



New Zealand Steel Limited,
131 Mission Buelt Road, Glenbrook, South Auckland
Postal: Private Bag 92121, Auckland 1142, New Zealand
Telephones: (09) 375 8888 / 375 8111 Auckland
(09) 375 8888 / 375 3535 Waiuku
Fax: (09) 375 8859

TEST CERTIFICATE

Ref: 1214 (250244)

CUSTOMER	Wilkinson Steel & Metals - Vancouver	SPECIFICATION	ASTMA36	CERTIFICATE No	TC228409																		
CUSTOMER OIN	104618	USER REF	P10125MERRAV	PRODUCT	HOT ROLLED COIL																		
MILL OIN	805034	DIMENSIONS	0.178" x 60" x Coil	PAGE	1 of 1																		
DATE	22 March 2011																						
MECHANICAL TESTS (TEST SPECIFICATION - ASTM A370)																							
PACK NUMBER	HEAT No	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	V	Nb	Al	Ti	B	N2	CE(A)	BEND	YIELD	T.S.	%ELONG	HARDNESS	LENGTH
HN-A98638-01	691656	18	1	61	11	23	13	17	19	2	9	1	1	47	TR	50	20	42100	63800	21	21	1063	
HN-A98639-01	691656	18	1	60	13	17	13	17	22	1	8	1	1	34	TR	70	20	50800	67200	21	21	1053	
HN-A98641-01	691659	18	1	61	10	17	13	17	18	2	6	1	1	36	TR	60	20	47700	66400	26	26	1064	
HN-A98644-01	691659	18	1	61	10	17	13	17	18	2	6	1	1	36	TR	60	20	47700	66400	26	26	1053	
HN-A98645-01	691659	18	1	61	10	17	13	17	18	2	6	1	1	36	TR	60	20	47700	66400	26	26	1063	

"Conforms with ASME
Sec II, Part A, 2010 edition"
1102.36.2011
mmsy 2011

"Conforms with ASME
Sec II, Part A, 2010 edition"
1102.36.2011

CHEM COMP %	YIELD	GAUGE LENGTH (G.L.)	PLASTIC STRAIN RATIO (r)	IMPACT TEST	CARBON EQUIVALENT VALUE (CE)
SI (TR) <0.01%	(A)=0.2% PROOF STRESS (B)=LOWER YIELD STRESS	(A)=200mm (B)=50mm	(A)=0 (B)=80	(A)=10mm x 10mm (B)=7.5mm x 10mm	(A)=C+Mn/16 (B)=C+Mn/8+(Cr+V+Mo)/5+(Cu+Ni)/15 (C)=C+Mn/16 (D)=

WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN HAS BEEN TESTED AND INSPECTED
WITH SATISFACTORY RESULTS IN ACCORDANCE WITH THE REQUIREMENTS OF THE ABOVE SPECIFICATION

APPROVED

Atish Misra
SENIOR METALLURGIST

RUSSEL METALS INC (NORTH)
PO BOX 39
WINNIPEG MANITOBA
R3C 2G3

CUSTOMER SPECIFICATION
HOT ROLLED STEEL SHEET - HSLA - TO CHEMISTRY OF CSA G40.21 44W (04) - STRL Q -
CUT EDGE ACCEPTABLE - RESTRICTED GAUGE 1/2 TOL - STRUCTURAL STEEL - CRIT
SURFACE-IMPRVD SHPE - COIL END TEST ONE/HEAT INFO ONLY

051043681

MILL TEST REPORTS
ESAR STEEL ALGOMA INC. HEREBY
CERTIFIES THAT THE MATERIAL HEREIN
DESCRIBED WAS MADE AND TESTED IN
ACCORDANCE WITH THE RULES OF THE
SPECIFICATION SHOWN. ALL RESULTS
ARE RETAINED IN ACCORDANCE WITH THE
COMPANY'S STANDARD RECORD KEEPING
PRACTICES.

M. MCLEAN
MANAGING METALLURGIST

SUPPLEMENTARY INSTRUCTIONS
TEST CERT 1: TRACHEY CHOPEK 204-788-5567 TEST CERT 2: SANDY THOR
LACIUS 204-774-5732 PLATE TEST COUPON:

MEETS EN 10204 3.1
ISO QUALITY AND ENVIRONMENTAL CERTIFICATES AVAILABLE AT WWW.ESSARSTEELALGOMA.COM
HEATS INDICATED WITH (+) MADE IN CANADA WITH DOMESTIC AND NORTH AMERICAN MATERIALS

CUSTOMER ITEM 00006 GUR ITEM 002 DIMENSIONS .236 MIN X 60 X COIL

COIL NO. WEIGHT NO. WEIGHT
NUMBER HEAT-MS PIECES HEAT-MS PIECES
81829039 4510L-05 1 53792

TENSILE TESTS:
* SAMPLE * * * TEST * * *
SRCE GAUGE COND METH DIR
DSPC .2360 AR .2 T

YIELD TENSILE
KSI KSI
60.0 77.0 26.2

HEAT (WT %) C MN P S SI CR NI CU MO AL
TI SN N AS ZR PB SB

HEAT 4510L +
0014 014 010 02 03 02 05 01 029

July 28, 2011

"Conforms with ASME

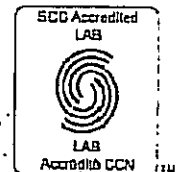
Sec II, Part A 2010 edition

THE TEST RESULTS AND VALUES REPORTED HEREIN INDICATE THAT (1) THE PARTICULAR STEEL FOR WHICH THIS CERTIFICATE IS ISSUED MEETS THE MINIMUM
SPECIFIED YIELD STRENGTH AND (2) THE CHEMICAL ANALYSIS AND PHYSICAL PROPERTIES OF SUCH STEEL ARE IN CONFORMANCE WITH THE REQUIREMENTS OF
THE SPECIFICATION INDICATED. THE RESULTS OR VALUES REPORTED HEREIN CAN NOT BE USED TO QUALIFY THE STEEL FOR ANY SPECIFICATION OTHER
THAN THE ONE INDICATED AND CAN NOT BE RELIED UPON FOR ANY PURPOSE INCLUDING DESIGN OR CALCULATIONS AS REPRESENTING THE ACTUAL STRENGTH OF SUCH STEEL

Mechanical Test Laboratory Report

Prepared for: Mr Justin Fillion
Quality, Health & Safety Coordinator
Russel Metals
1359 St. James Street, P.O. Box 39
Winnipeg MB R3C 2G3

Report No: **13782-62**
Date: 28 Jun, 2011
Phone: (204) 772-0321
Fax: (204) 774-5732



Sample Description: See below

Standard/Specification: ASTM E8 ✓ Test Methods for Tension Testing of Metallic Materials,
Tests accredited by the Standards Council of Canada to ISO/IEC 17025 indicated with ✓.

Test Results

Table 1: Tensile Test Results

Sample ID	Thickness (in)	Width (in)	Yield Strength (ksi)	Tensile Strength (ksi)	Modulus (Mpsi)	Elongation (%)
1297682-B-4510L	0.240	0.500	58 ✓	76 ✓	29.6	31.1 ✓
1297682-M-4510L	0.241	0.500	59	75	30.4	31.2
Grade 44W (Transverse)			Min 44	65-90	N/A	Min 21

Comments:

The samples meet the specifications for 44W (Transverse) for the parameters tested.

End of Report

Prepared by: Tony Robak
Tony Robak, C.Tech.
Test Technician / Millwright

Reviewed by: Daniel D. Godin
Daniel D. Godin, C.E.T.
Project Technologist - Mechanical

Notes

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CGP MFG, INC.
6313 WINFREE
HOUSTON, TX 77087
Phone: 713-641-6544
FAX: 713-641-6564

Material Test Report

Page: 1 of 1

SALES ORDER #: 78504

SOLD TO:

SHIP TO:

CUST P.O.#: 1016037 AT

TAG NUMBER: 0206763

DATE SHIPPED:

ITEM #	QUANTITY	ITEM DESCRIPTION
1	50 EA	3 XXH SR 180 SA420-2007 WPL8 UTD ✓

ITEM #	HEAT CODE	CHEMICAL ANALYSIS										Cu	V
		C	Mn	P	S	Si	Ni	Cr	Mo	Cs			
1	LIV3	.20	1.06	.008	.008	.18	.10	.08	.02	.002		.15	.00
		✓	✓	✓	✓	✓	✓	✓	✓	✓		✓	✓

ITEM #	PHYSICAL PROPERTIES						CHARPY V-NOTCH
	TENSILE (PSI)	YIELD (PSI)	ELONG (2IN)	REDUCTION OF AREA %	HARDNESS		
1	78500	43500	37.80	0.00	78 RB	CVN@-60°F	18/20/18 FT LBS
	✓	✓	✓				

ITEM #	SUPPLEMENTAL INFORMATION
1	NORMALIZED STARTING MAT'L SMLS PIPE EN 10204-3.1B

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Sec II, Part A, 2010 edition"

U.T. Proc.

UT Per API 6A PSL-3 IAW ASTM A-388

August 04/2011 &

There were no ultrasonic indications of discontinuities noted in the above items.

WE CERTIFY THAT THE FITTINGS COVERED BY THIS REPORT WERE MANUFACTURED PER THE SPECIFICATIONS NOTED & THAT THE PHYSICAL & CHEMICAL PROPERTIES ARE THOSE REFLECTED IN THE RECORDS OF THE COMPANY. MERCURY FREE MFG IN THE USA

MATERIAL CONFORMS
TO CUSTOMER
SPECIFICATIONS
AS PER P.O.
REQUIREMENTS

*Murphy
SRB
which is standard
ASME code
only*

QUALITY ASSURANCE

07/11/2011

Name: Cari Steen

Date: Aug 04/2011

MATERIAL CONFORMS
TO CUSTOMER
SPECIFICATIONS
AS PER P.O.
REQUIREMENTS

Name: *Chen's steel*

Date: *Aug 02/11*

Contract No.:

PO NO.:

Name of Customer:

L/C NO.:

Description:

PIPE

HENGYANG VALIN STEEL TUBE CO., LTD

MILL INSPECTION CERTIFICATE

Date: MAR 25, 2011

Page: 1/1

SPEC: ASTM A333 GR 6 2008/ASME SA333 GR 6 2007 / NACE MR0175-2003/ISO 15156

CERTIFICATE NO: 11-1-03-96

CERTIFICATE NO: 11-T-03-96										
NO.	BATCH NO.	HEAT NO.	STEEL GRADE	SIZE	BUNDLES	PIECES	FEETS	QUANTITY (MT)	ACTUAL WEIGHT(MT)	
1	11-A754	21C044	B	88.9 3 X 5.49	A333 GR 6 B.E. STD					
2	11-A755	21C044	B	88.9 3 X 5.49	A333 GR 6 B.E. STD					
3	11-A756	21C044	B	88.9 3 X 7.62	A333 GR 6 B.E. STD					

REMARKS: 1. We hereby certify that this certificate of quality is issued and signed by the manufacturer.

2. We hereby certify that the properties described herein meet the requirement of the above spec.

3. We hereby certify that this certificate is issued accordance with EN 10204:3.1B

4. SPECIMEN SIZE: (Pipe end, Longitudinal, Gauge Length=2")

A. For pipes ≤ 1" full length specimen were used;

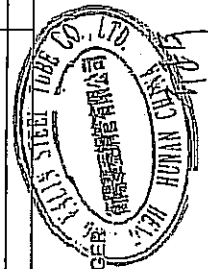
B. For pipes > 1" longitudinal strip specimen were used; the width of the gauge length portion is 3/4"

5. HEAT TREATMENT CONDITION FOR PIPE NORMALIZED: 900°C X 10MIN

6. Impact Test: 5X10X55MM AT -45°C

7. DIMENSION STANDARD: ASME B36.10

8. MANUFACTURE METHOD: HOT ROLLING



QUALITY MANAGER

"Conforms with ASME
Sec II, Part A, 2010 edition"
July 26, 2011

Purchaser: WFF FITTINGS FLANGES (CANADA) LTD.
"Conforms with ASME
INSPECTION CERTIFICATE A, 2010 edition"

BKL
July 26, 2011
EN 10204 3.1B
D M Y Certificate No.
09/10/2004 T - 2004021711

Purchase Order No.
EO4163DD

Job No.

E-No.	Specification for Material Made from Seamless Pipe	Specification for Inspection	Visual Examination	Dimensional Inspection													
M-925	ASTM A420-70 ASME SA420 WPL6 NACE MR0175-2000	ASME B16.9	Good	Good													
MFG. No. (Heat Identification No.)	Product & Size		Quantity														
04001029	180 EL WPL6 3.560		5														
Material Manufacturer	Material Heat No.																
	13LC700																
Specification	Chemical Composition %										Tension Test		Impact Test (J)				
	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	Al	V	Nb	C.E.	YS	TS	E	
X	100	X	100	X	1000	X	100	X	100	X	1000	X	100				10 X 5.0 X 2V
																	AT -45 °C
Min.		15	50											240	415	30	111
Max.	30	40	135	35	40	40	40	30	12		80	20			585		115 AVE 111
	0.11 V	0.20 V	0.02 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	0.005 V	308	444	158	107

NORMALIZING 910 C X 0.5 HR. AIR COOLING

C.E. = C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15
MAGNETIC PARTICLE EXAMINATION FOR TEE ONLY:

We hereby certify that the product described herein has been manufactured in accordance with the specifications concerned and also with the purchaser's requirements and that the test results shown herein are correct.

Quality Assurance Manager
Thai Benkon Co., Ltd.
41 Sri Walayrajai Road, Bangkok, Thailand