R: 45° 方向 45Deg. to the Longitudinal Axis

[2] G.L. 規定板厚 Gauge Length, A: 50mm 平行試験片 Rectangular, B: 50mm 丸形試験片 Round, C: 70mm 平行試験片 Rectangular, D: 70mm 丸形試験片 Round, E: 80mm 平行試験片 Rectangular, F: 60mm 丸形試験片 Round, G: 200mm, H: 21.8", J: 5.65/S₀, K: 4.50
[3] R.A.: 絞り Reduction of Area, Y.R.: 降伏比 Yield Ratio, [4] A: 合格 Acceptable, [5] F: 試験片 Full Size, Z: 2.5mm, 3: 3.2mm, 4: 3.3mm, 5: 5.0mm, 6: 6.67mm, 7: 7.5mm, 8: 8.7mm, 9: 製品厚 Plate Thickness, [6] P: 製品分析 Product Analysis, [7] N: 組織 Normalized, Q: 焼入れ Quenched, T: 焼戻し Tempered, C.R.: 炭素鋼 Rectangular, N.I.C.: NIC Process/TMC Process, C.L.C.: CLC Process/TMC Process, A.R.: As Rolled, T.M.R.: TMR Process/TMC Process, N.R.: Normalizing Rolled, S.H.: 焼戻し Shear Fracture, C.F.: 炭素鋼 Rectangular, A.G.S.: オーステナイト組織 Austenitic Grain Size, F.G.S.: フェライト組織 Ferritic Grain Size, S.R.: 焼戻し Shear Fracture Post Weld Heat Treatment

上記注文品は指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN
MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.



J. Adachi
QUALITY MANAGER
PLATE QUALITY CONTROL DEPT.
新日本製鐵株式会社

100

Age Group	No answer	No	Yes	Probably yes	Probably no
18-24	10	10	10	10	10
25-34	10	10	10	10	10
35-44	10	10	10	10	10
45-54	10	10	10	10	10
55-64	10	10	10	10	10
65-74	10	10	10	10	10
75-84	10	10	10	10	10
85+	10	10	10	10	10

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

GROUP MANAGER
PLATE QUALITY CONTROL DEPT.
KIMTSU WORKS

GROUP MANAGER
QUALITY CONTROL DEPT.
KIMITSU WORKS

注 文 者 : HANWA CO., LTD.
 SHIPPER
 注文者照会番号 : 223-38581020
 REFERENCE No.
 契約番号 : 8-831-H1-5-X-A101
 CONTRACT No.
 商 品 名 : HOT ROLLED STEEL PLATES
 COMMODITY

規 格 : ASME SA-516 GRADE 70-E07
 SPECIFICATION
 文 書 番 号 :
 DOCUMENT No.

需 要 家 : EDMONTON EXCHANGER GROUP OF C-
 CUSTOMER
 需 要 家 管 理 番 号 :
 CUSTOMERS CONTROL No.

新日本製鐵株式會社
 Nippon Steel Corporation
 鋼 材 檢 査 証 明 書
 INSPECTION CERTIFICATE

本 社 : 〒100-8071 東京都千代田区大手町二丁目6番3号
 HEAD OFFICE
 〒2-6-3, OTSUMACHI, CHYODA-KU, TOKYO 100-8071, JAPAN
 近 洋 製 鐵 所 : 〒289-1141 千葉県君津市君津1番地
 KINTSU WORKS
 〒1, KINTSU, KINTSU-CITY, CHIBA-PREF. 289-1141, JAPAN

証 明 書 番 号 : P-97187
 CERTIFICATE No.
 発 行 年 月 日 : 2008-11-14
 DATE OF ISSUE
 1001
 2***M*****
 *****CEW***
 E3001P0501 E07

(AS PER EN 10204 CERTIFICATE ON MATERIAL
 TESTS 3.1)

寸 法 DIMENSION mm, *inch, *feet	数量 QUAN- TITY	質 量 MASS KG	製鋼番号 CAST No. 試験番号 TEST No.	製品番号 PLATE No.	引 張 試 験 TENSILE TEST				夏 季 試 験 IMPACT TEST				化 学 成 分 CHEMICAL COMPOSITION %																																																																																																																																																																																																																										
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注 文 者 注 意 : [表 1] Location Orientation 位置・方向, T: 頂部 Top, B: 底部 Bottom, L: 長さ方向 Longitudinal, C: 幅方向 Transverse, Z: 板厚方向 Through Thickness, R: 45° 方向 45Deg. to the Longitudinal Axis

[表 2] G.L. 板厚公差 Gauge Length, A: 50mm 平行試験片 Rectangular, B: 50mm 平行試験片 Rectangular, C: 70mm 平行試験片 Rectangular, D: 70mm 平行試験片 Rectangular, E: 80mm 平行試験片 Rectangular, F: 80mm 平行試験片 Rectangular, G: 200mm, H: 2", I: 8", J: 5.65/S₀, K: 4/S₀
 [表 3] R.A. 板厚公差 Reduction of Area, Y.R.: 板厚公差 Yield Ratio, [表 4] A: 合格 Acceptable, [表 5] F: 試験中法 FULL SIZE, Z: 2.5mm, 3: 3.2mm, 4: 3.5mm, 5: 5.0mm, 6: 6.67mm, 7: 7.5mm, 8: 8.7mm, 9: 製造板厚 Plate Thickness.
 [表 6] P: 製品分佈 Product Analysis, [表 7] N: 焼入れ Normalized, Q: 焼入れ Tempered, CR: 焼入れ Crystallinity Fracture, L.E: 焼入れ Lateral Expansion, A.G.S: ガラススケール試験 Austenite Grain Size, F.G.S: フェライト試験 Ferrite Grain Size, S.R: Stress Relieved Post Weld Treatment
 S.F: 板厚公差 Shear Fracture, C.F: 板厚公差 Crystal Fracture

上記注文品は即指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN
 MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi
 近洋製鐵所 品質管理グループ
 GROUP MANAGER
 PLATE QUALITY CONTROL DEPT.
 KINTSU WORKS

B

注 文 者 : HANWA CO., LTD.
SHIPPER :
注文者照会番号 : 228-38581020
契約番号 : 8-831-HI-5-X-A101
商 品 名 : HOT ROLLED STEEL PLATES
規 格 :
SPECIFICATION : ASME SA-516 GRADE 70-E07
文 書 番 号 :
DOCUMENT No. :

新日本製鐵株式會社
Nippon Steel Corporation
鋼材検査証明書
INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)
CUSTOMER : EDMONTON EXCHANGER GROUP OF C-
需要家管理番号 :
CUSTOMER CONTROL No. :

証明書番号 : P-97187
CERTIFICATE No. :
発行年月日 : 2008-11-14
DATE OF ISSUE :
2***DIM***
*****CEW***
E3001P05Q1 E07

寸 法 DIMENSION mm, inch, feet	具 量 QUAN- TITY	質 量 MASS KG	製鋼番号 CAST No. 試験番号 TEST No.	製 品 番 号 PLATE No.	NO. LOCATION	引 張 試 験 TENSILE TEST				衝撃試験 IMPACT TEST				化 学 成 分 CHEMICAL COMPOSITION %																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																											
						引張強さ TENSILE STRENGTH		伸 び EL %	引張断面収縮率 ELONGATION	2V - 50F FI - LB		2V - 50F FT - LB		C	Si	Mn	P	S	O	Ni	Cr	Mo	Nb	V	Al	Co																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																																															
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注 釈 NOTES : 1. 位置 Orientation 位置, 方向, T: 頂面 Top, B: 底面 Bottom, L: 圧延方向 Longitudinal, C: 延方向 Transverse, Z: 短方向 Short Transverse, R: 45° 方向 45Deg. to the Longitudinal Axis.
2. 公差 Tolerance: A: 50mm 平面状態 Rectangular, B: 50mm 平面状態 Rectangular, C: 70mm 平面状態 Rectangular, D: 70mm 平面状態 Rectangular, E: 80mm 平面状態 Rectangular, F: 80mm 平面状態 Rectangular, G: 200mm H: 27.1, I: 8, J: 5.65/S₀, K: 4/S₀.
3. 試験方法 Test Method: A: 合格 Acceptable, B: 不合格 Unacceptable, C: 試験方法 Full Size, D: 2.25mm, E: 3.3mm, F: 4.3mm, G: 5.0mm, H: 6.67mm, I: 7.7mm, J: 8.7mm, K: 9.7mm, L: 10.7mm, M: 11.7mm, N: 12.7mm, O: 13.7mm, P: 14.7mm, Q: 15.7mm, R: 16.7mm, S: 17.7mm, T: 18.7mm, U: 19.7mm, V: 20.7mm, W: 21.7mm, X: 22.7mm, Y: 23.7mm, Z: 24.7mm.
4. 試験条件 Test Condition: A: 試験条件 Full Size, B: 2.25mm, C: 3.3mm, D: 4.3mm, E: 5.0mm, F: 6.67mm, G: 7.7mm, H: 8.7mm, I: 9.7mm, J: 10.7mm, K: 11.7mm, L: 12.7mm, M: 13.7mm, N: 14.7mm, O: 15.7mm, P: 16.7mm, Q: 17.7mm, R: 18.7mm, S: 19.7mm, T: 20.7mm, U: 21.7mm, V: 22.7mm, W: 23.7mm, X: 24.7mm, Y: 25.7mm, Z: 26.7mm.
5. 試験結果 Test Result: A: 合格 Acceptable, B: 不合格 Unacceptable, C: 試験結果 Full Size, D: 2.25mm, E: 3.3mm, F: 4.3mm, G: 5.0mm, H: 6.67mm, I: 7.7mm, J: 8.7mm, K: 9.7mm, L: 10.7mm, M: 11.7mm, N: 12.7mm, O: 13.7mm, P: 14.7mm, Q: 15.7mm, R: 16.7mm, S: 17.7mm, T: 18.7mm, U: 19.7mm, V: 20.7mm, W: 21.7mm, X: 22.7mm, Y: 23.7mm, Z: 24.7mm.

上記注文品は鋼指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN
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J. Adachi
GROUP MANAGER
PLATE QUALITY CONTROL DEPT.
KUMITSUWORKS

INSPECTION CERTIFICATE

INSPECTION CERTIFICATE

東京理科大学 理学部 物理学科 教授 佐々木 正

1. The first step is to identify the problem or question that needs to be answered. This involves understanding the context and the specific requirements of the task.

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi
高津製鐵所厚板管理グループリーダー
GROUP MANAGER
PLATE QUALITY CONTROL DEPT.
KIMITSU WORKS

注 文 者 : HANWA CO., LTD.
 注文者照会番号 : 228-38581020
 契約番号 : 8-831-HI-5-X-A101
 商 品 名 : HOT ROLLED STEEL PLATES

規 格 : ASME SA-516 GRADE 70-E07

文 書 番 号 : DOCUMENT No.

需 要 家 : EDMONTON EXCHANGER GROUP OF C-

CUSTOMER COMPANIES

新日本製鐵株式會社

Nippon Steel Corporation

鋼 材 檢 査 証 明 書

INSPECTION CERTIFICATE

(AS PER EN 10204 CERTIFICATE ON MATERIAL

TESTS 3.1)

需 要 家 管 理 番 号 : 1001

CUSTOMER'S CONTROL No. E3001P05Q1 E07

本 社 : 〒100-8071 東京都千代田区大手町二丁目6番3号
 HEAD OFFICE : 2-6-3, OTEMACHI, CHiyoda-KU, TOKYO 100-8071, JAPAN
 近 洋 製 鐵 所 : 〒239-1141 千葉県君津市君津1番地
 KIMITSU WORKS : 1, KIMITSU, KIMITSU-CITY, CHIBA-PREF. 239-1141, JAPAN

証 明 書 番 号 : P-97187 PAGE : 55
 発 行 年 月 日 : 2008-11-14

DATE OF ISSUE : 2008-11-14

*****CEW*****

*****E3001P05Q1 E07*****

寸 法	DIMENSION	質 量	CASTING No.	TESTING No.	製品番号	PLATE No.	引 張 試 験				夏 季 試 験				化 学 成 分														
							Y.S.	T.S.	伸 び	断 面 収 縮	2V	50F	平均値																
mm, inch, foot		KG					0.2%	MPa	MPa	%	%	FT. LB	MPa	MPa															
0.75" X 120.5" X 480"	06	5579	G0641	42219	873030612TCI	873030612TCI	55	76	27			252	227	265															
0.75" X 120.5" X 480"	06	5579	G0641	42219	873030613TCI	873030613TCI	55	78	31			239	237	291															
0.75" X 120.5" X 480"	06	5579	G0641	42219	873030614TCI	873030614TCI	55	78	31			239	237	291															

注 記 NOTES [表 1] Location Orientation 位置・方向, T: 縦断 Top, B: 底面 Bottom, L: 縦断方向 Longitudinal, C: 縦断方向 Transverse, Z: 縦断方向 Through Thickness, R: 45° 方向 45Deg to the Longitudinal Axis
 [表 2] C.L. 製造位置 Gauge Length, A: 50mm 正方形鋼材 Rectangular, B: 50mm 正方形鋼材 Rectangular, C: 70mm 正方形鋼材 Rectangular, D: 70mm 正方形鋼材 Rectangular, E: 80mm 正方形鋼材 Rectangular, F: 80mm 正方形鋼材 Rectangular, G: 200mm, H: 2", I: 8", J: 5.85"/50, K: 4"/50
 [表 3] R.A. 減り Reduction of Area, Y.R.: 降伏比 Yield Ratio, [表 4] A: 合格 Acceptable, [表 5] P: 製造分析 Product Analysis, [表 6] P: 製造分析 Product Analysis
 [表 7] N: 焼正 Normalized, Q: 焼入れ Quenched, T: 焼戻し Tempered, C.R.: Controlled Rolled, N.T.C.: NIT Process/TMC Process, C.L.C.: CLC Process/TMC Process, A.R.: As Rolled, T.M.R.: TMR Process/TMC Process, N.R.: Normalizing Rolled
 S.H.: 延性破壊 Shear Fracture, C.F.: 脆性破壊 Brittle Fracture, A.G.S.: オーガナイト処理 Austenite Grain Size, F.G.S.: フェライト処理 Ferrite Grain Size, S.R.: Stress Relieved Post Weld Heat Treatment

上記注文品は御指定の規格または仕様に従って製造され、その要求事項を満足していることを証明します。

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN
 MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi
 近洋製鐵所 品質管理グループ
 GROUP MANAGER
 PLATE QUALITY CONTROL DEPT.
 NIPPON STEEL WORKS



[illegible]

新日本製鐵株式會社
Nippon Steel Corporation

鋼材検査証明書
INSPECTION CERTIFICATE

证明者番号 : P-37187 PAGE 84

發行年月日 : 2008-11-14

(AS PER EN 10204 CERTIFICATE ON MATERIAL TESTS 3.1)

需要家 : EDMONTON EXCHANGER GROUP OF C-
需要家 : CUSTOMER NEEDS
需要家 : CUSTOMERS
需要家 : CUSTOMERS CONTROL No.

E3001P05Q1 E07

CUSTOMER'S CONTROL NO.

Customer Dynamics

..

DOCUMENT NO.

寸 法

14

2.25"X97"X480"

1

13476

KG

CAST No.

TEST No.

G0541

41728

TESTED-PL

873031401

ICH

55

76

38

0.2%

YS

TS

伸び

%

KSI

引張試験

TENSILE TEST

2V - 50F

FT, LB

平均値

最大値

AVG

EACH

衝撃試験

IMPACT TEST

化学成分

CHEMICAL COMPOSITION %

C

SI

Mn

P

S

CH

Ni

Cr

Mo

Nb

V

LA

CP

15

38

145

8

2

2

2

2

0

9

1

0

013

035

40

915

38

144

7

2

2

2

2

0

14

1

0

013

035

40

915

38

145

8

2

2

2

2

0

9

1

0

013

035

40

915

38

144

7

2

2

2

2

0

14

1

0

013

035

40

3741889926

TOTAL

HEAT TREATMENT.

PLATE & TEST SPECIMEN NORMALIZING : 910CX 10MIN.

CHARPY IMPACT TEST TEMPERATURE(SI):- 45C

LADLE CEQ1 = C+Mn/6+(N+H+Cu)/15+(Cr+Mo+V)/5

PRODUCT CEQ1 = C+Mn/6+(N+H+Cu)/15+(Cr+Mo+V)/5

LADLE TE1 = Cu+Ni+Cr+Mo

LADLE TE3 = C+Mn+Cr+Mo

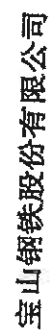
	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	16	17	18	19	20	21	22	23	24	25	26	27	28	29	30	31	32	33	34	35	36	37	38	39	40	41	42	43	44	45	46	47	48	49	50	51	52	53	54	55	56	57	58	59	60	61	62	63	64	65	66	67	68	69	70	71	72	73	74	75	76	77	78	79	80	81	82	83	84	85	86	87	88	89	90	91	92	93	94	95	96	97	98	99	100	

[illegible][illegible]

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN MADE IN ACCORDANCE WITH THE RULES OF THE CONTRACT.

J. Adachi
 専務取締役 厚板管理グループディレクター
 GROUP MANAGER
 PLATE QUALITY CONTROL DEPT.
 KIMITSU WORKS

川區區分：厚板



上海市宝山区同济路1800号 邮编201900
1800 TONGJI ROAD, BAOSHAN DISTRICT
201900 SHANGHAI, P.R. CHINA

1000

CUSTOMER		BAOSTEEL AMERICA INC		PRODUCT		HOT ROLLED STEEL PLATES	
SPECIFICATION		ASME SA-516/SA-516M-2007 SA516GR70 WT LTUT SA578-B		合同号		J128409	
NO		PLATE NO.		HEAT NO.		INCHES	
THICK		WIDTH		LENGTH		QTY	
MASS (KG)		分 析 成 分		C		Si	
Mn		P		S		Sn	
Cu		Cr		Ni		Mo	
V		Ti		Nb		B	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S		P		Mn	
C		Si		Mn		P	
S		Sn		Nb		B	
V		Ti		Mo		N	
N		S					

产品质量证明数据

④ 宝山钢铁股份有限公司

宝山钢铁股份有限公司 产品质量证明数据
BAOSHAN IRON&STEEL CO.,LTD. INSPECTION CERTIFICATE DATA

上海市宝山区同济路1800号 邮编201900
1800 TONGJI ROAD, BAOSHAN DISTRICT
201900 SHANGHAI, P.R. CHINA

Issuing Date: 2008/11/19

[illegible]



宝山钢铁股份有限公司 产品质量证明数据
BAOSHAN IRON&STEEL CO.,LTD. INSPECTION CERTIFICATE DATA

上海市宝山区同济路1800号 邮编201900
1800 TONGJI ROAD, BAOSHAN DISTRICT
201900 SHANGHAI P.R. CHINA

订货单位	BAOSTEEL AMERICA INC		产品名称		HOT ROLLED STEEL PLATES	
CUSTOMER			PRODUCT			
标准	ASME SA-516/SA-516M-2007 SA516GR70 MT LTUT SA578-B		合同号		J12B409	
SPECIFICATION	ASTM A516 Gr70-2006		CONTRACT NO.			
NO.	PLATE NO.	HEAT NO.	MATERIAL DESCRIPTION		CHEMICAL COMPOSITION %	
	THICK	WIDTH	LENGTH	INCHES	QTY	MASS (KG)
19	8B06170100	418443	0.75	120.5	480	1
	PLATENORM	ALIZED:1663F4		16mm.		
20	8B06170200	418443	0.75	120.5	480	1
	PLATENORM	ALIZED:1665F4		16mm.		
	Test Lot No:					
TOTAL		20		111620		
REMARKS		VACUUM DEGASS, SULPHIDE SHAPE CONTROLLED. CERTIFICATION:AS EN10204 3.1 ALL DATA ONLY FOR REFERENCE. *1 ANALYSIS: L=LADLE ANALYSIS, UT SA578-B. *EL on size 200mm(8"). PLATE NORMALIZED, TEST SPECIMEN CUT AFTER PLATE NORMALIZED. *2 LOCATION AND ORIENTATION: T=TOP, C=TRANS				





DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		324601-20.12.08	343880-002	1/...
MATERIAL TEST REPORT (MTR)		B01 Product		
A05 Established inspecting body		HOT ROLLED PLATES		
DH	A06 Purchaser	EDMONTON STEEL, EDMON A07.1 No. ED10512-J1010-LG		
	Final receiver	EDMONTON STEEL, EDMON A07.2 No.		
B02/ Steel design.	SA516-70	SA20-S5		
B03 Any suppl. requirements	ASME-2A:07 DIL-HUE-2:R24-2007-11-20			



15073

A01-A99 Further commercial information - Concession requests

B14 Item No.	B07.2 Heat No.	B16 Rel. plate / Test No.	Concession request no.	Date
01	328250	62313-01	TO/A1195/2008	19.11.08

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62306-01	
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62306-02	
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62306-03	
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62313-01	
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62313-02	
01	1	0,7500 x	172,00000 x	344,00000 x	5708 N	N	328250	62313-03	
**	6				34248				
02	1	0,8750 x	178,00000 x	356,00000 x	7133 N	N	329612	76058-01	
02	1	0,8750 x	178,00000 x	356,00000 x	7133 N	N	329612	76058-02	
02	1	0,8750 x	178,00000 x	356,00000 x	7133 N	N	329614	76032-01	
02	1	0,8750 x	178,00000 x	356,00000 x	7133 N	N	329614	76032-02	
**	4				28532				
***	10				62780				

B04 Product delivery condition

ITEM NO.: 01-02

N: HT: 1670 GR.F +36 -27 GR.F

SOAKING TIME TO ATTAIN THE TARGET TEMPERATURE OVER THE WHOLE SECTION: 1-1,75 MIN/NM (25-45 MIN/INCH)

COOLING IN STILL AIR

A04 201702/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001

Signature

B. MUELLER

Test House Manager

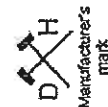
AHB

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Inspector's stamp

Date 22.12.08

KW 1





DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A09 Manufacturer's order/ Certificate No.		Sheet	
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		324601-20.12.08		343880-002		2/...	
MATERIAL TEST REPORT (MTR)				B01 Product			
A05 Established inspecting body		A06 Purchaser		A07.1 No.		A07.2 No.	
DIL		EDMONTON STEEL, EDMON		EDMONTON STEEL, EDMON		HOT ROLLED PLATES	
B02 Steel design		SA516-70		SA20-S5			
B03 Any suppl. requirements		ASME-2A:07		DIL-HUE-2:R24-2007-11-20			
B06 Marking of the product							
ITEM NO.: 01-02							
STEEL DESIGNATION SA516 70 MTLV SA516 60 MTLV							
HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP							
C10-C29 Tensile test							
B14 Item No.	B07.2 Heat No.	B05 Rel.plate/ Test No.	B05 Reference (heat) treatment	C01 C02/ C03 C01	C03 Temp. GRF	C10 C11 KSF RP02	C12 C13 RM
01	328250	62306	K1 Q	RT	48,1	72,5	40,7
01	328250	62313	K1 Q	RT	48,4	73,4	28,9
02	329612	76058	K1 Q	RT	48,9	74,7	28,4
02	329614	76032	K1 Q	RT	44,7	72,8	27,0
C30-C39 Hardness test							
B14 Item No.	B07.2 Heat No.	B05 Rel.plate/ Test No.	B05 Reference (heat) treatment	C01 C02/ C03 C01	C03 Temp. GRF	C30 C31	C32 Mean value
01	328250	62306	K1 Q	RT	140	140	140
01	328250	62313	K1 Q	RT	136	137	137
02	329612	76058	K1 Q	RT	150	147	148
02	329614	76032	K1 Q	RT	143	142	142
C40-C49 Impact test							
B14 Item No.	B07.2 Heat No.	B05 Rel.plate/ Test No.	B05 Reference (heat) treatment	C01 C02/ C03 C01	C03 Temp. GRF	C40 C41	C42 C43
01	328250	62306	K1 Q	RT	-51	128	110
01	328250	62313	K1 Q	RT	-51	96	101
02	329612	76058	K1 Q	RT	-51	158	134

 B. MUELLER
 Test House Manager

 AG der Dillinger Hüttenwerke
 Postfach 1580, D-66748 Dillingen/Saar
 Inspection department

Inspector's stamp Date 22.12.08 KW 1

QM-System: Certification as per ISO 9001

Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.



A04



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		324601-20.12.08	343880-002	3/...
MATERIAL TEST REPORT (MTR)		901 Product HOT ROLLED PLATES		
A05 Established inspecting body DH	A06 Purchaser EDMONTON STEEL, EDMON EDMONTON STEEL, EDMON	A07.1 No. ED10512-J1010-LG		
A07 Steel design. SA516-70	Final receiver EDMONTON STEEL, EDMON	A07.2 No. SA20-S5		
B03 Any suppl. requirements	ASME-2A:07 DIL-HUE-2:R24-2007-11-20			

C40-C49 Impact test

B14 Item No.	B07.1 Heat No.	B05 Reference (heat) treatment	C01 C02 C03 C04	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy	C45 AV	C42 Individual values AV=FTLEF	C43 Mean value
02	329614	76032	KL LV -51		CHP-V			AV	91 75	86

C70-C99 Chemical composition % - Heat analysis

B07.2 Heat No.	C70	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NB	SN	TH
328250	Y	0,185	0,228	1,10	0,012	0,0011	0,0048	0,026	0,009	0,029	0,049	0,002	0,000	0,001	0,003
329612	Y	0,176	0,363	1,17	0,008	0,0008	0,0075	0,054	0,030	0,043	0,047	0,000	0,000	0,004	0,003
329614	Y	0,177	0,367	1,16	0,009	0,0007	0,0071	0,031	0,013	0,039	0,040	0,001	0,000	0,001	0,002

B07.2 Heat No.	C70	B	CA	AL-T
328250	Y	0,0000	0,0012	0,032
329612	Y	0,0002	0,0018	0,034
329614	Y	0,0002	0,0022	0,040

C94 Heat analysis Carbon equivalent / Alloying restrictions

B07.2 Heat No.	FO-02=	FO-55=	FO-78=	FO-91=
328250	0,38	0,11	0,06	5,9
329612	0,39	0,17	0,08	6,6
329614	0,39	0,12	0,05	6,6

C95 Ladle treatment

ITEM NO.: 01-02	HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL
-----------------	--

A04	201702Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	AGB	Inspector's stamp Date 22.12.08	KW 1
QM-System: Certification as per ISO 9001		B. MUELLER Test House Manager			



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474-1:1991

MATERIAL TEST REPORT (MTR)

A05 Established inspecting body DH A06 Purchaser EDMONTON STEEL EDMON A07.1 No. ED10512-J1010-1G A07.2 No. EDMONTON STEEL EDMON
Final receiver

B02 Steel design SA516-70
B03 Any suppl. ASME-2A:07
requirements DIL-HUE-2-R24-2007-11-20

SA20-S5

SA20-S5

C70-C99 Chemical composition % - Product analysis

Heat	Test No.	C	Si	Mn	P	S	N	Cu	Mo	Ni	CR	V	NB	SN	Ti
328250	62313	0,181	0,218	1,08	0,012	0,0010	0,0037	0,028	0,007	0,026	0,045	0,001	0,000	0,000	0,003
329612	76050	0,168	0,350	1,13	0,007	0,0008	0,0082	0,053	0,031	0,041	0,047	0,000	0,000	0,002	0,003
329614	76032	0,170	0,365	1,14	0,009	0,0006	0,0070	0,027	0,011	0,038	0,039	0,000	0,000	0,000	0,002

C94 Product analysis Carbon equivalent / Alloying restrictions

Heat	Test No.	FO-02	FO-55
328250	62313	0,38	0,11
329612	76050	0,38	0,17
329614	76032	0,37	0,12

C94 Carbon equivalent formula / Alloying restrictions

FO-02 = $C + (Mn/6) + (CR+MO+V)/5 + (Ni+Cu)/15$
FO-55 = $CU+MO+NI+CR$
FO-78 = $CR+MO$
FO-91 = MN/C

A04 201202203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

B. MOELLER
Test House Manager

Inspector's stamp Date 22.12.08 KW 1



DILLINGER HÜTTE

Erklärungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ A03 Certificate No.		Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		324601-20.12.08		343880-002		5
MATERIAL TEST REPORT (MTR)				B01 Product		
A05 Established inspecting body		A06 Purchaser		EDMONTON STEEL, EDMON		
DH		Final receiver		EDMONTON STEEL, EDMON		
B02 Steel design.		SA516-70		A07.1 No. ED10512-J1010-IG		
B03 Any suppl.		ASME-2A:07		A07.2 No.		
requirements		DIL-HUE-2:R24-2007-11-20		SA20-S5		

D01 Marking and identification, surface appearance, shape and dimensional properties

ITEM NO.: 01-02

RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS

SURFACE AS PER ASME-SA20

THICKNESS AS PER ASME-SA20

LENGTH AND WIDTH AS PER ASME-SA20

FLATNESS AS PER 1/2-ASME-SA20



A04



Manufacturer's
mark

Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



B. Mueller

B. MUELLER
Test House Manager

Inspector's stamp

Date 22.12.08

KW 1

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	1/...
MATERIAL TEST REPORT (MTR)		B01 Product		
A05 Established inspecting body	A06 Purchaser	HOT ROLLED PLATES		
DH	Final receiver			
EDMONTON STEEL, EDMONTON				
EDMONTON STEEL, EDMONTON				
SA20-S5				
B02/ Steel design. SA516-70				
B03 Any suppl. requirements				
ASME-II-A:07+A09				
DIL-HDE-2-R30-2010-01-31				



15711

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
			INCH		KG				
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	348840	11315-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350041	63961-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350041	63961-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17648-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17648-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17648-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17724-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17724-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	17724-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	20921-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	20921-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	20921-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21295-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21295-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21295-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21306-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21306-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21322-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21322-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350399	21322-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350405	39539-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350405	39539-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650	N	350405	39694-02	

A04	Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Inspector's stamp Date 17.09.10	EM
	QM-System: Certification as per ISO 9001			
	Manufacturer's mark	B. BALDAUF Test House Manager		



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004 INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991 MATERIAL TEST REPORT (MTR)		A10 Advice of dispatch No./ Date of dispatch 369429-17.09.10	A08 Manufacturer's order/ A05 Certificate No. 357359-002	Sheet 2/...
A09 Established inspecting body DH	A06 Purchaser Final receiver	A07.1 No. ED10551-J1010-ER A07.2 No. SA20-SS		
B02/ Steel design. SA516-70				
B03 Any suppl. requirements DIL-HUB-2:R30-2010-01-31				

B01-B99 Description of the product.

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass KG	B14 Product condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39694-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39715-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39774-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39774-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39774-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39799-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39799-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39799-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39959-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39959-02	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39959-03	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39965-01	
01	1	0,6250 x	120,50000 x	480,00000 x	4650 N	N	350405	39965-02	
**	36				167400				
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15513-01	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15513-02	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15513-03	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15526-01	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15526-02	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15526-03	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15608-01	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15610-01	
02	1	0,7500 x	120,50000 x	480,00000 x	5580 N	N	350401	15610-02	

A04	 2017/02/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order. QM-System: Certification as per ISO 9001	 B. BALDAUF Test House Manager	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Inspector's stamp Date 17.09.10	BM 1
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DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ A03 Certificate No.		Sheet	
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		359429-17.09.10		357359-002		3/...	
MATERIAL TEST REPORT (MTR)				B01 Product			
A05 Established inspecting body		A06 Purchaser		A07.1 No. ED10551-J1010-ER			
DA		Final receiver		EDMONTON STEEL, EDMON		HOT ROLLED PLATES	
				EDMONTON STEEL, EDMON			
B02/ Steel design.		SA516-70		SA20-S5			
B03 Any suppl.		ASME-II-A:07+A09					
requirements		DIL-HUE-2:R30-2010-01-31					

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width INCH	B11 Length	B12 Theoretical mass KG	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15610-03	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15626-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15626-02	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15645-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15645-02	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350401	15645-03	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350402	15169-03	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350402	15399-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350402	15399-02	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350402	15399-03	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39714-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39946-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39946-02	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39946-03	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39963-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	39963-02	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	40537-01	
02	1	0,7500 X	120,50000 X	480,00000 X	5580 N	N	350405	40537-02	
**	27				150660				
03	1	0,7500 X	150,00000 X	480,00000 X	6946	N	350403	13199-01	
03	1	0,7500 X	150,00000 X	480,00000 X	6946	N	350403	13199-02	
03	1	0,7500 X	150,00000 X	480,00000 X	6946	N	350403	13199-03	
03	1	0,7500 X	150,00000 X	480,00000 X	6946	N	350403	13308-01	

201/202/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



A04		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department		A01	
B. BALDAUF Test House Manager		APB		Inspector's stamp	
				Date 17.09.10	
				BM 1	



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004

INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

MATERIAL TEST REPORT (MTR)

A03 Established inspecting body		A08 Purchaser	EDMONTON STEEL, EDMON	A07.1 No.	ED10551-J1010-ER	A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Shoot
DH		Final receiver	EDMONTON STEEL, EDMON	A07.2 No.				

357359-002

B01 Product

HOT ROLLED PLATES

369429-17.09.10

4/...

B02/ Steel design. SA516-70

B03 Any suppl. ASME-II-A:07+A09

requirements DIL-HUE-2:R30-2010-01-31

SA20-S5

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass KG	B04 Product condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
			INCH						
03	1	0,7500 x	150,00000 x	480,00000 x	6946 N		350403	13308-02	
03	1	0,7500 x	150,00000 x	480,00000 x	6946 N		350403	13308-03	
**	6				41676				
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11964-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11964-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11964-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11979-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11979-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	11979-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12013-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12013-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12013-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12280-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12280-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12638-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12638-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350403	12638-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350404	11955-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350404	11955-02	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350404	11955-03	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350405	05031-01	
04	1	0,8750 x	120,50000 x	480,00000 x	6510 N		350405	05031-02	
**	19				123690				

Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



Manufacturer's mark

B. Baldauf

B. BALDAUF
Test House Manager



AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Inspector's stamp Date 17.09.10

BM I



DILLINGER HÜTTE

Erfahrungen siehe Rückseite/Expériences voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08 Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	5/...
MATERIAL TEST REPORT (MTR)		B01 Product HOT ROLLED PLATES		
A05 Established inspecting body DH	A06 Purchaser EDMONTON STEEL, EDMON	A07.1 No. ED10551-J1010-ER		
	Final receiver EDMONTON STEEL, EDMON	A07.2 No.		
B02/ Steel design SA516-70	SA20-S5			
B03 Any suppl. requirements	ASME-II-A: 07+A09 DIL-HUB-2: R30-2010-01-31			

B01-B99 Description of the product

B14 Item No.	B08 Number of pieces	B03 Thickness	B10 Width	B11 Length	B12 Theoretical mass	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchase article number
			INCH		KG				
05	1	0,8750 x	150,0000 x	480,0000 x	8104 N	N	350402	14854-01	
05	1	0,8750 x	150,0000 x	480,0000 x	8104 N	N	350402	14854-02	
**	2				16208				
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06356-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06356-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06357-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06357-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06357-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06943-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06943-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	06943-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07812-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07812-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07812-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07813-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07813-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	07813-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	10672-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	10672-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	10672-03	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	11097-01	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	11097-02	
07	1	1,0000 x	96,5000 x	480,0000 x	5959 N	N	350404	11097-03	

A04	Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Inspector's stamp Date 17.09.10	BM 1
	QM-System: Certification as per ISO 9001			
	Manufacturer's mark	B. BALDAUF Test House Manager		



DILLINGER HÜTTE

Erklärungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A01 Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	6/...
MATERIAL TEST REPORT (MTR)			B01 Product	
A05 Established inspecting body			HOT ROLLED PLATES	
DH				
A06 Purchaser				
Final receiver				
EDMONTON STEEL, EDMON		A07.1 No.	ED10551-J1010-ER	
EDMONTON STEEL, EDMON		A07.2 No.		
SA20-S5				
B02/ Steel design.		SA516-70		
B03 Any suppl.		ASME-II-A: 07+A09		
requirements		DIL-HUE-2:R30-2010-01-31		

B01-B99 Description of the product

B14 Item No.	B09 Number of pieces	B09 Thickness	B10 Width	B11 Length	B12 Theoretical mass KG	B04 Product delivery condition	B07.2 Heat No.	B07.1 Rolled plate No./ Test No.	A09 Purchaser article number
			INCH						
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05063-01	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05063-02	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05063-03	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05064-01	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05064-02	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05064-03	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05065-01	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05065-02	
07	1	1,0000 X	96,50000 X	480,00000	5959	N	350405	05065-03	
**	29				172811				
***	119				672445				

B04 Product delivery condition

ITEM NO.: 01-05,07-08
N: HT: 1670 GR.F +36 -27 GR.F
SOAKING TIME TO ATTAIN THE TARGET TEMPERATURE OVER THE WHOLE SECTION: 1-1,75 MIN/NM (25-45 MIN/INCH)
COOLING IN STILL AIR

B06 Marking of the product

ITEM NO.: 01-05,07-08
STEEL DESIGNATION SA516 70 MLTY SA516 60 MLTY
HEAT NO. / TRADEMARK / ROLLED PLATE NO.-TEST NO. / INSPECTOR'S STAMP

A04	Z01/2020203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
QM-System: Certification as per ISO 9001		B. BALDAUF Test House Manager	Inspector's stamp Date 17.09.10	BM 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08 Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + A5 PER ISO 10474:1991		369429-17.09.10	357359-002	7/...
MATERIAL TEST REPORT (MTR)				
A05 Established inspecting body	A06 Purchaser	A07.1 No. ED10551-J1010-ER		
DE	Final receiver	A07.2 No.		
B02/ Steel design. SA516-70		SA20-S5		
B03 Any suppl. ASME-II-A:07+A09				
requirements DIL-HUE-2:R30-2010-01-31				

B07-B99 Further information about the product

ITEM NO.: 01-05,07-08

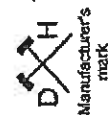
THICKNESS REDUCTION RATIO $\geq 3,0$ IS FULFILLED (CF. A/SA20 PAR. 5.3)

C10-C29 Tensile test

B14 B07.2: Item Heat No.	B07.1: Rol./plate/ Test No.	B05: Reference (heat) treatment	C01 C02/ C03 C01 Temp. GRF	C10 C11 KSI RP02	C12 RM	C13 A % L0-BN	C14-C15
01 348840	11345	K1 Q	RT	51,3	77,6	27	
01 350041	63961	K1 Q	RT	47,9	73,1	29	
01 350399	17648	K1 Q	RT	51,3	76,6	27	
01 350399	17724	K1 Q	RT	50,5	76,3	28	
01 350399	20921	K1 Q	RT	49,9	75,7	25	
01 350399	21295	K1 Q	RT	50,8	76,4	26	
01 350399	21306	K1 Q	RT	50,5	75,8	26	
01 350399	21322	K1 Q	RT	50,3	76,3	28	
01 350405	39539	K1 Q	RT	50,9	75,8	29	
01 350405	39694	K1 Q	RT	50,5	75,0	28	
01 350405	39715	K1 Q	RT	50,2	75,4	31	
01 350405	39774	K1 Q	RT	49,7	75,3	27	
01 350405	39799	K1 Q	RT	49,6	75,0	28	
01 350405	39959	K1 Q	RT	50,3	75,8	28	
01 350405	39965	K1 Q	RT	48,7	74,7	28	
02 350401	15513	K1 Q	RT	46,7	73,7	27	
02 350401	15526	K1 Q	RT	48,3	73,5	28	
02 350401	15608	K1 Q	RT	49,0	74,2	26	
02 350401	15610	K1 Q	RT	46,7	73,5	30	
02 350401	15626	K1 Q	RT	49,2	74,2	28	

A04 Z01/Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



A01 AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

AHB
B. BALDAUF
Test House Manager
Inspector's stamp
Date 17.09.10
BM 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004

INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

MATERIAL TEST REPORT (MTR)

A05 Established inspecting body

A06 Purchaser

First receiver

EDMONTON STEEL, EDMON

EDMONTON STEEL, EDMON

B02 Steel design

SA516-70

B03 Any suppl.

ASME-II-A:07+A09

DIL-HUE-2:R30-2010-01-31

A07.1 No. ED10551-J1010-ER

A07.2 No.

SA20-SS

A10 Advice of dispatch No./
Date of dispatch

369429-17.09.10

A08/ Manufacturer's order/
A03 Certificate No.

357359-002

B01 Product

HOT ROLLED PLATES

Sheet

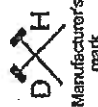
8 / ...

C10-C29 Tensile test

B14 B07.2 Item Heat No.	B07.1 Rol./plate/ Test No.	B05 Reference (heat) treatment	C01 K1 Q	C02 K1 Q	C03 Temp. GRF	C10 KSI RP02	C11 KSI RP02	C12 RM	C13 A % Loss	C14C15
02 350401.15645			K1 Q	RT	RT	48,9	74,0	29		
02 350402.15169			K1 Q	RT	RT	49,2	75,1	28		
02 350402.15399			K1 Q	RT	RT	50,5	75,3	28		
02 350405.39714			K1 Q	RT	RT	49,6	75,3	26		
02 350405.39946			K1 Q	RT	RT	49,0	75,4	28		
02 350405.39963			K1 Q	RT	RT	48,6	74,5	27		
02 350405.40537			K1 Q	RT	RT	46,5	73,7	27		
03 350403.13199			K1 Q	RT	RT	50,0	75,5	27		
03 350403.13308			K1 Q	RT	RT	49,3	75,3	26		
04 350403.11964			K1 Q	RT	RT	49,9	74,1	30		
04 350403.11979			K1 Q	RT	RT	49,2	74,7	29		
04 350403.12013			K1 Q	RT	RT	49,0	74,0	27		
04 350403.12280			K1 Q	RT	RT	49,9	74,1	29		
04 350403.12638			K1 Q	RT	RT	50,0	74,5	28		
04 350404.11955			K1 Q	RT	RT	49,6	74,7	29		
04 350405.05031			K1 Q	RT	RT	48,9	74,8	30		
05 350402.14854			K1 Q	RT	RT	49,7	75,1	27		
07 350404.06356			K1 Q	RT	RT	49,3	75,0	28		
07 350404.06357			K1 Q	RT	RT	50,0	74,1	29		
07 350404.06943			K1 Q	RT	RT	49,7	74,1	30		
07 350404.07812			K1 Q	RT	RT	49,6	74,4	30		
07 350404.07813			K1 Q	RT	RT	50,3	74,0	30		
07 350404.10672			K1 Q	RT	RT	50,2	74,2	30		

A04 Z01702Z003 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



B. Baldauf

Test House Manager



Inspector's stamp

Date 17.09.10

BM 1

AG der Dillinger Hüttenwerke
Postfach 1530, D-66748 Dillingen/Saar
Inspection department

A01



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	9/...
MATERIAL TEST REPORT (MTR)			801 Product	
A05 Established inspecting body DH	A06 Purchaser EDMONTON STEEL, EDMON	A07.1 No. ED10551-J1010-ER	HOT ROLLED PLATES	
B02/ Steel design. SA516-70	Final receiver EDMONTON STEEL, EDMON	A07.2 No.		
B03 Any suppl. requirements	SA20-S5			
DIL-HUE-2:R30-2010-01-31				

C10-C29 Tensile test

B04 Item No.	B07.1 Heat No.	B05 Reference (heat) treatment	C01 C02 C03 C10 C11	C12	C13	A %	C14-C15
			Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF
07 350404	11097	K1 Q	RT	RT	RT	RT	RT
07 350405	05063	K1 Q	RT	RT	RT	RT	RT
07 350405	05064	K1 Q	RT	RT	RT	RT	RT
07 350405	05065	K1 Q	RT	RT	RT	RT	RT

C30-C39 Hardness test

B04 Item No.	B07.2 Heat No.	B05 Reference (heat) treatment	C01 C02 C03	C10 C11	C12	C13	C30	C31	C32
			Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF	Temp. GRF
01 348840	11315	K1	RT	RT	RT	RT	RT	RT	RT
01 350041	63961	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	17648	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	17724	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	20921	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	21295	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	21306	K1	RT	RT	RT	RT	RT	RT	RT
01 350399	21322	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39539	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39694	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39715	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39774	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39799	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39959	K1	RT	RT	RT	RT	RT	RT	RT
01 350405	39965	K1	RT	RT	RT	RT	RT	RT	RT
02 350401	15513	K1	RT	RT	RT	RT	RT	RT	RT

A04	201022Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		AG der Dillinger Hüttenwerke	A01
QM-System: Certification as per ISO 9001			Postfach 1580, D-66748 Dillingen/Saar	
Inspector's stamp		Date	17.09.10	BM
Test House Manager				



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004

INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991

MATERIAL TEST REPORT (MTR)

A10 Advice of dispatch No./
Date of dispatch
369429-17.09.10

A08/ Manufacturer's order/
A03 Certificate No.
357359-002

Sheet
10/...

A05 Established inspecting body A06 Purchaser EDMONTON STEEL, EDMONT A07.1 No. ED10551-J1010-ER

DH Final receiver EDMONTON STEEL, EDMONT A07.2 No.

B07 Steel design SA516-70

B03 Any suppl. ASME-II-A:07+A09

requirements DIL-HUB-2:R30-2010-01-31

SA20-S5

C30-C39 Hardness test

B14 Item No.	B07.2 Heat No.	B07.1 Test No.	B05 Reference (heat) treatment	C01	C02/C01	C03 Temp. GRF	C30 Method of test	C35 Individual values	C32 Mean value
02	350401	15526		KL	O	RT	HBW 10/3000	HB 142	141
02	350401	15608		KL	O	RT	HBW 10/3000	HB 141	140
02	350401	15610		KL	O	RT	HBW 10/3000	HB 142	141
02	350401	15626		KL	O	RT	HBW 10/3000	HB 138	139
02	350401	15645		KL	O	RT	HBW 10/3000	HB 139	138
02	350402	15169		KL	O	RT	HBW 10/3000	HB 141	141
02	350402	15399		KL	O	RT	HBW 10/3000	HB 146	145
02	350405	39714		KL	O	RT	HBW 10/3000	HB 144	144
02	350405	39946		KL	O	RT	HBW 10/3000	HB 145	145
02	350405	39963		KL	O	RT	HBW 10/3000	HB 142	142
02	350405	40537		KL	O	RT	HBW 10/3000	HB 141	141
03	350403	13199		KL	O	RT	HBW 10/3000	HB 143	143
03	350403	13308		KL	O	RT	HBW 10/3000	HB 142	142
04	350403	11964		KL	O	RT	HBW 10/3000	HB 142	142
04	350403	11979		KL	O	RT	HBW 10/3000	HB 142	142
04	350403	12013		KL	O	RT	HBW 10/3000	HB 143	143
04	350403	12280		KL	O	RT	HBW 10/3000	HB 142	142
04	350403	12638		KL	O	RT	HBW 10/3000	HB 141	141
04	350404	11955		KL	O	RT	HBW 10/3000	HB 141	141
04	350405	05031		KL	O	RT	HBW 10/3000	HB 144	145
05	350402	14854		KL	O	RT	HBW 10/3000	HB 148	146
07	350404	06356		KL	O	RT	HBW 10/3000	HB 142	142
07	350404	06357		KL	O	RT	HBW 10/3000	HB 139	139
07	350404	06943		KL	O	RT	HBW 10/3000	HB 142	142

2012/202/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



B. BALDAUF
Test House Manager

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

Inspector's stamp
Date 17.09.10

BM 1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A09 Manufacturer's order/ A03 Certificate No.		Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		A10 Advice of dispatch No/ Date of dispatch		11/...
MATERIAL TEST REPORT (MTR)		369429-17.09.10		
A05 Established inspecting body		357359-002		
A06 Purchaser		901 Product		
Final receiver		HOT ROLLED PLATES		
EDMONTON STEEL, EDMON		A07.1 No. ED10551-J1010-ER		
EDMONTON STEEL, EDMON		A07.2 No.		
SA20-S5				
B02/ Steel design. SAS16-70				
B03 Any suppl. ASME-II-A:07+A09				
requirements DIL-HUB-2:R30-2010-01-31				

C30-C39 Hardness test

B14 Item No.	B07.2 Heat No.	B07.1 Roll plate/ Test No.	B05 Reference (heat) treatment	C04 C02/C01	C03 Temp. GR.F	C30 Method of test	C35 C31 Individual values	C32 Mean value
07	350404	07812		K1 O	RT	HBW 10/3000	HB 145 145 144	145
07	350404	07813		K1 O	RT	HBW 10/3000	HB 144 145 144	144
07	350404	10672		K1 O	RT	HBW 10/3000	HB 146 144 143	144
07	350404	11097		K1 O	RT	HBW 10/3000	HB 144 144 144	144
07	350405	05063		K1 O	RT	HBW 10/3000	HB 146 147 146	146
07	350405	05064		K1 O	RT	HBW 10/3000	HB 144 144 144	144
07	350405	05065		K1 O	RT	HBW 10/3000	HB 144 144 144	144

C40-C49 Impact test

B14 Item No.	B07.2 Heat No.	B07.1 Roll plate/ Test No.	B05 Reference (heat) treatment	C04 C02/C01	C03 Temp. GR.F	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C45 Energy	C42 Individual values AV=FT.LBF	C43 Mean value
01	348840	11315		K1 LV	-51	-51	CHP-V	CHP-V	AV 101	123	121
01	350041	63961		K1 LV	-51	-51	CHP-V	CHP-V	AV 208	195	195
01	350399	17648		K1 LV	-51	-51	CHP-V	CHP-V	AV 193	125	143
01	350399	17724		K1 LV	-51	-51	CHP-V	CHP-V	AV 117	181	149
01	350399	20921		K1 LV	-51	-51	CHP-V	CHP-V	AV 124	120	135
01	350399	21295		K1 LV	-51	-51	CHP-V	CHP-V	AV 119	119	145
01	350399	21306		K1 LV	-51	-51	CHP-V	CHP-V	AV 141	209	161
01	350399	21322		K1 LV	-51	-51	CHP-V	CHP-V	AV 122	197	171
01	350405	39539		K1 LV	-51	-51	CHP-V	CHP-V	AV 184	196	192
01	350405	39694		K1 LV	-51	-51	CHP-V	CHP-V	AV 208	187	179
01	350405	39715		K1 LV	-51	-51	CHP-V	CHP-V	AV 104	194	150
01	350405	39774		K1 LV	-51	-51	CHP-V	CHP-V	AV 119	198	152
01	350405	39799		K1 LV	-51	-51	CHP-V	CHP-V	AV 129	162	163
01	350405	39959		K1 LV	-51	-51	CHP-V	CHP-V	AV 198	206	185

A04 Z01Z02Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001



B. BALDAUF
Test House Manager

Inspector's stamp

Date 17.09.10

BM 1

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08 Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	12/...

MATERIAL TEST REPORT (MTR)		B01 Product		
A05 Established inspecting body		HOT ROLLED PLATES		
DE	Final receiver			

B02 Steel design SA516-70		A07.1 No. ED10551-J1010-ER		
B03 Any suppl. requirements		A07.2 No.		
ASME-II-A: 07+A09		SA20-S5		
DIL-HUE-2: R30-2010-01-31				

C40-C49 Impact test												
B14 Item No.	B07.2 Heat No.	B07.1 Roll plate/ Test No.	B05 Reference (heat) treatment	C01	C02/ C01	C03 Temp. GRF	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy	C45 Individual values AV-FT.LBF	C43 Mean Value
01	350405	39965		K1	LV	-51	-51	CHP-V			AV 192	147
02	350401	15513		K1	LV	-51	-51	CHP-V			AV 128	150
02	350401	15526		K1	LV	-51	-51	CHP-V			AV 195	209
02	350401	15608		K1	LV	-51	-51	CHP-V			AV 137	131
02	350401	15610		K1	LV	-51	-51	CHP-V			AV 117	193
02	350401	15626		K1	LV	-51	-51	CHP-V			AV 122	212
02	350401	15645		K1	LV	-51	-51	CHP-V			AV 145	207
02	350402	15169		K1	LV	-51	-51	CHP-V			AV 159	118
02	350402	15399		K1	LV	-51	-51	CHP-V			AV 186	164
02	350405	39714		K1	LV	-51	-51	CHP-V			AV 144	201
02	350405	39946		K1	LV	-51	-51	CHP-V			AV 205	124
02	350405	39963		K1	LV	-51	-51	CHP-V			AV 119	192
02	350405	40537		K1	LV	-51	-51	CHP-V			AV 131	131
03	350403	13199		K1	LV	-51	-51	CHP-V			AV 120	148
03	350403	13308		K1	LV	-51	-51	CHP-V			AV 130	188
04	350403	11964		K1	LV	-51	-51	CHP-V			AV 192	106
04	350403	11979		K1	LV	-51	-51	CHP-V			AV 90	142
04	350403	12013		K1	LV	-51	-51	CHP-V			AV 136	118
04	350403	12280		K1	LV	-51	-51	CHP-V			AV 109	187
04	350403	12638		K1	LV	-51	-51	CHP-V			AV 114	157
04	350404	11955		K1	LV	-51	-51	CHP-V			AV 117	127
04	350405	05031		K1	LV	-51	-51	CHP-V			AV 157	128
05	350402	14854		K1	LV	-51	-51	CHP-V			AV 118	125
07	350404	06356		K1	LV	-51	-51	CHP-V			AV 131	129

A04	201/202/203	We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	Inspector's stamp Date 17.09.10	BM 1
D X H Manufacturer's mark		QM-System: Certification as per ISO 9001		B. BALDAUF Test House Manager		



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A08/ Manufacturer's order/ Certificate No.		Sheet	
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10		357359-002		13/...	
MATERIAL TEST REPORT (MTR)				B01 Product			
A05 Established inspecting body		A06 Purchaser		EDMONTON STEEL, EDMON		A07.1 No. ED10551-J1010-ER	
DH		Final receiver		EDMONTON STEEL, EDMON		A07.2 No.	
B02 Steel design		SA516-70		SA20-S5			
B03 Any suppl. requirements		ASME-II-A:07+A09 DIL-HUE-2-R30-2010-01-31					

C40-C45 impact test

B14 Item No.	B07.2 Heat No.	B07.1 Rol./plate/ Test No.	B05 Reference (heat) treatment	C01	C02/ C01	C03 Temp. GR.F.	C41 Width of test piece	C40 Type of test piece	C44 Testing method	C46 Energy	C45 AV=FT.LBF	C42 individual values	C43 Mean value
07	350404	06357		K1	LV	-51		CHP-V			AV 114	98	122
07	350404	06943		K1	LV	-51		CHP-V			AV 188	108	140
07	350404	07812		K1	LV	-51		CHP-V			AV 190	106	141
07	350404	07813		K1	LV	-51		CHP-V			AV 193	118	147
07	350404	10672		K1	LV	-51		CHP-V			AV 55	153	118
07	350404	11097		K1	LV	-51		CHP-V			AV 150	204	162
07	350405	05063		K1	LV	-51		CHP-V			AV 101	124	116
07	350405	05064		K1	LV	-51		CHP-V			AV 95	146	121
07	350405	05065		K1	LV	-51		CHP-V			AV 88	194	136

C70-C99 Chemical composition % - Heat analysis

B07.2 Heat	C70	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NE	SN	TI
348840	Y	0,184	0,384	1,18	0,010	0,0011	0,0063	0,044	0,010	0,053	0,030	0,001	0,000	0,001	0,003
350041	Y	0,163	0,344	1,19	0,012	0,0009	0,0071	0,037	0,014	0,048	0,045	0,001	0,000	0,001	0,003
350399	Y	0,176	0,376	1,19	0,010	0,0011	0,0075	0,046	0,015	0,055	0,049	0,001	0,000	0,001	0,003
350401	Y	0,170	0,364	1,17	0,008	0,0013	0,0085	0,036	0,011	0,055	0,026	0,001	0,000	0,001	0,002
350402	Y	0,174	0,386	1,18	0,010	0,0012	0,0075	0,037	0,011	0,064	0,027	0,001	0,000	0,001	0,003
350403	Y	0,176	0,373	1,17	0,009	0,0010	0,0063	0,042	0,008	0,063	0,031	0,001	0,000	0,001	0,002
350404	Y	0,174	0,376	1,19	0,009	0,0009	0,0071	0,044	0,008	0,067	0,031	0,000	0,000	0,001	0,002
350405	Y	0,172	0,381	1,19	0,009	0,0010	0,0059	0,040	0,010	0,057	0,035	0,001	0,000	0,001	0,003

A04		2017/02/2023 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order. QMS-System: Certification as per ISO 9001		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
Manufacturer's mark		Inspector's stamp	Date 17.09.10	BM	1



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	14/...
MATERIAL TEST REPORT (MTR)				
A05 Established inspecting body DH	A06 Purchaser Final receiver	B01 Product HOT ROLLED PLATES		
302/ Steel design. SA516-70				
303 Any suppl. requirements		A07.1 No. ED10551-J1010-ER		
DIL-HUE-2:R30-2010-01-31		A07.2 No. SA20-S5		

C70-C99 Chemical composition % - Heat analysis

	C70	B	CA	AL-T
B07.2 Heat				
348840	Y	0,0003	0,0015	0,035
350041	Y	0,0004	0,0015	0,033
350399	Y	0,0002	0,0015	0,035
350401	Y	0,0000	0,0020	0,044
350402	Y	0,0002	0,0013	0,033
350403	Y	0,0001	0,0014	0,034
350404	Y	0,0003	0,0014	0,033
350405	Y	0,0003	0,0014	0,035

C94 Heat analysis Carbon equivalent / Alloying restrictions

B07.2 Heat	FO-02=	0,40	FO-51=	0,001	FO-55=	0,14	FO-78=	0,04	FO-91=	6,4
348840	FO-02=	0,38	FO-51=	0,001	FO-55=	0,14	FO-78=	0,06	FO-91=	7,3
350041	FO-02=	0,39	FO-51=	0,001	FO-55=	0,17	FO-78=	0,06	FO-91=	6,8
350399	FO-02=	0,38	FO-51=	0,001	FO-55=	0,13	FO-78=	0,04	FO-91=	6,9
350401	FO-02=	0,39	FO-51=	0,001	FO-55=	0,14	FO-78=	0,04	FO-91=	6,8
350402	FO-02=	0,38	FO-51=	0,001	FO-55=	0,14	FO-78=	0,04	FO-91=	6,9
350403	FO-02=	0,39	FO-51=	0,000	FO-55=	0,15	FO-78=	0,04	FO-91=	6,8
350404	FO-02=	0,39	FO-51=	0,001	FO-55=	0,14	FO-78=	0,05	FO-91=	6,9

C95 Ladle treatment

ITEM NO.: 01-05,07-08
HEAT OF THE INDICATED ITEM: VACUUM DEGASSED / SULPHIDE SHAPE CONTROL

A04		201/202/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.	AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
QM-System: Certification as per ISO 9001			Inspector's stamp B. BALDAUF Test House Manager	BM 1
			Date 17.09.10	



DILLINGER HÜTTE

Erklärung: siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch	A08/ Manufacturer's order/ A03 Certificate No.	Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10	357359-002	15/...
MATERIAL TEST REPORT (MTR)		B01 Product		
A05 Established inspecting body		HOT ROLLED PLATES		
DH	Final receiver			
EDMONTON STEEL, EDMON		A07.1 No. ED10551-J1010-ER		
EDMONTON STEEL, EDMON		A07.2 No.		
SA20-S5				
B02 Steel design	SA516-70			
B03 Any suppl.	ASME-II-A:07+A09			
requirements	DIL-HUE-2-R30-2010-01-31			

C95 Further information about ladle treatment

ITEM NO.: 01-05,07-08

CALCIUM TREATED

C70-C99 Chemical composition % - Product analysis

B07.2 Heat	B07.1 Test No.	C01	C	SI	MN	P	S	N	CU	MO	NI	CR	V	NE	SN	Ti
348840	11315	K1	0,187	0,376	1,17	0,009	0,0012	0,0059	0,040	0,012	0,052	0,034	0,000	0,001	0,001	0,003
350041	63959	K1	0,157	0,335	1,16	0,010	0,0011	0,0071	0,035	0,014	0,048	0,045	0,002	0,000	0,001	0,003
350041	63961	K1	0,157	0,340	1,16	0,011	0,0010	0,0074	0,036	0,013	0,047	0,045	0,002	0,000	0,001	0,003
350399	21322	K1	0,175	0,367	1,17	0,009	0,0012	0,0072	0,046	0,015	0,055	0,042	0,000	0,000	0,001	0,003
350401	15808	K1	0,165	0,361	1,16	0,008	0,0015	0,0079	0,035	0,010	0,054	0,026	0,001	0,000	0,001	0,001
350402	14890	K1	0,168	0,389	1,17	0,010	0,0011	0,0065	0,036	0,011	0,065	0,027	0,001	0,001	0,001	0,003
350402	15169	K1	0,172	0,376	1,15	0,009	0,0010	0,0068	0,036	0,010	0,061	0,027	0,001	0,000	0,000	0,002
350403	11979	K1	0,171	0,367	1,16	0,009	0,0012	0,0067	0,042	0,007	0,063	0,032	0,001	0,000	0,000	0,002
350403	13199	K1	0,170	0,385	1,17	0,010	0,0017	0,0067	0,037	0,010	0,064	0,027	0,001	0,000	0,000	0,003
350404	11097	K1	0,164	0,375	1,17	0,009	0,0015	0,0064	0,042	0,008	0,063	0,031	0,001	0,000	0,000	0,003
350404	11955	K1	0,172	0,366	1,15	0,008	0,0012	0,0062	0,041	0,008	0,062	0,031	0,001	0,000	0,001	0,002
350405	05031	K1	0,173	0,376	1,17	0,008	0,0014	0,0059	0,041	0,010	0,062	0,033	0,000	0,001	0,001	0,002
350405	05063	K1	0,173	0,374	1,17	0,009	0,0013	0,0064	0,044	0,008	0,068	0,031	0,000	0,000	0,000	0,002
350405	39946	K1	0,175	0,370	1,16	0,008	0,0014	0,0061	0,037	0,010	0,055	0,035	0,000	0,000	0,001	0,003
350405	39965	K1	0,173	0,369	1,17	0,009	0,0012	0,0061	0,037	0,009	0,054	0,036	0,000	0,000	0,000	0,003

Z01202/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.

QM-System: Certification as per ISO 9001

AHB

AG der Dillinger Hüttenwerke
Postfach 1580, D-66748 Dillingen/Saar
Inspection department

B. BALDAUF

Test House Manager

Inspector's stamp

Date 17.09.10

BM

1

DH
Manufacturer's mark



DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch 369429-17.09.10	A08/ Manufacturer's order/ A03 Certificate No. 357359-002	Sheet 16/...
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991				

MATERIAL TEST REPORT (MTR)		A07.1 No. ED10551-J1010-ER	A07.2 No. SA20-S5
A05 Established inspecting body DH	A06 Purchaser EDMONTON STEEL, EDMON		

Final receiver EDMONTON STEEL, EDMON		HOT ROLLED PLATES
SA516-70		

ASME-II-A:07+A09	
DIL-HUE-2:R30-2010-01-31	

C70-C99 Chemical composition % - Product analysis				
B07.2 Heat	B07.1 Test No.	C81		
		B	CA	AL-T
348840	11315	KI 0,0002	0,0015	0,033
350041	63959	KI 0,0002	0,0016	0,033
350041	63961	KI 0,0003	0,0013	0,033
350399	21322	KI 0,0003	0,0017	0,036
350401	15608	KI 0,0002	0,0019	0,045
350402	14890	KI 0,0002	0,0017	0,032
350402	15169	KI 0,0002	0,0015	0,035
350403	11979	KI 0,0000	0,0017	0,036
350403	13199	KI 0,0003	0,0014	0,033
350404	11097	KI 0,0002	0,0016	0,035
350404	11955	KI 0,0002	0,0016	0,037
350405	05031	KI 0,0002	0,0018	0,031
350405	05063	KI 0,0000	0,0016	0,032
350405	39946	KI 0,0003	0,0015	0,035
350405	39965	KI 0,0003	0,0014	0,035

C94 Product analysis Carbon equivalent / Alloying restrictions				
B07.2 Heat	B07.1 Test No.	C91		
		KI FO-02=	0,40	FO-51=
348840	11315	KI FO-02=	0,37	FO-51=
350041	63959	KI FO-02=	0,37	FO-51=
350041	63961	KI FO-02=	0,39	FO-51=
350399	21322	KI FO-02=	0,37	FO-51=
350401	15608	KI FO-02=	0,38	FO-51=
350402	14890	KI FO-02=	0,38	FO-51=
350402	15169	KI FO-02=	0,38	FO-51=

Z017Z02/Z03 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar Inspection department	A01
QM-System: Certification as per ISO 9001			

B. Baldauf



B. BALDAUF
Test House Manager

Inspector's stamp Date 17.09.10

BM

1





DILLINGER HÜTTE

Erläuterungen siehe Rückseite/Explications voir au verso/See reverse for explanations (www.dillinger.de/certificate)

A02 INSPECTION CERTIFICATE 3.1 AS PER EN 10204:2004		A10 Advice of dispatch No./ Date of dispatch		A03/ Manufacturer's order/ A03 Certificate No.		Sheet
INSPECTION CERTIFICATE 3.1.B AS PER EN 10204:1991+A1:1995 + AS PER ISO 10474:1991		369429-17.09.10		357359-002		17
MATERIAL TEST REPORT (MTR)				B01 Product		
A05 Established inspecting body		A06 Purchaser		EDMONTON STEEL, EDMON		A07.1 No. ED10551-JL010-ER
DE		Final receiver		EDMONTON STEEL, EDMON		A07.2 No.
B02/ Steel design		SA516-70				SA20-S5
B03 Any suppl. requirements		ASME-II-A:07+A09				
		DIL-HUE-2:R30-2010-01-31				

C94 Product analysis Carbon equivalent / Alloying restrictions

B07.2 Heat	B07.1 Test No.	C01	FO-02=	FO-01=	FO-51=	FO-55=	FO-55=
350403 11979	K1	FO-02=	0,38	FO-51=	0,001	FO-55=	0,14
350403 13199	K1	FO-02=	0,38	FO-51=	0,001	FO-55=	0,14
350404 11097	K1	FO-02=	0,37	FO-51=	0,001	FO-55=	0,14
350404 11955	K1	FO-02=	0,38	FO-51=	0,001	FO-55=	0,14
350405 05031	K1	FO-02=	0,38	FO-51=	0,001	FO-55=	0,15
350405 05063	K1	FO-02=	0,38	FO-51=	0,000	FO-55=	0,15
350405 39946	K1	FO-02=	0,38	FO-51=	0,000	FO-55=	0,14
350405 39965	K1	FO-02=	0,38	FO-51=	0,000	FO-55=	0,14

C94 Carbon equivalent formula / Alloying restrictions

FO-02 = $C + (Mn/6) + (Cr+Mo+V) / 5 + (Ni+Cu) / 15$
FO-51 = V + Nb
FO-55 = Cu+Mo+Ni+Cr
FO-78 = Cr+Mo
FO-91 = Mn/C

D01 Marking and identification, surface appearance, shape and dimensional properties

ITEM NO.: 01-05,07-08

RESULT OF MARKING, SURFACE, SHAPE AND DIMENSIONS: NO REMARKS
SURFACE AS PER ASME-SA20
THICKNESS AS PER ASME-SA20
LENGTH AND WIDTH AS PER ASME-SA20
FLATNESS AS PER 1/2-ASME-SA20



A04	201202/203 We hereby certify, that the above mentioned materials have been delivered in accordance with the terms of order.		AG der Dillinger Hüttenwerke Postfach 1580, D-66748 Dillingen/Saar inspection department	Inspector's stamp Date 17.09.10	BM
QM-System: Certification as per ISO 9001					
Manufacturer's mark					

**PURCHASE ORDER #**

2764

DATE Sept 12, 2011

VENDOR **V.E.G. Oilfield Supply**

DATE REQUIRED	ALL
---------------	-----

JOB NUMBERS 8" Stock Scrubbers

VESSEL SER# 12207 to 12221

4901 Bruce Road Vegreville, Alberta T9C 1C3

Phone: (780) 632-7774

[illegible]

1. The above items are to be formed to meet the requirements of ASME Section VII, Div. 1 USC 79(d).
2. Tack welds that are welded must use procedures and welders qualified to ASME Section IX
3. On all code required material, Markings must be accurately transferred to formed material or cut pieces.



PRESSURE TEST RECORD

Date:

Vessel Serial Number:

Vessel Design Pressure:

Hydro Test Pressure:

Temperature:

Test Gauge No.:

Hydro By:

Q.C. Signature:

Print Clearly

Original to be returned to Q.C. on completion of hydro.



Vessel Name Plate Travel Sheet

Vessel Serial Number:

Vessel Name:

Vessel DWG #:

Vessel C.R.N. #:

Vessel Design Pressure:

Hydro Pressure:

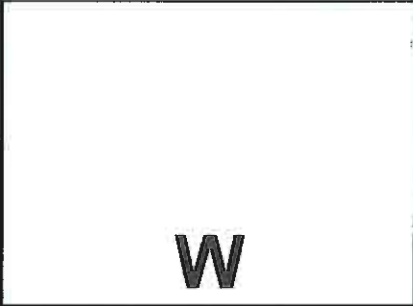
Plate Originator: Date:

Engraved By: Date:

Picked Up By: Date:

Print Clearly

Original to be returned to Q.C.



Certified By

RJV

**GAS FIELD
SERVICES**

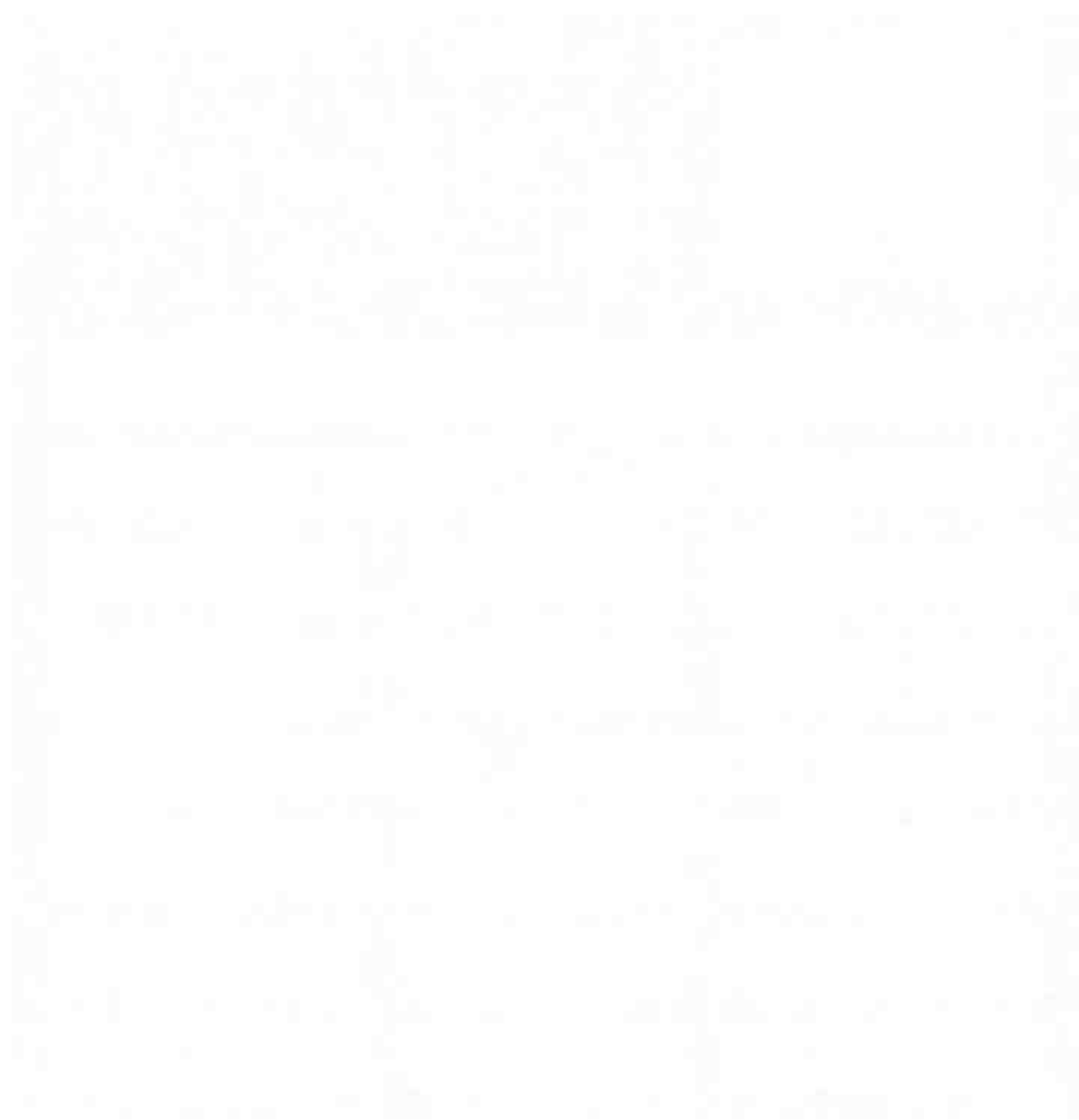
Vegreville, Alberta
Phone (780)632-7774



UNIT NAME

Fuel Gas Scrubber

M.A.W.P. Internal		AT	DESIGN TEMP.		M.A.W.P. External	
1035	Kpa.	@	38	°C		Kpa.
150	Psi.	@	100	°F		p.s.i.
MINIMUM DESIGN METAL TEMPERATURE				YEAR BUILT		
-29	°C	@	1035	Kpa.	Sept. 2011	
-20	°F	@	150	p.s.i.		
C.R. NUMBER				SERIAL NO.		
F6388.231				12317		
CORR. ALLOW.		HEAT TREATMENT		HYDRO TEST		
3.17 mm		NIL		1555 Kpa.		
SHELL THICK.		HEAD THICK.		225 p.s.i.		
8.1 mm		Top - 7.16 mm		WEIGHT		
SHELL MAT'L		Bottom - 19.05 mm		50 Kg.		
SA-106-B		HEAD MAT'L		SIZE		
		Top- SA-234-WPB		219 X 762mm		
		Bottom- SA-516-70				



ALBERTA MUNICIPAL AFFAIRS

ABSA, the pressure equipment safety authority

9410 – 20th Avenue

Edmonton, AB T6N 0A4

MANUFACTURER'S DATA REPORT

FOR MINIATURE PRESSURE VESSEL

DÉCLARATION DE CONFORMITÉ DU CONSTRUCTEUR

D'APPAREILS SOUS PRESSION

Upon shipment of a pressure vessel, this form fully and correctly filled in must be mailed to the office of the Chief Inspector in the province of installation in accordance with the regulations under the Act, governing the construction and installation of pressure vessels.

Au moment de l'expédition d'un appareil sous pression, ce formulaire complété correctement, doit être envoyé au bureau de l'inspecteur en chef de la province d'installation tel que prévu dans les règlements de la loi sur les appareils sous pression.

Manufactured by <i>Construit par</i>	Name and address of Manufacturer/ <i>Nom et adresse du constructeur</i> RJV Gasfield Services 4901 Bruce Road, Vegreville, Alberta, T9C 1C3
Manufactured for <i>Construit pour</i>	Name and address of Purchaser or Consignee/ <i>Nom et adresse du client ou de son représentant</i> RJV Gasfield Services 4901 Bruce Road, Vegreville, Alberta, T9C 1C3
Ultimate owner <i>Utilisateur</i>	Name and address/ <i>Nom et adresse</i> Stock
Location of installation <i>Lieu d'installation</i>	Name and address/ <i>Nom et adresse</i> Stock

Pressure vessel/ *Appareil*

Type/ <i>Genre</i> Vertical Fuel Gas Scrubber	Overall Length/ <i>Longueur totale</i> 762mm sm/sm	Serial No./ <i>N° de série</i> 12317	Year built/ <i>Année de fabrication</i> 2011
Provincial Registration No. – C.R.N./ <i>N° d'enregistrement provincial - N.E.C.</i> F6388.231			Drawing No./ <i>N° de dessin</i> V85-05 Rev.2

The chemical and physical properties of all parts meet the requirements of material specifications of the A.S.M.E. Code.

Les propriétés chimiques et physiques de toutes les composantes respectent les exigences des spécifications de matériaux de code ASME.

The design, construction and workmanship conform to CSA B51. <i>La conception, la construction et la façon sont conformes à ACNOR B51.</i>	ASME Section VIII	Division 1	Addenda/ <i>Supplément</i> 2010	Code case No. <i>N° de cas</i> N/A
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Manufacturer's partial data reports properly identified and signed by authorized inspectors have been furnished for the following items of the report, and attached to this report:

Les rapports partiels du constructeur adéquatement identifiés et signés par les inspecteurs autorisés ont été produits pour les items suivants du rapport, et attachés à ce rapport:

Names of parts/ <i>Nom de la composante</i>	Item No./ <i>N° d'item</i>	Manufacturer's Name/ <i>Nom du constructeur</i>	Identifying Stamp/ <i>Estampe d'identification</i>

Shell/ *Viole*

Description	Material <i>Matériau</i>	Thickness <i>Épaisseur</i>	Corr. Allow. <i>Surépais. de corr.</i>	Diameter <i>Diamètre</i>	Longitudinal Joints <i>Joints longitudinaux</i>			P.W.H.T. <i>Traitement therm</i>		Girth Joints <i>Joints de circonférence</i>		Number of courses <i>Nombre de sections</i>
					Type	R.T. <i>Radiog.</i>	Efficiency <i>Efficacité</i>	Temp.	Time <i>Durée</i>	Type	R.T. <i>Radiog.</i>	
Shell	SA-106-B	8.1mm	3.17mm	219mm	1	sm/s	100%	-----	-----	None	None	1

Heads/ *Tetes*

Description	Material <i>Matériau</i>	Min. Thickn. <i>Épais minim.</i>	Corr. Allow <i>Surép. Corr.</i>	Crown Radius <i>Rayon couron.</i>	Knuckle Radius <i>Petit rayon</i>	Ellipse Ratio <i>Rapp. ellipse</i>	Conical Apex Angle <i>Angle conique</i>	Hemisph. Radius <i>Ray. Hémisph</i>	Flat Diameter <i>Diam. plat</i>	Side to pressure <i>Côte sous pression</i>
Top	SA-234-WPB	7.16mm	3.17 mm	-----	-----	Weld Cap	-----	-----	-----	Concave
Bottom	SA-516-70	19.05mm	3.17 mm	-----	-----	-----	-----	-----	305 mm	Flat
Removable bolts used (describe other fastenings) <i>Boulons amovible utilisés (décrire tout autre attache)</i>					Mat'l Spec./ <i>Spéc. du mat.</i>			Grade		Size/ <i>Dimension</i>

Pressure - Temperature/ *Pression - température*

Pressure Vessel Part <i>Partie de l'appareil</i>	Constructed for max. allowable working pressure <i>Construit pour une pression maximale de marche permise</i>	At max. temp. <i>A une temp. max.</i>	Minimum design metal temp. <i>Temp. min.</i>	Test pressure (hydro-pneumatic or combination) <i>Pression d'épreuve (hydro-pneumatique ou combinaison)</i>
Vessel	1035 Kpa	38°	-29°	1555 kPA

Tube Section/ Faisceau tubulaire

Tube/Plaque tubulaire	Material/ Matériau	Diameter/ Diamètre	Nominal Thickness Épaisseur nominale	Corr. Allow. Surépais. corrosion	Attachment Mode d'attachement
Tube material/ Matériau des tubes	Diameter/ Diamètre	Nominal Thickness (gauge) Épaisseur nominale (calibre)	Number/ Nbre	Type (Straight or U) Type (Droit ou U)	Heating Surface Surface de chauffe

Jacket/ Chemise

Type of jacket/ Genre de chemise	Jacket closure Fermeture de chemise	Proof Test Pression d'épreuve	Heating Surface Surface de chauffe	Sketch/ Schéma
----------------------------------	--	----------------------------------	---------------------------------------	----------------

Safety Valve Outlets/ Soupapes de sûreté

Number/ Nombre 1	Dimension 33.4MM	Location/ Endroit Shell
---------------------	---------------------	----------------------------

Nozzles and Openings/ Tubulures et ouvertures

Purpose/ But	Number Nombre	Dimension	Type	Material Matériau	Nominal Thickness Épaisseur nominale	Reinforcement material Matériau de renfort	How attached Genre d'attaches	Location/ Endroit
Outlet	1	60.3mm	Coupling	SA-105	CL3000	N/A	UW16.1{c}	Top Head
Inlet/Drain/P.S.V.	3	33.4mm	Coupling	SA-105	CL3000	N/A	UW16.1{c}	Shell

Supports/ Supports

Skirt/ Jupe Yes/ Oui No/ Non ☐ ☒	Lugs/ Orelles No./ Nbre No	Legs/ Pieds No./ Nbre No	Other/ Autres (Description) N/A	Attached/ Attaches (Where and How/ Méthode et endroit) Flat bottom head welded to shell
---	----------------------------------	--------------------------------	------------------------------------	---

Remarks/ Observations (Cubical capacity/ Volume)

Volume-.022 cubic meters)
Exempt from impact test requirements as per UG 20(f) 1 to 5
Flat head o.d. is 203mm
Hydrostatically tested in the Vertical Position

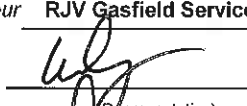
Certificate of Compliance/ Certificat de conformité

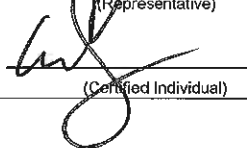
We certify that the statements made in this data report are correct and that the said vessel has been constructed in accordance with the Provincial Registered design below and the requirements of standard CSA B51.

Nous certifions que les données de la déclaration de conformité sont correctes et que l'appareil a été construit en accord avec l'enregistrement provincial ci-dessous et les exigences de la norme ACNOR B51.

Provincial Registered Design
Enregistrement provincial **F6388.231**

Manufacturer
Constructeur **RJV Gasfield Services**

Signature  Date **SEP 30 2011**
(Representative)

Signature  Date **SEP 30 2011**
(Certified Individual)