

Vermont Agency of Transportation  
Certification & Independent Assurance Unit  
Type "D" record of certification from manufacturer

Name of Manufacturer: Merrimack Sheet Metal  
Address: 119 Hall Street Concord NH  
We hereby certify: **STRUCTURAL STEEL (I-91 - BRIDGE NO. 58N)**  
**714.02 STRUCTURAL STEEL**  
In the quantity of: 1.00 LS (Plan Quantity)  
Furnished by: Merrimack Sheet Metal  
For use on: **13A106 0030 BRADFORD-NEWBURY IM BPNT(14)**  
Identified by: MILL CERT ATTACHED

Conforms to all requirements of the State of Vermont Agency of Transportation 2011 standard specifications, pertinent project plans, and special provisions for the above stated contract for item or items listed as follows: 506.75 and that processing, product testing and inspection control of raw materials are in conformity with all applicable specification, drawings and/or standards of all materials furnished.

Subscribed and sworn to before me

By:

[Signature]  
(Signature of Authorized Representative)

this 1 day of June 2016

Name:

Jim Dussault

(Type or Print)

[Signature]

(Notary Public)

Title:

VP

(Company Status or Affiliation)

Commission Expiring on

3/9/2021

Certifications for materials requiring a type "C" or "D" certification, when specified by contract provisions, must be accompanied by mill test reports showing chemical and physical analyses.

This certification is to be completed by the manufacturer of the materials and not by the supplier or dealer. This certification is to be sent to:

Vermont Agency of Transportation  
Materials Section  
2178 Airport Rd, Unit B  
Berlin, VT 05641

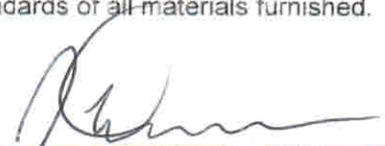
Vermont Agency of Transportation  
Certification & Independent Assurance Unit  
Type "D" record of certification from manufacturer

Name of Manufacturer: Merrimack Sheet Metal  
Address: 119 Hall Street Concord NH  
We hereby certify: **STRUCTURAL STEEL (I-91 - BRIDGE NO. 58S)**  
**714.02      STRUCTURAL STEEL**  
In the quantity of: 1.00 LS (Plan Quantity)  
Furnished by: Merrimack Sheet Metal  
For use on: **13A106    0505    BRADFORD-NEWBURY IM BPNT(14)**  
Identified by: MILL CERTS. ATTACHED

Conforms to all requirements of the State of Vermont Agency of Transportation 2011 standard specifications, pertinent project plans, and special provisions for the above stated contract for item or items listed as follows: 506.75 and that processing, product testing and inspection control of raw materials are in conformity with all applicable specification, drawings and/or standards of all materials furnished.

Subscribed and sworn to before me

By:

  
(Signature of Authorized Representative)

this 1 day of June 20 16

Name:

Jim Dussault  
(Type or Print)

  
(Notary Public)

Title:

VP  
(Company Status or Affiliation)

Commission Expiring on 3/9/2021

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Materials Section  
2178 Airport Rd, Unit B  
Berlin, VT 05641

Vermont Agency of Transportation  
Certification & Independent Assurance Unit  
Type "D" record of certification from manufacturer

Name of Manufacturer: Merrimack Sheet Metal  
Address: 119 Hall Street Concord NH  
We hereby certify: **STRUCTURAL STEEL (I-91 - BRIDGE NO. 58N)**  
**714.05 HIGH STRENGTH BOLTS, NUTS AND WASHERS**  
In the quantity of: 1.00 LS (Plan Quantity)  
Furnished by: Merrimack Sheet Metal  
For use on: **13A106 0030 BRADFORD-NEWBURY IM BPNT(14)**  
Identified by: MILL CERTS ATTACHED

Conforms to all requirements of the State of Vermont Agency of Transportation 2011 standard specifications, pertinent project plans, and special provisions for the above stated contract for item or items listed as follows: 506.75 and that processing, product testing and inspection control of raw materials are in conformity with all applicable specification, drawings and/or standards of all materials furnished.

Subscribed and sworn to before me

this 1 day of June 2016

km  
(Notary Public)

By: [Signature]  
(Signature of Authorized Representative)

Name: Jim Dussault  
(Type or Print)

Title: VP  
(Company Status or Affiliation)

Commission Expiring on 3/9/2021

Certifications for materials requiring a type "C" or "D" certification, when specified by contract provisions, must be accompanied by mill test reports showing chemical and physical analyses.

This certification is to be completed by the manufacturer of the materials and not by the supplier or dealer. This certification is to be sent to:

Vermont Agency of Transportation  
Materials Section  
2178 Airport Rd, Unit B  
Berlin, VT 05641

Vermont Agency of Transportation  
Certification & Independent Assurance Unit  
Type "D" record of certification from manufacturer

Name of Manufacturer: Merrimack Sheet Metal

Address: 119 Hall Street Concord NH

We hereby certify: **STRUCTURAL STEEL (I-91 - BRIDGE NO. 58S)**

**714.05 HIGH STRENGTH BOLTS, NUTS AND WASHERS**

In the quantity of: 1.00 LS (Plan Quantity)

Furnished by: Merrimack Sheet Metal

For use on: **13A106 0505 BRADFORD-NEWBURY IM BPNT(14)**

Identified by: Mill CRAYS ATTACHED

Conforms to all requirements of the State of Vermont Agency of Transportation 2011 standard specifications, pertinent project plans, and special provisions for the above stated contract for item or items listed as follows: 506.75 and that processing, product testing and inspection control of raw materials are in conformity with all applicable specification, drawings and/or standards of all materials furnished.

Subscribed and sworn to before me

By: [Signature]  
(Signature of Authorized Representative)

this 1 day of June 2016

Name: Jim Dussault  
(Type or Print)

[Signature]  
(Notary Public)

Title: VP  
(Company Status or Affiliation)

Commission Expiring on 3/9/2021

Certifications for materials requiring a type "C" or "D" certification, when specified by contract provisions, must be accompanied by mill test reports showing chemical and physical analyses.

This certification is to be completed by the manufacturer of the materials and not by the supplier or dealer. This certification is to be sent to:

Vermont Agency of Transportation  
Materials Section  
2178 Airport Rd, Unit B  
Berlin, VT 05641

# Certification of Compliance to Galvanizing Standards Pursuant to ASTM Specifications

**Date:** May 11, 2016  
**Galvanize Date:** April 27, 2016

**Fabricator:** Merrimack Sheet Metal  
**Purchase Order:** 2176B  
**Invoice#:** 32780

Bay State Galvanizing Co., Inc. hereby certifies that all materials supplied to the above entities were hot-dip galvanized with domestic zinc that is of special 99.9% high grade quality with .05% to .09% domestic nickel added to the bath, per Mass. Specification M 7.10. All records pertinent to this certificate will be maintained for a period of not less than three years of completion. Bay State Galvanizing also certifies that the hot-dip galvanizing process was performed in compliance and in accordance with the following applicable ASTM specifications:

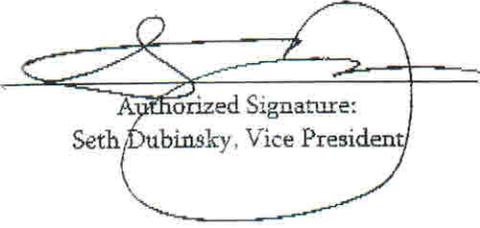
**ASTM A-123** – Standard Specification for Zinc Coatings on Iron & Steel Products

**ASTM A-153** – Standard Specification for Zinc Coatings on Iron & Steel Hardware

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**Bay State Galvanizing Co., Inc.**  
**128 Spring Street**  
**Everett, MA 02149**

DATE: 5-11-16

  
Authorized Signature:  
Seth Dubinsky, Vice President

MERRIMACK SHEET METAL, INC.  
RECEIVED 5/3/16 PO # 2176B  
JOB # 6386 / 6675 / 6300  
COMMENT Monillo / Andley / RPAK

Sterling Pipe and Tube, Inc.  
 5335 Enterprise Blvd.  
 Toledo, Ohio 43612-3810

**Material Analysis Certification**  
 Thursday, February 11, 2016 9:31:32 AM

**METALS USA-PITTSBURGH**  
 50 CABOT BLVD. EAST  
 LANGHORNE, PA 19047

**Sterling Order:** 130493  
**Purchase Order:** PHI-34069  
**Bill Of Lading:** 154856

**1 1/4" SCH 40 X 252" BLK A500B**

Heat No.	C	Mn	P	S	Si	Cu	Va	Al	Cb	Ti	Cr	Ni	Mo
193267	0.050	0.57	0.013	0.004	0.020	0.11	0.000	0.020	0.005	0.000	0.060	0.04	0.010
Processor: STERLING PIPE Grade A500													
Yield 53060 Tensile 63820 Elong 32.3													
Heat No.	C	Mn	P	S	Si	Cu	Va	Al	Cb	Ti	Cr	Ni	Mo
193657	0.050	0.57	0.013	0.002	0.030	0.10	0.000	0.030	0.006	0.001	0.090	0.04	0.010
Processor: STERLING PIPE Grade A500													
Yield 51530 Tensile 63390 Elong 35.6													

*The above chemical analysis was provided by the producing mill or a qualified testing laboratory. The above material conforms to all A500M-13 GradeB specifications for round structural tubing: 42,000 minimum yield strength; 58,000 minimum tensile strength; and 23 percent elongation.*

**Cheryl Johnson, Quality Engineer**  
 PH: (800) 888-2013

Melted and Manufactured in The United States of America

MERRIMACK SHEET METAL, INC	
RECEIVED	5/12/16 PO # 8278
JOB #	6386
COMMENT	Monuco

American Galvanizing Co., Inc.

Order No.: 957

# Certification

Date: 02/25/2016

Entry Date: 02/05/2016

Page: 1 of 1

**To:**

METALS USA  
50 CABOT BOULEVARD  
ATTN: DEBBIE  
LANGHORNE PA 19047

Purchase Order No.:  
Packing List No.:

1206

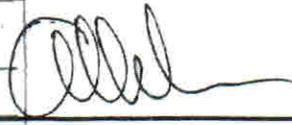
Quantity	Part Number / Part Name / Part Description	Pounds
122	Stock Structural END PIPE 1-1/4x40x21	6170
61	Stock Structural END PIPE 1-1/2x40x21	3672
34	Stock Structural END PIPE 2x40x21	2744
24	Stock Structural END PIPE 3x40x21	4000
28	Stock Structural END PIPE 2-1/2x40x21	3585

Valmont American Galvanizing has systems, policies, and processes in place to ensure materials are processed per ASTM A123 requirements, providing that fabrications are in accordance to ASTM A385, as stated in ASTM A123.

Valmont American Galvanizing Compliance Management System complies with the ASTM A 123 specifications request.

Audits of the procedures, processes, and the overall quality system are performed by both internal and external independent auditors to ensure all aspects affecting the quality and performance of Valmont American Galvanizing are monitored and maintained.

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/12/16 PO # 8278  
 JOB # 6386  
 COMMENT Monaco

  
 Allen Ivins  
 Quality Assurance Supervisor

**METALS USA**  
**MERRIMACK SHEET METAL**  
 Carbon Wide Flange Beam A 992  
 6 x 9 X 20  
 PART NO:

PO: 8278  
 POREQ:  
 HEAT: 1601387

**Certificate of Mill Test Results**  
 SKO-2622238-4  
 9-May-2016  
 Page 1 of 1

MCCR STEEL - BERKELEY  
 P.O. Box 2238  
 Mt. Pleasant, S.C., 29464  
 Phone: (843) 336-6000

Sold To: METALS USA  
 50 CARROLL BLVD  
 R992 ONLY  
 IRINGHORNE, PA 19047

SHIP TO: METALS USA-RMGRIDGE  
 1D TOWER ROAD  
 SEEKONK, MA 02771

Customer H: 1852 - 6  
 Customer PO: SKO-10274  
 B.O.I. H.: 1181627  
 MDS: I

CERTIFIED MILL TEST REPORT

100% ENF MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor Berkeley are cast and  
 rolled to a fully killed and fine grain practice.  
 Mercury has not been used in the direct manufacturing of this material.

SPECIFICATIONS: Tested in accordance with ASTM specification A6/AS72-14 and A370. Quality Manual Rev H5 (12-8-15).

RRSHID : M270-345M270-50-10  
 RSMSE : SR-36 13  
 RSIM : R992-11(13)/R36-14/R529-14-50/R572-5015/R709-50 15  
 CSN : G40-21-50W/C40-2150W/M/C402150WMI

Description	Heat	Yield/ Tensile Ratio	Yield (B51) (MPa)	Tensile (B51) (MPa)	Elong %	C	CE	Mn	Mo	Ti	P	S	SI	Cu	Ni	CE1	CE2	Pcm
W12X19	2515570	.85	59000	69500	26.65	.07	.01	.01	.001	.005	.0073	.021	.004	.013	.07	.23	.2643	.1261
D40, 00, 00*	R992-11(15)	.83	407	479	25.88	.04	.01	.001	.001	.0014	.0057	.019	.003	.026	2.80	.2254	.1221	0
W310X28.3		.83	57800	69400	25.88	.07	.01	.001	.001	.0053	.0074	.025	.004	.018	4.31	.2772	.1322	0
D12, 1920m		.84	62100	73900	22.99	.04	.01	.001	.001	.0014	.0057	.019	.003	.026	2.80	.2254	.1221	0
W12X19	2601199	.84	428	510	25.85	.07	.01	.001	.001	.0014	.0057	.019	.003	.026	2.80	.2254	.1221	0
D50, 00, 00*	R992-11(15)	.83	60800	73100	25.85	.04	.01	.001	.001	.0014	.0057	.019	.003	.026	2.80	.2254	.1221	0
W310X28.3		.83	419	504	8 Pdc(s)	7,600 lbs												
D13, 2400m		.82	56100	68300	28.70	.07	.01	.001	.001	.007	.0075	.025	.004	.018	4.31	.2772	.1322	0
W12X22	2515543	.82	387	471	27.46	.05	.01	.001	.001	.007	.0075	.025	.004	.018	4.31	.2772	.1322	0
D40, 00, 00*	R992-11(15)	.84	56800	67600	27.46	.05	.01	.001	.001	.007	.0075	.025	.004	.018	4.31	.2772	.1322	0
W310X32.7		.84	392	466	16 Pdc(s)	14,080 lbs												
D12, 1920m		.82	54500	66600	29.36	.07	.01	.001	.001	.007	.0075	.024	.004	.018	4.31	.2772	.1322	0
W12X19	1601387	.82	376	459	30.68	.02	.01	.001	.001	.0052	.0004	.0004	.0049	.014	2.48	.2554	.1228	0
D50, 00, 00*	R992-11(15)	.83	54400	65900	30.68	.02	.01	.001	.001	.0052	.0004	.0004	.0049	.014	2.48	.2554	.1228	0
W150X13.5		.83	375	454	12 Pdc(s)	5,400 lbs												
D13, 2400m		.82	375	454	12 Pdc(s)	5,400 lbs												

Elongation based on 8" (20.32cm) gauge length. No Weld Repair was performed. Rg free and no contact with Rg during manufacture.  
 CI = 26.01Cu+3.88Ni+1.20Cr+17.28P-(7.29CuMn)-(.9.10NiW)-.33.39(CuCu)  
 Pcm = C+(Si/30)+(Mn/20)+(Cu/20)+(Ni/60)+(Cr/20)+(Mo/15)+(V/10)+5B  
 CE2 = C+(Mn/5)+(Cr+Mo+V/5)+((Ni+Cu)/15)

I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by the material manufacturer are in compliance with material specifications, and when designated by the purchaser, meet applicable specifications.

*James P. Work*  
 Quality Control  
 (State of South Carolina  
 County of Berkeley  
 sworn and subscribed before me  
 day of \_\_\_\_\_)

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/16/16 PO# 8278  
 JOB # 6386

METALS USA  
 CUST. PO #  
 OUR ORDER #

**METALS USA**  
**MERRIMACK SHEET METAL**  
 Carbon Structural Angle A36/A 572 Gr 50  
 6 x 4 x 3/8 X 40'  
 PART NO:

PO: 8278  
 PO/REQ:  
 HEAT: 55044288

**Certificate of Mill Test Results**  
 SKO-262238-5  
 9-May-2016  
 Page 1 of 1



**GERDAU**

US-ML-CARTERSVILLE  
 384 OLD GRASSDALE ROAD NE  
 CARTERSVILLE, GA 30121  
 USA

CUSTOMER PURCHASE ORDER NUMBER  
 SKO-10471

**CERTIFIED MATERIAL TEST REPORT**

CUSTOMER SHIP TO		CUSTOMER BILL TO		GRADE	SHAPE / SIZE	DOCUMENT ID:
METALS USA PLATE SHAPES NE INC METALS USA PLATES SHAPES NE IN 10 TOWER RD SEEKONK, MA 02771-2607 USA		50 CABOT BLVD E LANGHORNE, PA 19047-1802 USA		GGM/DLTI	Angle / 6X4X3/8	0000000000
SALES ORDER 3633994/000020		CUSTOMER MATERIAL N°		LENGTH	WEIGHT	HEAT / BATCH
BILL OF LADING 1323-0000068733		DATE 04/26/2016		4000"	17,712 LB	55044288/02
SPECIFICATION / DATE OF REVISION				ASTM A529-14, A572-15 ASTM A6-14, A36-14, ASME SA-36 ASTM A709-13A, AASHTO M270-12 CSA G40.20-13/G40.21-13		

CHEMICAL COMPOSITION	C	Mn	P	S	Si	Sp	Ni	Cr	Mo	V	Nb	N	Pb
	0.15	0.91	0.020	0.026	0.20	0.32	0.09	0.16	0.027	0.016	0.000	0.0090	0.0000

CHEMICAL COMPOSITION	Sp	
	0.012	

MECHANICAL PROPERTIES	YTS	UTS	YS 0.2%	YS
Elong.	72300	MTa	52400	MPa
7/8	8.000	499	361	361
22.10	8.000	509	53900	372

COMMENTS / NOTES  
 This grade meets the requirements for the following grades:  
 ASTM Grades: A36, A529-50, A572-50, A709-36, A709-50  
 CSA Grades: 44W, 50W  
 AASHTO Grades: M270-36, M270-50  
 ASME Grades: SA36

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/10/16 PO # 8278  
 JOB # 6386  
 COMMENT Monuco

The above figures are certified chemical and physical test records as contained in the permanent records of company. We certify that these data are correct and in compliance with specified requirements. This material, including the bills, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

*Mackay*  
 BHASKAR VALAMANCHILI  
 QUALITY DIRECTOR

*Wang*  
 YAN WANG  
 QUALITY ASSURANCE MGR

**Construction & Materials Bureau  
Materials Acceptance Program - Certification Unit**



**Record of Manufactured Material Certification  
Type "D" Certification**

Manufacturer: Merrimack Sheet Metal

Address: 119 Hall Street Concord NH 03301

WE HEREBY CERTIFY the following material: Item # 506.75 Struct Steel

Identified by (Lot #, Batch #, Heat #, Unique Identifier): Trough Assembly

For use on (Project Line Number): \_\_\_\_\_ In the quantity of: Lump Sum

Furnished by (Contractor or Supplier): MONOKO LLC

Contract Name and Number: Bradford/Newbury VT

CONFORMS TO ALL REQUIREMENTS OF THE STATE OF VERMONT AGENCY OF TRANSPORTATION 2011 STANDARD SPECIFICATIONS, PERTINENT PROJECT PLANS, AND SPECIAL PROVISIONS FOR THE ABOVE STATED CONTRACT FOR PAY ITEM NUMBER(S) LISTED AS FOLLOWS: 506.75 AND THAT PROCESSING, PRODUCT TESTING AND INSPECTION CONTROL OF RAW MATERIALS ARE IN CONFORMITY WITH ALL APPLICABLE SPECIFICATIONS, DRAWINGS AND/OR STANDARDS OF ALL MATERIALS FURNISHED.

By signing this document you certify that all materials subject to the Buy American Provision of the American Recovery and Reinvestment Act (ARRA), including any Substantial Transformations, occurred within the United States of America.

Subscribed and sworn to before me

this 25 day of May 2016.

[Signature] 3/9/2021  
Notary Public Commission Expiring on

Signature: [Signature]  
Authorized Representative

Name: Jim Dossault  
(Type or Print)

Title: V.P.  
Company and Affiliation

Contact Information: 603-224-7766 msmdesk@comcast.net  
(Telephone Number and Email Address)

**NOTE:** The Manufacturer is the only entity that can conclusively certify that all tests have been performed on the material and that the results of those tests meet VTrans specifications. However, if the supplier or contractor can provide documentation that establishes an auditable chain of custody for the material that also shows it meets VTrans specifications then they can accept full legal responsibility for the manufacture of the material and sign the certification form.

Certifications for materials requiring a Type "C" or "D" certification as specified by the Vermont Standard Specification for Construction, General Special Provisions, or Contract Documents must include a Certificate of Analysis (COA) as well as a Certificate of Compliance (COC).

The signor of this form is subject to the Vermont False Claims Act as set forth in 32 V.S.A. § 630 *et seq.*, and shall not discriminate or retaliate against any employees or agents for disclosing information concerning a violation of law, fraud, waste, abuse of authority or acts threatening health or safety, including but not limited to allegations concerning the False Claims Act.

THIS CERTIFICATION SHOULD BE SENT TO:

Vermont Agency of Transportation  
Materials Acceptance Program  
Certification Unit  
2178 Airport Road, Unit B  
Berlin, Vermont 05641-8628

OR CAN BE EMAILED TO: [AOT.MaterialsCertifications@vermont.gov](mailto:AOT.MaterialsCertifications@vermont.gov)

CERTIFIED MATERIAL TEST REPORT



US-ML-CARTERSVILLE  
384 OLD GRASSDALE ROAD NE  
CARTERSVILLE, GA 30121  
USA

CUSTOMER SHIP TO METALS USA PLATE SHAPES NE INC 10 TOWER RD SEEKONK, MA 02771-2607 USA		CUSTOMER BILL TO METALS USA PLATES SHAPES NE INC 50 CABOT BLVD E LANGHORNE, PA 19047-1802 USA		GRADE GGMULTI	SHAPE / SIZE Angle / 4X4X1/4	
SALES ORDER 2908646/000060		CUSTOMER MATERIAL N°		LENGTH 40'00"	WEIGHT 3,960 LB	HEAT / BATCH 55041402/04
SPECIFICATION / DATE or REVISION A6-13A, A36-12, ASME SA36-13 ASTM A529-05(2009), A572-13A ASTM A709-13A, AASHTO M270-12 CSA G40.20-13/G40.21-13			CUSTOMER PURCHASE ORDER NUMBER SKO-10057			
BILL OF LADING 1323-0000059046		DATE 11/06/2015				

C	Mn	P	S	Si	Cu	Ni	C	Mo	V	Nb	N	Pb
%	%	%	%	%	%	%	%	%	%	%	%	%
0.14	0.91	0.013	0.019	0.20	0.33	0.12	0.11	0.031	0.017	0.003	0.0090	0.0050

Sp
%
0.012

Elong.	G/L	UTS	UTS	YS	YS
%	inch	PSI	MPa	0.2%	MPa
25.10	8.000	73000	503	54700	377
23.70	8.000	74300	512	55900	385

COMMENTS / NOTES  
This grade meets the requirements for the following grades:  
ASTM Grades: A36; A529-50; A572-50; A709-36; A709-50  
CSA Grades: 44W; 50W  
AASHTO Grades: M270-36; M270-50  
ASME Grades: SA36

The above figures are certified chemical and physical test records as contained in the permanent records of company. We certify that these data are correct and in compliance with specified requirements. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

*Bhaskar*

BHASKAR YALAMANCHILI  
QUALITY DIRECTOR

*Yan Wang*

YAN WANG  
QUALITY ASSURANCE MGR.

MERRIMACK SHEET METAL, INC.
RECEIVED <u>12/9/15</u> PO # <u>8072</u>
JOB # <u>6374</u>
COMMENT <u>Liddell Brothers</u>

METALS USA - SEEKONK - TEST REPORT  
Customer: Merrimack Sheet Metal  
Date: 12/9/15  
Your P.O. #: 8072  
Our Charge #: 258421-1

METALS USA  
 MERRIMACK SHEET METAL  
 High Strength Plate A 588  
 1/4 X 46" X 96"  
 PART NO:

PO: 8229  
 POREQ:  
 HEAT: U4882

Certificate of Mill Test Results  
 SKO-261411-2  
 6-Apr-2016  
 Page 1 of 2

METALS USA  
 METALS USA P&S NORTHEAST  
 High Strength Plate A 588  
 1/4 X 96 0000" X 240 0000"  
 PART NO:

PO:  
 POREQ:  
 HEAT: U4882

Certificate of Mill Test Results  
 SKO-254382-1  
 27-Jul-2015  
 Page 1 of 2

TEST CERTIFICATE

SHIP TO: ARCELORMITTAL PLATE LLC  
 METALS USA PLATES & SHAPES NE  
 10 TOWER ROAD  
 SEEKONK MA 02771

PAGE NO: 01 OF 02  
 FILE NO: 4590-04-01  
 MILL ORDER NO: 47249-001  
 MELT NO: U4882  
 DATE: 05/14/15

SOLD TO: METALS USA PLATES&SHAPES NE LP  
 50 CABOT BOULEVARD EAST  
 LANGHORNE PA 19047

SEND TO: 01-C

STEEL PLATE DIMENSIONS / DESCRIPTION

TOTAL QTY	GAUGE	WIDTH	LENGTH	DESCRIPTION	PIECE WEIGHT
11	.25"	96"	240"	RECTANGLE	1634#

CUSTOMER INFORMATION

CUSTOMER PO: SKO-9590

SPECIFICATION(S)

THIS MATERIAL HAS BEEN MANUFACTURED AND TESTED IN ACCORDANCE WITH PURCHASE ORDER REQUIREMENTS AND SPECIFICATION(S).

ASTM A709-GR50W YR 13A TYPE-A  
 SPEC MOD FOR PHYSICALS IMPACTS WAIVED ASTM  
 A709-GR50W 13A TYPE-B IMPACTS WAIVED, ASTM A588 10  
 GRADES A & B, 5 AASHT M270M GR.345W 12 TYPE A/B  
 PRODUCT OF COIL  
 THE MANAGEMENT SYSTEMS FOR MANUFACTURE OF THIS PRODUCT ARE CERTIFIED TO ISO 9001:2008 (CERTIFICATE NO. 30130) AND ISO 14001:2004 (CERTIFICATE NO. 49009).

CHEMICAL COMPOSITION (WT%) FOR ALL ELEMENTS EXCEPT H (PPM)

	C	MN	P	S	CU	SI	NI	CR	MO
MELT:U4882	.07	.91	.010	.007	.26	.36	.18	.54	.04
	V	AL	CB						
MELT:U4882	.036	.014	.001						

MANUFACTURE

FINE GRAIN PRACTICE

MERRIMACK SHEET METAL, INC.  
 RECEIVED 4/6/16 PO # 8229  
 JOB # STK  
 COMMENT STK

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME  
 THIS DAY OF 05/14/15  
*Carol L. Slood*  
 NOTARY PUBLIC

NOTARIAL SEAL  
 CAROL L. SLOOD, NOTARY PUBLIC  
 COATESVILLE, CHESTER CO., PA  
 MY COMMISSION EXPIRES MAY 27, 2018

WE HEREBY CERTIFY THE ABOVE INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC  
 QUALITY ASSURANCE LABORATORY  
 139 MODENA ROAD  
 COATESVILLE, PA 19320

*Elinore Zaplitny*  
 SUPERVISOR - TEST REPORTING  
 ELINORE ZAPLITNY

METALS USA  
 MERRIMACK SHEET METAL  
 High Strength Plate A 588  
 1/4 X 46" X 96"  
 PART NO:

PO: 8229  
 PO/REQ:  
 HEAT: U4882

Certificate of Mill Test Results  
 SKO-261411-2  
 6-Apr-2016  
 Page 2 of 2

METALS USA  
 METALS USA P&S NORTHEAST  
 High Strength Plate A 588  
 1/4 X 96.0000" X 240.0000"  
 PART NO:

PO:  
 PO/REQ:  
 HEAT: U4882

Certificate of Mill Test Results  
 SKO-254382-1  
 27-Jul-2015  
 Page 2 of 2

TEST CERTIFICATE

PAGE NO: 02 OF 02  
 FILE NO: 4590-04-01  
 MILL ORDER NO: 47249-001  
 MELT NO: U4882  
 DATE: 05/14/15

TENSILE PROPERTIES

LOC	DIR	YIELD STRENGTH PSI X 1000	TENSILE STRENGTH PSI X 1000	ELONGATION GAGE LGTH	%
BOT.	TRANS.	64	77	8.00"	19.0
BOT.	TRANS.	69	79	8.00"	19.0
MID.	TRANS.	66	79	8.00"	17.0
MID.	TRANS.	68	81	8.00"	17.0

GENERAL INFORMATION

ALL STEEL HAS BEEN MELTED AND MANUFACTURED IN THE U.S.A.  
 MERCURY OR MERCURY COMPOUNDS ARE NOT USED IN THE  
 MANUFACTURE OF ARCELORMITTAL PLATE LLC PRODUCTS.  
 ACID SOLUBLE ALUMINUM  
 FOR MORE INFORMATION AND PROCESSING GUIDELINES, REFER TO  
 WWW.ARCELORMITTAL.COM/PLATEINFORMATION

B/L #77670 CUSTOMER'S TRUCK

MERRIMACK SHEET METAL, INC.  
 RECEIVED 4/6/16 PO # 8229  
 JOB # ~~STK~~ STK  
 COMMENT STK

NOTARY

AFFIRMED AND SUBSCRIBED BEFORE ME  
 THIS DAY OF 05/14/15

Carol L. Slody  
 NOTARY PUBLIC

WE HEREBY CERTIFY THE ABOVE  
 INFORMATION IS CORRECT:

ARCELORMITTAL PLATE LLC  
 QUALITY ASSURANCE LABORATORY  
 139 MODENA ROAD  
 COATESVILLE, PA 19320

NOTARIAL SEAL  
 CAROL L. SLODY, NOTARY PUBLIC  
 COATESVILLE, CHESTER CO., PA  
 MY COMMISSION EXPIRES MAY 21, 2018

Elinore Zaplitny  
 SUPERVISOR - TEST REPORTING  
 ELINORE ZAPLITNY



SLSB, LLC  
 2000 ACCESS BLVD  
 MADISON, IL 62060  
 PH 314-389-7500  
 FAX 314-389-7510

# TEST REPORT

Lot No: **BG0420** MANUFACTURING DATE: **11/12/2015**

## PRODUCTION INFORMATION

PART NO: **AAAG075200**  
 SIZE: **3/4-10 X 2**  
 DESCRIPTION: **HVY HEX STRUC. BOLT - HDG**  
 MANUFACTURING QTY: **81,604**

MANUFACTURERS HEAD MARK



## ASTM/ASME SPECIFICATIONS

SPECIFICATION	AMEND	SPECIFICATION	AMEND
ASTM F3125	15	ASTM F1470	12
ASTM A325-1	14	ASTM F606	14
ASME B18.2.6	14	ASTM F788	13
ASME B1.1 UNC 2A	14	ASTM F2329	13

## RAW MATERIAL INFORMATION\*

STEEL SUPPLIERS TEST REPORT ATTACHED WITH CHEMISTRY INFORMATION

STEEL SUPPLIER	GRADE	HEAT INFO/NUMBER	ASTM SPEC	AMEND
<b>KREHER/CHARTER</b>	<b>10B30</b>	<b>NF15203404</b>	<b>ASTM A29</b>	<b>12e1</b>

## MECHANICAL PROPERTIES

QTY SAMPLED	ISSUE DATE	SAMPLED BY:	TESTED BY:	HEAT TREAT PO#:	VIS INSPECTION	LOT RESULT
<b>5</b>	<b>12/23/2015</b>	<b>RC</b>	<b>RC</b>	<b>1367149-01</b>	<b>PASS</b>	<b>PASS</b>

### TENSILE STRENGTH

### PROOF LOAD TEST

### HARDNESS

WEDGE	PSI	PSI	ELONGATION	SURFACE	CORE
<b>6 DEGREES</b>	<b>40100</b>	<b>28400</b>	<b>±0.0005</b>	<b>N/A</b>	<b>25-34</b>

### SAMPLES

	1	2	3	4	5	6	7	8	AVG.
<b>TENSILE LOAD</b>	46400	46300	46200	47000	46000				46380
<b>PROOF LOAD</b>	0.0000	0.0000	0.0000	0.0000	0.0002				0.0000
<b>ELONGATION</b>									

The SLSB LLC Laboratory has been accredited by the American Association for Laboratory Accreditation in the field of mechanical and fastener testing for the tests listed above, certificate# 0696-01. The sampling plan meets or exceeds F1470 Sample Size C or applicable specification. The steel was made and melted in USA, and the product was manufactured & tested by SLSB LLC in Madison, IL, USA, free of mercury contamination. We certify that the samples tested conform to the ASTM specification listed above, and the date is a true representation of the information provided by the material supplier and our testing laboratory. This test certificate relates only to the terms listed on this document and may not be reported or distributed except in full. Thread fit and dimensional requirements are compliant to ASME B18.2.6 or B18.2.1 specification where applicable.

SIGNED: *Ben Kudlach*

DATE: 12/23/2015

AMENDED	<input type="checkbox"/>	**
DATE:	INITIAL:	

\*Heats of steel used have not had the following materials intentionally added: bismuth, selenium tellurium, or lead

\*\*Indicates the amended item, when and by whom.

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/13/16 PO # 21803  
 JOB # STK  
 COMMENT STR



# KREHER WIRE PROCESSING, INC.

34822 GODDARD ROAD, ROMULUS, MI 48174  
(734) 941-9500 FAX (734) 941-5100

## PRODUCT CERTIFICATION

WORK ORDER  
**035812**

LOT NUMBER  
**NF15203404**

SALES ORDER / RLS  
**128167 / 002**

SOLD TO

**St. Louis Screw & Bolt**  
2000 Access Blvd.  
Madison, IL 62060  
USA

**APPROVED**

*By slcerts at 12:32 pm, Nov 13, 2015*

CUSTOMER P.O.	CUSTOMER PART	QUANTITY	COILS	LADING NO	SHIPMENT DATE								
<b>SL56649</b>	<b>DIRECT DRAWN</b>	<b>37,535 Lbs</b>	<b>9</b>	<b>00010070</b>	<b>11/10/2015</b>								
SPECIFICATION <b>250-0.735-10B30-SK</b>													
<b>Phos-Poly &amp; Draw 0.735" +/- 0.002/0.002" 10B30 SKFG</b>													
CERTIFICATION COMMENTS													
<b>MELTED IN USA</b>													
CERTIFICATION REQUIREMENTS													
<b>Chemical</b>													
<b>C</b>	<b>Mn</b>	<b>P</b>	<b>S</b>	<b>Si</b>	<b>Al</b>	<b>Ni</b>	<b>Cr</b>	<b>Mo</b>	<b>B</b>	<b>Ca</b>			
.31	.76	0.011	0.008	.22	0.024	0.04	0.08	0.01	.0016	0.0008			
<b>Cu</b>	<b>N</b>	<b>Sn</b>	<b>Ti</b>	<b>V</b>									
0.09	.008	0.004	0.044	0.006									
<b>Physical</b>													
<b>Melt Source</b>													
<b>Nucor - USA</b>													
<table border="1"> <tr> <td colspan="2">MERRIMACK SHEET METAL, INC.</td> </tr> <tr> <td>RECEIVED <u>5/13/16</u></td> <td>PO # <u>2180B</u></td> </tr> <tr> <td>JOB # <u>STK</u></td> <td></td> </tr> <tr> <td>COMMENT <u>STK</u></td> <td></td> </tr> </table>						MERRIMACK SHEET METAL, INC.		RECEIVED <u>5/13/16</u>	PO # <u>2180B</u>	JOB # <u>STK</u>		COMMENT <u>STK</u>	
MERRIMACK SHEET METAL, INC.													
RECEIVED <u>5/13/16</u>	PO # <u>2180B</u>												
JOB # <u>STK</u>													
COMMENT <u>STK</u>													

I certify that the results are a true and correct copy of the records prepared and maintained by Kreher Wire in compliance with the requirements of the cited specification. Chemistry is as reported by the melt source.

Joseph Pizzo - Metallurgist

Date Printed: 11/13/2015

# KREHER STEEL COMPANY, LLC.

# Certificate of Mill Test Results

PO/Rel  
 I hereby certify that this data is correct as  
 contained in the records of this company.  
 I hereby certify that no mercury came in contact

1 -000000-000  
 with or no weld repair was done to this product  
 while in our possession.  
 Attn:

PART NO.

**NUCOR**  
**NUCOR CORPORATION**  
**NUCOR STEEL NEBRASKA**

**Mill Certification**  
**10/12/2015**

MTR #: 0000140109  
 2911 East Nucor Road  
 NORFOLK, NE 68701  
 (402) 644-0200  
 Fax: (402) 644-0329

Sold To: KREHER STEEL  
 1550 NO 25TH AVE  
 MELROSE PK, IL 60160-0000  
 (708) 345-8180  
 Fax: (708) 345-0678

Ship To: KREHER WIRE PROCESSING  
 34822 GODDARD RD  
 ROMULUS, MI 48174-0000  
 (734) 941-9500  
 Fax: (734) 941-5100

Customer P.O.	1-45612	Sales Order	144578,1
Product Group	Special Bar Quality	Part Number	31000786000XRC0
Grade	10B30	Lot #	NF1520340411
Size	766-49/64 Round Coil	Heat #	NF15203404
Product	766-49/64 Round Coil 10B30	B.L. Number	N1-312446
Description	10B30	Load Number	N1-255775
Customer Spec		Customer Part #	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

Roll Date: 10/11/2015 Melt Date: 8/30/2015 Qty Shipped LBS: 46,415 Qty Shipped Pcs: 11

Melt Date: 8/30/2015

C	Mn	V	Si	S	P	Cu	Cr	Ni	Mo	Al	Cb
.31%	.76%	0.006%	.22%	0.008%	0.011%	0.09%	0.08%	0.04%	0.01%	0.024%	0.001%
Pb	Sn	Ca	B	Ti	N						
0.000%	0.004%	0.0008%	.0016%	0.044%	80.0 ppm						

Austenitic fine grain by chemical analysis per the latest revision of ASTM A29

Df value: 0.87

**Actual Hardenability Band**

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12	J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32	
49	48	47	43	29	24	21	20																	

Roll Date: 10/11/2015

Decarb depth: 0.0020in

Yield 1: 81,801psi

Tensile 1: 91,541psi

Elongation 19% in 8"(% in 203.3mm)

Reduction Ratio 95 :1

ASTM E381

Surface: 1 Mid Radius: 1 Center: 1

- All manufacturing processes of the steel materials in this product, including melting, have been performed in the United States.
- All products produced are weld free.
- Mercury, in any form, has not been used in the production or testing of this material.
- Test conform to ASTM A29-12, ASTM E415 and ASTM E1019-resulphurized grades or applicable customer requirements.
- All material melted at Nucor Steel Nebraska is produced in an Electric Arc Furnace
- Strand Cast
- ISO-17025 LAB accreditation cert available upon request
- Exporting Country-USA
- Sales@nucor.com



Jim Hill

Division Metallurgist

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/13/16 PO # 21803  
 JOB # STK  
 COMMENT STK

# KREHER STEEL COMPANY, LLC.

# Certificate of Mill Test Results

PO/Rel

L: -00000-000

I hereby certify that this data is correct as contained in the records of this company.  
I hereby certify that no mercury came in contact

with or no weld repair was done to this product while in our possession.  
Attn:

Pg 2/2

PART NO.

**NUCOR**  
**NUCOR CORPORATION**  
**NUCOR STEEL NEBRASKA**

**Mill Certification**  
**10/12/2015**

MTR #: 0000140109  
 2911 East Nucor Road  
 NORFOLK, NE 68701  
 (402) 844-0200  
 Fax: (402) 844-0329

Sold To: KREHER STEEL  
 1550 NO 25TH AVE  
 MELROSE PK, IL 60180-0000  
 (708) 345-8180  
 Fax: (708) 345-0678

Ship To: KREHER WIRE PROCESSING  
 34822 GODDARD RD  
 ROMULUS, MI 48174-0000  
 (734) 941-9500  
 Fax: (734) 941-5100

Customer P.O.	1-45812	Sales Order	144578.1
Product Group	Special Bar Quality	Part Number	31000786000XRC0
Grade	10B30	Lot #	NF1520340411
Size	.786-49/84 Round Coil	Heat #	NF15203404
Product	.786-49/84 Round Coil 10B30	B.L. Number	N1-312446
Description	10B30	Load Number	N1-255776
Customer Spac		Customer Part #	

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed above and that it satisfies those requirements.

ASTM E45 Method A  
 Sulfides: T: 0.8 H: 0.3 Alumina: T: 1.2 H: 0.0 Silicas: T: 0.6 H: 0.0 Globular: T: 1.3 H: 0.3

Specification Comments:

- All manufacturing processes of the steel materials in this product, including melting, have been performed in the United States.
- All products produced are weld free.
- Mercury, in any form, has not been used in the production or testing of this material.
- Test conform to ASTM A29-12, ASTM E415 and ASTM E1019-resulphurized grades or applicable customer requirements.
- All material melted at Nucor Steel Nebraska is produced in an Electric Arc Furnace
- Strand Cast
- ISO-17025 LAB accreditation cert available upon request
- Exporting Country-USA
- Sales@nucor.com



Jim Hill  
 Division Metallurgist

Page 2 of 2

MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/16 PO # 2180B
JOB #	STK
COMMENT	STK



HEAT TREATERS AND FINISHERS OF METAL

5711 WEST PARK AVENUE  
ST. LOUIS, MO  
63110-1890

P (314)647-7500  
F (314)647-7518  
www.paulo.com

CERTIFIED INSPECTION REPORT

S  
O  
L  
D  
T  
O  
ST LOUIS SCREW & BOLT  
2000 ACCESS BLVD  
P O BOX 260  
MADISON, IL 62060-0260

PAULO #: 1367149-01

DATE: 12/01/2015

DATE REC'D: 11/23/2015

SHIP TO CODE:

CUSTOMER PO: SL72566

CUSTOMER DRAY:

CUSTOMER JOB: NF15203404

LOT #: BG0420

OTHER #:

PART NAME: 3/4 X 2

PART #: AAAG075200 DF

QUANTITY: 81604 PCS

MATERIAL: 10B30

INSPECTION RESULTS:

REQUIRED Final mid-radius hardness 28-32 HRC

Qty Inspected: 76

31 31 31 30 32 32 32 32 30 30 32 28 32 32 32 31 30 32  
30 30 32 31 32 32 31 32 31 32 30 32 31 32 31 32 31 32 31  
32 31 32 30 30 30 30 28 31 30 30 31 30 31 31 32 30 31 31  
31 31 32 32 32 32 32 32 30 32 31 32 31 31 31 29 30 30  
31 HRC

Requirements:

Heat Treat Certification

Final mid-radius hardness 28-32 HRC

DRY FINISH.

Process per ASTM spec F3125 rev 15.

Process per ASTM spec A 325M rev 14.

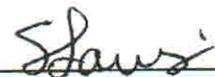
Registered to ISO/TS 16949

Heat Treated in the USA.

Req info: A325 SPEC / F3125 SPEC - DRY FINISH

I CERTIFY THAT APPLICABLE MATERIAL PROCESSES HAVE BEEN PERFORMED IN ACCORDANCE WITH THE SPECIFICATION SHOWN ABOVE.  
I HAVE INSPECTED THE WORK AND THE SAMPLING AND RESULTS ARE AS INDICATED.

  
Approved By

  
Inspector Signature

MERRIMACK SHEET METAL, INC.  
RECEIVED 5/13/16 PO # 2180 B  
JOB # STK  
COMMENT STK

Header		
Universal Galvanizing 510 E. South 1st St. Wright City, MO63390	Gage S/N:	779950
Customer Name: <b>5L5B</b>	A153 / A123 / F2329 Mils Minimum	
Part# <b>3/4x2</b>	PO# <b>72669</b>	LOT# <b>BG0420</b>
Appearance <input checked="" type="radio"/> Yes <input type="radio"/> No	Certificate of Compliance <input checked="" type="radio"/> Yes <input type="radio"/> No	F2329 Mils Minimum Nutability <input checked="" type="radio"/> Yes <input type="radio"/> No
<p>This will serve as certification that the above referenced purchase order for the above referenced parts, which were Hot Dip Galvanized in our Wright City, MO plant in the U.S.A at a bath temperature of 845° with a plus minus variance of 3° meets the ASTM specifications.</p> <div style="text-align: center;">                       Dave Gehris                      Quality Assurance Manager                 </div>		

Summary					
	#	$\bar{x}$	$\sigma$	$\downarrow$	$\uparrow$
B1	10	3.246	0.538	2.50	4.0

Readings				
#	Reading mils	Date/Time	Ignore	Notes
1	3.22	2015-12-29 00:19:06		
2	2.50	2015-12-29 00:19:09		
3	3.12	2015-12-29 00:19:13		
4	4.0	2015-12-29 00:19:16		
5	3.92	2015-12-29 00:19:25		
6	4.0	2015-12-29 00:19:28		
7	2.94	2015-12-29 00:19:38		
8	2.82	2015-12-29 00:19:43		
9	2.88	2015-12-29 00:19:58		
10	3.06	2015-12-29 00:20:03		

MERRIMACK SHEET METAL, INC.

RECEIVED 5/13/16 PO # 2180B

JOB # STK

COMMENT STK



MECHANICAL PROPERTIES TESTING AFTER HOT DIP GALVANIZING  
TESTED IN ACCORDANCE WITH F606

THESE PARTS HAVE BEEN HOT DIP GALVANIZED TO MEET ASTM F2329

**LOT NUMBER:**

**DESCRIPTION:**

**DATE TESTED:**

	REQUIRED	SAMPLE 1	SAMPLE 2	SAMPLE 3
TENSILE LOAD	40100	46300	47100	46700
PROOFLOAD	28400	.0001	.0000	.0000
HARDNESS (HRC)	25-34	30.6	29.7	30.1

SLSB QC LAB, CERTIFICATIONS

SLSB, LLC · 2000 Access Boulevard · Madison · IL · 62060 · Phone: 800.237.7059

MERRIMACK SHEET METAL, INC
RECEIVED <u>5/13/16</u> PO # <u>21803</u>
JOB # <u>STK</u>
COMMENT <u>STK</u>



**UNYTITE INC.**  
 INNOVATIVE FASTENING SYSTEMS

Unytite, Inc.  
 One Unytite Drive  
 Peru, IL 61354  
 Tel 815-224-2221  
 Fax 815-224-3434

# INSPECTION CERTIFICATE

**Job No:** 22797

**Job Information**

**Certified Date:** 4/19/16

**Customer:** HAYDON BOLTS

**Ship To:** HAYDON

**Customer PO No:** Z12986

**Shipped Qty:** 36,000

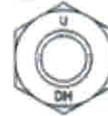
**Lot Number:** 22797-166188

**Part Information**

**Part No:** A563 3/4-10 +0.020 DH HHN HDG BLUE DYE

**Name:** ASTM A563 Heavy Hex Nut, Grade DH, Hot Dipped Galv, Blue Dye

**Manufactured Quantity:** 82,616



**Applicable Specifications**

Specification	Amend	Specification	Amend
ASME B1.1	2003	ASME B18.2.2	2015
ASME B18.2.6	2010	ASTM A563	2015
ASTM F2329	2013	ASTM F606/606M	2014
ASTM F812/F812M	2012		

**Test Results**

**Test No:** 11092 **Test:** A563 DH Mechanical Properties

Description	Hardness (HRC)	Tempering Temp (800 degree F Min)	Proof Load (Pass/Fail) (ASTM Min)	Shape & Dimension ASME B18.2.2	Thread Precision ASME B18.1.1	Visual ASTM F812
Sample Inspection	27.70	1,211	50,100	Pass	Pass	Pass

**Certified Chemical Analysis**

Heat No	Grade	Manufacturer	Origin	C	Mn	P	S	Si	Cr	Ni	Cu
166188	1045	Alton Steel Inc.	USA	0.4500	0.7400	0.006	0.0300	0.2100	0.1990	0.0780	0.1900

**Notes**

All tests are in accordance with the latest revisions of the methods prescribed in the applicable SAE and ASTM Specifications.

The samples tested conform the specifications as described/listed above and were manufactured free of mercury contamination and there is no welding performed in the production of the products. No heats to which Bismuth, Selenium, Tellurium, or Lead was intentionally added have been used to produce products.

The steel was melted and manufactured in the U.S.A. and the product was manufactured and tested in the U.S.A.

We certify that this data is true representation of information provided by the material supplier and our testing laboratory. This certified material test report relates only to the items listed on this document and may not be reproduced except in full.



4/19/16

Savage, Dan - Supervisor, Quality

Date

MERRIMACK SHEET METAL, INC.  
 RECEIVED 5/13/16 PO # 2180B  
 JOB # STK  
 COMMENT STK



# CERTIFIED MILL TEST REPORT

Alton Steel Test Lab  
 #5 Cut Street  
 Alton, IL 62002-9011  
 (618) 463-4490 EXT 2486  
 (618) 463-4491 (Fax)

**BILL TO**

Unytte, Inc.  
 One Unytte Drive  
 Peru, IL 61354

**SHIP TO**

Unytte, Inc.  
 325 Civic Road  
 LaSalle, IL 61301

Date	04/04/2016	Customer PO	P005862-1	Specifications
ASI Ord No.	78302	Customer PT.	B1045SC1.0000	SAE 1045
ASI Ord Line Item	1			

**Item Description** Strand Cast, RR =62.39:1  
 Steel Bar, Hot Rolled, 1.0000, 25' 0"

<b>Heat Number</b>	<b>Yield PSI</b>	<b>Tensile PSI</b>	<b>% Elongation</b>	<b>% ROA</b>	<b>Bend Test</b>
--------------------	------------------	--------------------	---------------------	--------------	------------------

**CHEMICAL ANALYSIS TEST METHODS ASTM E-415 & E-1019**

Heat Number	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	Nb/Cb	V	B	Ti	N	Ca
166188	0.45	0.74	0.006	0.030	0.21	0.19	0.076	0.199	0.037	0.009	0.003	0.023	0.005	0.0004	0.0012	0.0138	0.0007

**JOMINY HARDENABILITY USING ASTM A-255 CALCULATED FROM CHEMICAL DI**

<b>Heat Number</b>	<b>GS</b>	<b>DI</b>
166188	7	1.59

**SPECIAL TEST RESULTS**

Heat Number	ASTM E-45 Method A:				ASTM E-45 Method C:				SAE J422	ASTM E-381			Charpy	Hardness				
	TA	TB	TC	TD	HA	HB	HC	HD	S	O	S	O	S	R	C	RC	RB	BHN
166188											3	3	1	2	1			
											Decarb: .005							

**ADDITIONAL COMMENTS**

RMS 021

No mercury, lead, radium, or alpha containing material or equipment is used or deliberately added in the production of this steel. No weld or weld repairs were performed on this material. This Steel is 100% Electric Arc Furnace Melted and Rolled in the U.S.A. Material qualifies as NAFTA origination.

Subscribed and sworn to before me, a Notary Public, in and for the county of Madison, State of Illinois

this \_\_\_\_\_ Day of \_\_\_\_\_

My commission expires \_\_\_\_\_

(Notary Public)

Alteration or reproduction of this report, except in full, is not allowed without written approval by a representative of Alton Steel Incorporated.

I hereby certify that the above tests are correct as contained in the records of ALTON STEEL INCORPORATED

Quality Leader: Josh Levi

MERRIMACK SHEET METAL, INC.	
RECEIVED 5/13/16	PO # 2180B
JOB #	STK
COMMENT	STK

# ROGERS BROTHERS INC.



HOT DIP  
GALVANIZING

April 1, 2016

Unytite, Inc.  
Unytite Quality Department  
One Unytite Drive  
Peru, IL 61354

To Whom It May Concern:

This is to certify that the hot dip galvanizing of the following material on your Purchase Order number 6039 conforms to specification ASTM A-153. The following sizes and lot numbers comply with the coating, workmanship, finish, and appearance requirements of ASTM F2329 specifications. The hot dip galvanizing is ROHS compliant. The galvanizing process was conducted in a temperature range of 830F to 850F.

53,395 Pieces	1"-8 A563 DH HHN	Lot#22943-6214036204	4.23 Avg. Mils.
82,616 Pieces	3/4"-10 A563 DH HHN	Lot#22797-166188	4.13 Avg. Mils.

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

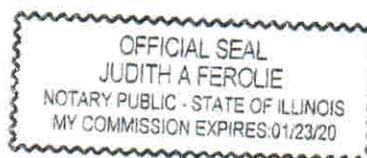
This product was galvanized in Rockford, IL USA

Yours very truly,

ROGERS BROTHERS INC.

Lorraine P. Shelburne  
Vice President

SUBSCRIBED AND SWORN  
BEFORE ME THIS 1ST DAY  
OF APRIL 2016, AD

  
NOTARY PUBLIC

MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/16 PO # 2180B
JOB #	STK
COMMENT	STC

# ROGERS BROTHERS INC.



HOT DIP  
GALVANIZING

April 5, 2016

Unytite, Inc.  
Unytite Quality Department  
One Unytite Drive  
Peru, IL 61354

To Whom It May Concern:

This is to certify that the hot dip galvanizing of the following material on your Purchase Order number 6045 conforms to specification ASTM A-153. The following sizes and lot numbers comply with the coating, workmanship, finish, and appearance requirements of ASTM F2329 specifications. The hot dip galvanizing is ROHS compliant. The galvanizing process was conducted in a temperature range of 830F to 850F.

20,402 Pieces	3/4-10 A563 DH HHN	Lot#22797-166188	4.20 Avg. Mils.
118,654 Pieces	3/4-10 A563 DH HHN	Lot#22888-166188	4.00 Avg. Mils.
32,143 Pieces	7/8-9 A563 DH HHN	Lot#22972-75062025	3.80 Avg. Mils.

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

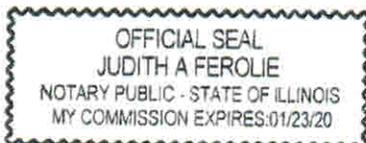
This product was galvanized in Rockford, IL USA

Yours very truly,

ROGERS BROTHERS INC.

Lorraine P. Shelburne  
Vice President

SUBSCRIBED AND SWORN  
BEFORE ME THIS 5TH DAY  
OF APRIL 2016, AD

  
NOTARY PUBLIC

MERRIMACK SHEET METAL, INC.
RECEIVED <u>5/13/16</u> PO # <u>2180 B</u>
JOB # <u>STK</u>
COMMENT <u>STK</u>

# ROGERS BROTHERS INC.



HOT DIP  
GALVANIZING

April 8, 2016

Unytite, Inc.  
Unytite Quality Department  
One Unytite Drive  
Peru, IL 61354

To Whom It May Concern:

This is to certify that the hot dip galvanizing of the following material on your Purchase Order number 6045 conforms to specification ASTM A-153. The following sizes and lot numbers comply with the coating, workmanship, finish, and appearance requirements of ASTM F2329 specifications. The hot dip galvanizing is ROHS compliant. The galvanizing process was conducted in a temperature range of 830F to 850F.

2,010 Pieces    3/4"-10 A563 DH HHN    Lot#22797-166188    3.80 Avg. Mils.

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

This product was galvanized in Rockford, IL USA

Yours very truly,

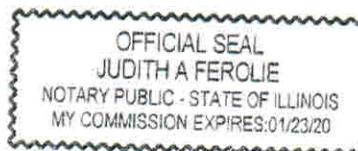
ROGERS BROTHERS INC.

John G. McRae  
Quality Assurance Manager

LPS:pd

SUBSCRIBED AND SWORN  
BEFORE ME THIS 8TH DAY  
OF APRIL 2016, AD

NOTARY PUBLIC



MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/16 PO # 2180B
JOB #	STK
COMMENT	STK

Prestige  
Stamping,  
Inc.



23513 Grossbeck Highway  
Warren, Michigan 48089  
(586)773-2700 \* Fax (586)773-2298  
www.PrestigeStamping.com

PRODUCT CERTIFICATION

CERTIFICATION NUMBER

150444

THIS IS TO CERTIFY THE PRODUCT STATED BELOW WAS FABRICATED AND PROCESSED TO THE ORDER AS INDICATED AND CONFORMS TO THE APPLICABLE SPECIFICATIONS AND STANDARDS.

85009

Customer: HAYDON BOLT INC  
1181 UNITY ST  
PHILADELPHIA, PA 19124-3104

Customer Part: AAWG075  
Prestige Part: P1480HP300  
Part Name: 3/4" F436 H/DIP  
Purchase Order: Z14234  
Shipment BOL: B191367  
Shipment ID: A0204653  
Quantity: 25000  
Manufacturers Marking: "P"

Steel Supplier: HORIZON STEEL CO.  
Grade: CF436 GRADE STEEL  
Lot: D1605  
Heat: 542404  
Carbon: .216 (.22 - .55)  
Manganese: 1.146 (.6 - 1.6)  
Phosphorous: .013 (.04 Max.)  
Sulfur: .0018 (.05 Max.)  
Silicon: .205 (.15 Min.)

SPECIFICATIONS

HARDNESS: TEST METHOD: ASTM E18  
HRC 38 - 45  
CHECK TO ASTM F606

PLATING: TEST METHOD: ASTM B499  
HOT DIP GALV TO ASTM F-2329,  
AND ASTM A153 CLASS C

TEST RESULTS

HARDNESS:  
HRC 41 - 42

PLATING:  
0.0020" - 0.0030"

MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/16 PO # 21808
JOB #	STK
COMMENT	STK

Chemistry is as reported from raw material certification and does not fall under Prestige Stamping's accreditation.  
This product was produced under an ISO/TS 16949 Quality Assurance System.  
ISO/TS 16949 Certification No: 0982933.  
Material was melted and manufactured in the U.S.A.  
This product was manufactured in Warren, Michigan U.S.A.  
This product conforms to all requirements for washers as produced according to A.S.T.M. F-436-10.  
Sampling Plan per P.S.I. W.I. # 5.4-18.015.  
The test results only apply to the items tested.  
This test report must not be reproduced except in full without prior written approval.  
Materials used to manufacture these products are mercury, asbestos and lead activity free.  
No weld repairs made to material.

  
FRANK SCHUBERT  
Quality Assurance Manager

# CERTIFIED TEST REPORT

D1605  
1/07/16

\*HORIZON STEEL  
50390 UTICA DRIVE  
SHELBY TWP., MICH. 48315  
800-575-9914

TO: PRESTIGE STAMPING  
23513 GROESBECK HWY.  
WARREN, MI 48090

SHIP TO: PRESTIGE STAMPING, INC.  
23513 GROESBECK HIGHWAY  
WARREN, MI. 48090  
586-773-2700

SIZE: .122 MIN X 5.50 X COIL  
GRADE: HRPO F436 GRADE  
\*MELTED & MFG IN USA\*

B/L Date 1/07/16 Bill/Ladng# 024074 Sales Ordr: 822048 01  
Cust. P/O#: 26485-1 Part No.: ZZ5500122 FOR PT# P1480H00

Tag# 907089	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907090	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907091	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907092	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907093	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907094	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
Ni: .013		Nb: .002	Mo: .003	Cu: .018	V : .004
		Sn: .001	Ca: .002	N : .0042	B : .003
Rock: 83		Olsn: 575			Ti: .035

Tag# 907095	01	Heat# 542404	MasterTag# 251458	01	
C : .216		Mn: 1.146	P : .013	S : .0018	Al: .040
					Ti: .035

Continued...

MERRIMACK SHEET METAL, INC.	
RECEIVED 5/13/16 PO # 21803	
JOB #	STK
COMMENT	STK

# CERTIFIED TEST REPORT

\*HORIZON STEEL  
50390 UTICA DRIVE  
SHELBY TWP., MICH. 48315  
800-575-9914

1/07/16

TO: PRESTIGE STAMPING  
23513 GROESBECK HWY.  
WARREN, MI 48090

SHIP TO: PRESTIGE STAMPING, INC.  
23513 GROESBECK HIGHWAY  
WARREN, MI. 48090  
586-773-2700

SIZE: .122 MIN X 5.50 X COIL  
GRADE: HRPO F436 GRADE  
\*MELTED & MFG IN USA\*

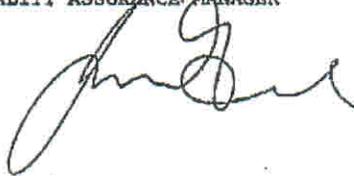
B/L Date 1/07/16 Bill/Ladng# 024074 Sales Ord# 822048 01  
Cust. P/O# 26485-1 Part No. Z25500122 FOR PT# P1480H00  
Ni: .013 Nb: .002 Mo: .003 Cu: .018 V: .004 Cr: .178  
Sn: .001 Ca: .002 N: .0042 B: .003 Ti: .035  
Rock: 83 Olsn: 575

Tag# 907096 01 Heat# 542404 MasterTag# 251458 01  
C: .216 Mn: 1.146 P: .013 S: .0018 Al: .040 Si: .205  
Ni: .023 Nb: .002 Mo: .003 Cu: .018 V: .004 Cr: .178  
Sn: .001 Ca: .002 N: .0042 B: .003 Ti: .035  
Rock: 83 Olsn: 575

Tag# 907097 01 Heat# 542404 MasterTag# 251458 01  
C: .216 Mn: 1.146 P: .013 S: .0018 Al: .040 Si: .205  
Ni: .013 Nb: .002 Mo: .003 Cu: .018 V: .004 Cr: .178  
Sn: .001 Ca: .002 N: .0042 B: .003 Ti: .035  
Rock: 83 Olsn: 575

WE HEREBY CERTIFY THE ABOVE IS CORRECT AS CONTAINED IN THE RECORDS OF THE  
COMPANY

.....HORIZON STEEL CO.....  
QUALITY ASSURANCE MANAGER



MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/16 PO # 2180B
JOB #	STK
COMMENT	STK

ArcelorMittal  
Indiana Harbor  
Fiat Carbon  
East Chicago, In 46312



ArcelorMittal

Horizon Steel Company  
50390 Utica Dr.  
Shelby Township, MI, 48315

Dear Jim,

November 6th, 2015

I have reviewed our records and have confirmed that the following coil was manufactured from a heat that was "melted/smelted" at the Indiana Harbor Facility. Coil has no weld repairs.

The heat number and the relating coil are stated below:

Heat number :542404

Coil numbers 06110207

Heat Chemistry																		
C	Mn	P	S	Si	Cu	Sn	Ni	Cr	Mo	V	Al	Co	B	Ti	N	Sb	Ca	
0.216	1.146	0.013	0.0018	0.206	0.018	0.001	0.013	0.178	0.003	0.004	0.04	0.002	0.003	0.035	0.0042	0.001	0.002	

Best regards

Thomas Godfroy  
Manager - Quality systems  
Quality Assurance  
T 219-399-6123  
F 219-399-4798  
Thomas.godfroy@arcelormittal.com

MERRIMACK SHEET METAL, INC.
RECEIVED 5/13/16 PO # 2180B
JOB # <u>STC</u>
COMMENT <u>STC</u>

# ROGERS BROTHERS INC.



HOT DIP  
GALVANIZING

March 17, 2016

Frank Schubert  
Prestige Stamping  
23513 Groesbeck Highway  
Warren, MI 48089

To Whom It May Concern:

This certifies that the following product that we have galvanized for your company, on your shipper number P302835 meets the specifications of ASTM A153, Class C and the hot dip galvanizing requirements of ASTM F2329.

The hot dip galvanizing is RoHS compliant. The galvanizing process was conducted in a temperature range of 830F to 850F.

This certification in no way implies anything other than the quality of our hot dip galvanizing as it pertains to your order.

This product was galvanized in Rockford, IL USA

48,596 pieces P1480HP300 3/4" Structural Washer Lot#DI60S 2.94 Avg. Mils

Yours very truly,

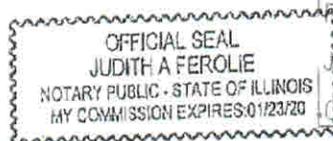
ROGERS BROTHERS INC.

*Lorraine P. Shelburne*  
Lorraine P. Shelburne  
Vice President

LPS:pd

SUBSCRIBED AND SWORN  
BEFORE ME THIS 17TH DAY  
OF MARCH 2016, AD

*Judith A. Ferolie*  
NOTARY PUBLIC



MERRIMACK SHEET METAL, INC.	
RECEIVED	5/13/14 PO # 2180B
JOB #	STK
COMMENT	STK