

From: [Ablson, Maha](#)
To: [Peppers, Nicki](#);
cc: [Daly, Keith](#); [Molohon, Rob](#);
Subject: 008078 RAM#1 & 2 Driving Steel Test Piles & Drive Shoes for Piling
Date: Friday, February 04, 2011 1:48:05 PM
Attachments: [8078 RAM1 Driving Steel Test Piles.pdf](#)
[8078 RAM2 Drive Shoes for Piling.pdf](#)

Good afternoon Nicki,
The processed electronic RAM is attached.
Have a good day,

Maha Ablson

*RAM Engineer
WSDOT, Materials Lab
Office: 360.709.5403
Fax: 360.709.5588
mahaab@wsdot.wa.gov*

From: Peppers, Nicki [mailto:peppersn@columbiarivercrossing.com]
Sent: Thursday, February 03, 2011 1:35 PM
To: Ablson, Maha
Cc: Daly, Keith
Subject: Resubmitting RAM 1 and 2
Importance: High

Maha,

Attached is RAM 1 and RAM 2, there has been changes made to both, replace these two with the first set I sent.

High Priority.
James Schufreider (Marine Mechanical Engineer) is the designer.

Thanks,
Nicki

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Request for Approval of Material

Contract	8078	FA Number		SR	I-5	Date	2/1/11
Section	I-5 COLUMBIA RIVER BRIDGE (WA 0.3 to OR MP318)			County	WA AND OR states		
Contractor	American Construction Company, Inc.		Subcontractor	YN BEST AND COMPANY, INC.			

This form shall be completed prior to submittal. If this form is not complete at time of submittal it may be returned for information that was omitted.

For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM # 2

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqtr./QPL Code
4.0 ¹	FURNISHING & INSTALLING DRIVE SHOES FOR PILING	NP 2/3/11 VERSA-STEEL, INC. 1618 NE 1st Avenue Portland, OR 97232 www.piletips.com Farwest Fabrication	SPECIAL PROVISIONS PP-103	7,3	2,3*

Project Engineer	Date	State Materials Engineer	Date
Ricki Peppers for Frank Green	2/1/2011	Maha Ablson	02/04/2011

Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

- Acceptance Criteria: Acceptance based upon 'Satisfactory' Test Report for samples of materials to be incorporated into project.
- Acceptance Criteria: Mfg. Cert. of Compliance for 'Acceptance' prior to use of material.
- Acceptance Criteria: Catalog Cuts for 'Acceptance' prior to use of material. Catalog Cut Approved Yes No
- Acceptance Criteria: Submit Shop Drawings for 'Approval' prior to fabrication of material.
- Acceptance Criteria: Only 'Approved for Shipment', 'WSDOT Inspected' or 'Fabrication Approved Decal' material shall be used.
- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved:

9. Approval Withheld: Submit samples for preliminary evaluation.

10. Approval Withheld:

11. Miscellaneous Acceptance Criteria.

Remarks: **Contact Kyle Cauffman/WSDOT Fabrication 1/23/11 Office prior to welding.**
CAT CUT 0001 sent to EQEP Material Lab, waiting for approval

* cc: American Construction, Peppers

Project Engineer Distribution

- Contractor Region Materials
 Region Operations Engineer State Materials Lab
 Fabrication Inspection M/S 47365

State Materials Engineer Distribution

- General File Signing Inspection
 Other



CAT - 0001

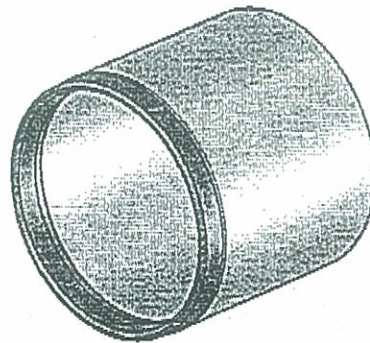
Phone: 1-800-678-0814 / 1-503-287-9822 Fax: 1-800-287-7483 / 1-503-287-7483

Versa-Steel, Inc.

www.piletips.com

1618 NE 1st Avenue Portland, Oregon 97232-1136

Open End Cutting Shoe Data Sheet

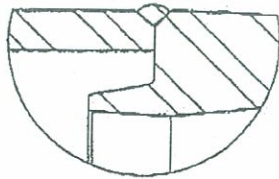


PROPRIETARY AND CONFIDENTIAL
THE INFORMATION CONTAINED IN THIS
DRAWING IS THE SOLE PROPERTY OF
VERSA-STEEL, INC. ANY
REPRODUCTION IN PART OR AS A WHOLE
WITHOUT THE WRITTEN PERMISSION OF
VERSA-STEEL INC. IS PROHIBITED.

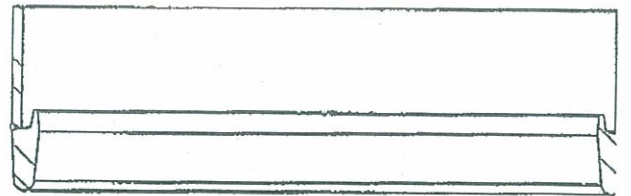
SHEET NO. **A** DWG. NO. **Equipment Data Sheet** REV. **A**
SCALE: 1:10 WEIGHT: SHEET NO. 3

Open End Cutting Shoes

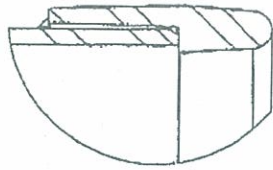
Type Inside Fit
700 Series



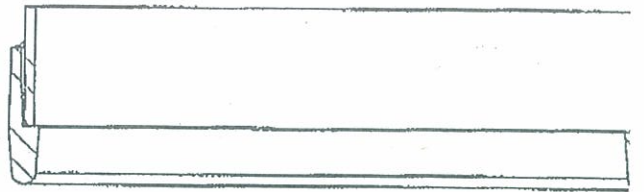
These tips are designed with a weld chamfer built into the casting. Slip shoe inside pipe and using a 70xx series rod weld a 5/16" or larger weld all around.



Type Outside Fit
200 Series



These slip fit shoes are easily attached with a 5/16" or larger fillet weld at the top of the flange. For best results, weld all around the shoe with a 70xx series rod.



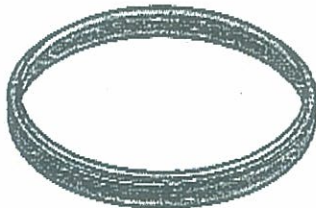
Product Description

Our inside fit and outside fit cutting shoes are designed to install with a slip-on fit. The design places the cross-sectional area directly below the wall of the pipe for maximum support during penetration. They are a more heavy duty construction than other brands.

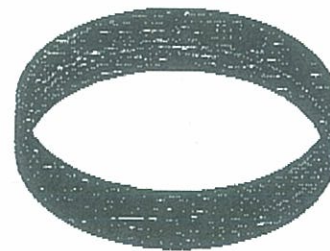
The inside fit cutting shoe has a weld prep chamfer built into the casting. Slip shoe inside pipe and using a 70xx series rod weld a 5/16" or larger weld all around.

The outside fit cutting shoe has a natural fillet on top for easy welding. These slip fit shoes are easily attached with a 5/16" or larger fillet weld at the top of the flange. Weld all around the shoe with a 70xx series rod.

Type Inside Fit
700 Series



Type Outside Fit
200 Series



Versa Steel Open End Cutting Shoe and Pipe Cross-Section View



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DRAWING IS THE SOLE PROPERTY OF
VERSA-STEEL, INC. ANY
REPRODUCTION IN PART OR AS A WHOLE
WITHOUT THE WRITTEN PERMISSION OF
VERSA-STEEL, INC. IS PROHIBITED.

DIMENSIONS ARE IN INCHES TOLERANCES:		NAME	DATE
1/X	± 1/16"	JML	12/27/2007
.XX	± .01	CHECKED	
.XXX	± .003	ENG APPR	
.XXXX	± .0005	MFG APPR	
MATERIAL	Steel Alloy	G.A.	
FINISH	None	COMMENTS	
NEXT ASSY	USED ON	Description: Open End Cutting Shoes Part Number:	
APPLICATION	DO NOT SCALE DRAWING	SRE 17WGS, HQ A: Equipment Data Sheet A	
		SCALE: 1:5	WEIGHT: SHEET 2 OF 3

Drive shoes



Vancouver Iron & Steel, Inc.

MATERIAL CERTIFICATE

Customer: Versa Steel Inc. Date: 9-Mar-09
 PO Number: 2947 Part Number: VS748
 Heat Number: _____ Total Quantity: 3
 Specification : ASTM A148 Gr. 80-50
 Heat Treatment: NORMALIZE

<u>CHEMICALS</u>		<u>MECHANICAL</u>		<u>LOT NUMBER</u>	
Carbon	<u>0.21</u>	Tensile	<u>85,500</u> psi	Julian Date	<u>Qty.</u>
Silicon	<u>0.58</u>	Yield	<u>54,500</u> psi	_____	_____
Manganese	<u>0.66</u>	Elong.	<u>25</u> %	_____	_____
Phosphorus	<u>0.01</u>	Reduc.	<u>42</u> %	_____	_____
Sulfur	<u>0.01</u>	Brinell	<u>179</u> BHN	_____	_____
Chromium	_____				
Nickel	_____				
Molybdenum	_____				
Copper	_____	Notch:	_____	Temp:	_____
Vanadium	_____				
Aluminum	<u>0.04</u>	Test 1:	_____		
Magnesium	_____	Test 2:	_____		
		Test 3:	_____		
		Average:	_____		

CHARPY TEST:

We certify that the above items have been melted and manufactured in the United States in accordance with, and conform to, the applicable specifications, standards, requirements, instructions and/or drawings referenced on the above purchase order, subject to our acknowledgment of said purchase order.

Vancouver Iron and Steel, Inc

Quality Assurance Department

Dec. 20. 2010 12:22PM Vancouver Iron & Steel

No. 7267 P. 2



VANCOUVER IRON & STEEL, INC

MATERIAL CERTIFICATE

Customer: Versa Steel Inc. Date: 12/20/2010
 PO Number: 2907 Part Number: VS724-80/50
2888
 Heat Number: _____ Total Quantity: 75
 Specification: ASTM A148 Gr. 80-50
 Heat Treatment: NORMALIZE

CHEMICALS		MECHANICAL		LOT NUMBER	
Carbon	<u>0.28</u>	Tensile	<u>82,600</u> psi	Julian Date	Qty.
Silicon	<u>0.55</u>	Yield	<u>53,000</u> psi	_____	_____
Manganese	<u>0.86</u>	Elong.	<u>28</u> %	_____	_____
Phosphorus	<u>0.01</u>	Reduc.	<u>30</u> %	_____	_____
Sulfur	<u>0.01</u>	Brinell	<u>174</u> BHN	_____	_____
Chromium	<u>0.13</u>				
Nickel	<u>0.06</u>				
Molybdenum	<u>0.10</u>				
Copper	<u>0.13</u>	Notch:	_____	Temp:	_____
Vanadium	_____				
Aluminum	<u>0.04</u>			Test 1:	_____
Magnesium	_____			Test 2:	_____
				Test 3:	_____
				Average:	_____

We certify that the above items have been melted and manufactured in the United States in accordance with, and conform to the applicable specifications, standard, requirements, instructions and/or drawings referenced on the above purchase order, subject to our acknowledgement of said purchase order.

Vancouver Iron and Steel, Inc

 Quality Assurance Department

Vancouver Iron Steel, Inc
 603-821-8100

1200 West 13th Street
 Fax: 509-821-8138

Vancouver, WA 98660

QD10.04.01A Rev D



Request for Approval of Material

Contract	8078	FA Number		SR	I-5	Date	1/25/11
Section	I-5 COLUMBIA RIVER BRIDGE (WA 0.3 to OR MP308.0)			County	WA AND OR states		
Contractor	American Construction Company, Inc.		Subcontractor	P.N. Best AND Company, Inc.			

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For assistance in completing, see Instructions and Example

For WSDOT Use Only
RAM # 1

Bid Item No.	Material or Product/Type	Name and Location of Fabricator, Manufacturer or Pit Number	Specification Reference	PE/QPL Code	Hdqr./QPL Code
4.01	FURNISHING & DRIVING steel TEST PILES	NP 2/2/2011 P.N. Best AND Company, Inc. 6541 Redmond Way #262 C Redmond, WA 98052 http://pnbestco.com NP 2/3/11 Farwest Fabrication Jiangsu Yulong Steel Pipe Co. LTD	SPECIAL PROVISIONS PP-100	7	2

Project Engineer	<i>for</i> Lucky Peppers / Frank Green	Date	1/26/11	State Materials Engineer	Maha Ablson	Date	02/04/2011
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Acceptance Action Codes for use by Project Engineer and State Materials Laboratory

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- Acceptance Criteria: Submit Certificate of Materials Origin to Project Engineer Office.
- Acceptance Criteria: Request Transmitted to State Materials Laboratory for Approval Action.
- Source Approved:
- Approval Withheld: Submit samples for preliminary evaluation.
- Approval Withheld:
- Miscellaneous Acceptance Criteria.

Remarks:

* cc: Peppers, American Construction

Project Engineer Distribution	State Materials Engineer Distribution
<input type="checkbox"/> Contractor	<input type="checkbox"/> General File
<input type="checkbox"/> Region Operations Engineer	<input type="checkbox"/> Signing Inspection
<input type="checkbox"/> Fabrication Inspection	<input type="checkbox"/> Other _____
<input type="checkbox"/> Region Materials	
<input type="checkbox"/> State Materials Lab	
M/S 47365	

48' x 1.000

208340

YISP 江苏玉龙钢管股份有限公司

JIANGSU YULONG STEEL PIPE CO. LTD

NO.15, YULONG ROAD, YUQI, WUXI, JIANGSU 214183, CHINA
Tel: +86-510-83696197 Fax: +86-510-83689771

MILL TEST CERTIFICATES

Acc to EN 10204-2004 3.1.B



ISO9001:2000

API 5L-0450

P/C No. 04282008-01
Issue No. 04282008-01
LIC No.: F0BEAM5802355

Manufacturer: JIANGSU YULONG STEEL PIPE CO. LTD
Commodity: PERISAWI LONGITUDINAL WELDED CARBON STEEL PIPE
Spec: API 5L B742X52 PSL 2
MADE IN CHINA

No.: Y-4153MTC03
Date: AUG 3 2008

All other tolerances including dimensions are per API 2B

PAGE 1/1

Item No	Total Quantity		Type (1)	Outer Size				Heat No	V 9 (4) Minm2	T 5 (1) Minm2	EL 18 %	Hydro-Test		HOT (7)		Hardness Test		T 5 (1) Minm2	Visual	Flatten-Test	Bend-Test	Impact-Test	RMI (10)	Other Test			
	Pa	Lt		OD (2)	WT (3)	inch	mm					FT	Pressure	Duration	U T (8)	R T (9)	Blm								Hxz	Wm	45-138
YL-433-05	26	237 0264	BBE	48"	1219.2	1.000	23.40	40.0	0871005023	475	535	30	1950	210	OK	OK	145	145	151	625	OK	N/A	OK	OK	98	OK	N/A
YL-433-05	24	218 2914	BBE	48"	1219.2	1.000	33.40	40.0	0871005028	465	555	31	1950	210	OK	OK	146	147	155	685	OK	N/A	OK	OK	80	OK	N/A
YL-433-05	34	214 2976	BBE	48"	1219.2	1.000	25.40	40.0	0871005024	470	535	29	1950	210	OK	OK	145	147	154	575	OK	N/A	OK	OK	110	OK	N/A
YL-433-05	26	237 0264	BBE	48"	1219.2	1.000	25.40	40.0	0871005027	475	530	31	1950	210	OK	OK	145	148	155	610	OK	N/A	OK	OK	116	OK	N/A

Chemical Analysis %, on the product

Heat No.	C	Mn	Si	S	P	Cr	Ni	Cu	Mo	V	Nb	TI	B	V10-TI Max	CEC Max 0.31%
0871005023	0.14	1.37	0.29	0.010	0.011	0.021	0.013	0.017	0.001	0.002	0.002	0.004	0.0001	0.044	0.22
0871005018	0.14	1.3A	0.29	0.007	0.018	0.024	0.012	0.016	0.002	0.002	0.003	0.004	0.0001	0.049	0.23
0871005024	0.13	1.3A	0.30	0.009	0.018	0.023	0.011	0.015	0.001	0.002	0.004	0.006	0.0001	0.052	0.22
0871005027	0.14	1.3A	0.29	0.009	0.018	0.024	0.011	0.014	0.001	0.002	0.004	0.006	0.0001	0.052	0.22

Remarks: [1] TYPE BPE=Beck Plain Ends RSE=Beck Beveled Ends BTE=Beck Threaded Ends

Notes:

- Orientation of Tensile Test Specimens: □ Longitudinal & Transverse
- Welded in 3A, 5min Q25 4min
- Groove Length 50.0mm
- Impact test size: □ 10x10x5mm □ 7.5x10x5mm □ 5x10x5mm
- Impact test temperature: N/A

- [2] O.D.=Outside Diameter
- [3] W.T.=Wall Thickness
- [4] Y.S.=Yield Strength
- [5] T.S.=Tensile Strength
- [6] EL=Elongation
- [7] HOT=Hot Destructive Test
- [8] U.T=Ultrasonic Test
- [9] R.T.=Radiogram Test
- [10] P.M.=Residual Magnets

We hereby certify that the products herein have been manufactured and tested in accordance with the above specification and requirements called for the order

Quality Director: Cai Jian Feng
 Inspection Dept: _____
 Inspector/Buyer Representative: _____

FOR AND ON BEHALF OF
JIANGSU YULONG STEEL PIPE CO. LTD

唐永清

Authorized signature

MP X 145,059 = PSI

24" x 500 wall

LIAONING LARGE SCALE STEEL PIPE CO., LTD

ROLL TEST CERTIFICATE

COPY

CERTIFICATE NO. 019

DESCRIPTION: NEWLY PRODUCED PRIME QUALITY ERW STEEL PIPE

CO. No: L1325082509P

STANDARD: AFI 5L

DATE: 2008-3-8

NO.	HEAT	Pieces	SIZE			WEIGHT (kg/m)	TOTAL WEIGHT (M ²)	CHEMICAL COMPOSITION								BASE METAL MECHANICAL PROPERTIES		ELONGATION (%)	DURATION OF TEST (s)			
			W/D (mm)	W.T (mm)	Length (m)			C	Mn	P	S	Si	Ni	Cr	Mo	V	Y.S. (MPa)			T.S. (MPa)		
1	08CD5900	24	0.5	0.5	11.98		0.022	1.42	0.017	0.004	0.010	0.01	0.01	0.01	0.01	0.01	477	550	20			
2	08CD5903	24	0.5	0.5	11.98		0.038	1.40	0.016	0.006	0.010	0.01	0.01	0.01	0.01	0.01	458	541	24			
3	08AD3671	24	0.5	0.5	11.98	126.45	0.039	1.40	0.015	0.004	0.010	0.01	0.02	0.02	0.01	0.01	477	550	30			
4	08AD3676	24	0.5	0.5	11.98	126.45	0.070	1.42	0.016	0.005	0.010	0.01	0.02	0.01	0.01	0.01	485	541	24			
5	08AD3672	24	0.5	0.5	11.98		0.038	1.43	0.016	0.006	0.010	0.01	0.01	0.01	0.01	0.01	477	550	30			
6	08CD5901	24	0.5	0.5	11.98		0.038	1.43	0.016	0.006	0.010	0.01	0.01	0.01	0.01	0.01	477	550	30			
7	08CD5904	24	0.5	0.5	11.98		0.070	1.41	0.018	0.007	0.020	0.01	0.02	0.01	0.01	0.01	477	550	30			
NO	HEAT	WELD JOINT MECHANICAL PROPERTIES					FLATTENING					VISUAL DIMENSIONS					U.T.		HYDROSTATIC PRESSURE (MPa)		DURATION OF TEST (s)	
1	08CD5900						OK					OK					OK		7500		10	
2	08CD5903						OK					OK					OK		7500		10	
3	08AD3671						OK					OK					OK		7500		10	
4	08AD3670						OK					OK					OK		7500		10	
5	08AD3672						OK					OK					OK		7500		10	
6	08CD5901						OK					OK					OK		7500		10	
7	08CD5904						OK					OK					OK		7500		10	

PIPE HAS BEEN MADE ACCORDING TO ASTM A352 GRADE 3/API 5L AND 160PGT OF QW FIELD FOR EACH HEAT NUMBER.

INSPECTOR:

[Signature]

ISSUER:

[Signature]