

CERTIFIED MATERIAL TEST REPORT

Order Date: 01/05/2006  
 PO NO: SKO-1646  
 Mill Order No: 3072405  
 Load No: 1002058  
 Manifest No: 1724688

Ship To: 5  
 METALS USA PLATES & SHAPES NE METALS USA  
 50 CABOT BOULEVARD EAST  
 LANGHORNE PA 19047

CHAPARRAL STEEL  
 300. Ward Rd.  
 Midlothian, TX  
 76065-9651  
 (972) 775-8241

CHAPARRAL

PRODUCT  
 WF BEAMS

LENGTH  
 55 FT / 16.764 M

GRADE  
 992/572-50

SIZE  
 W 16 X 31# / W#10 X 46.1.

SPECIFICATIONS  
 ASTM A6-05a, A992-04a, A572-04.

HEAT NO: 30274700

C .09  
 Mn .88  
 P .018  
 S .044

Si .18  
 Cu .36  
 Ni .09

Cr .10

Mo .013

V .001

Al .001  
 Nb .006  
 CE .29

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

Yield Strength  
 KSI 68.8  
 MPa 474.4  
 55.0 379.2  
 69.3 477.8

Tensile Strength  
 KSI 68.8  
 MPa 474.4  
 55.0 379.2  
 69.3 477.8

Specimen Area  
 Sq In 0.420  
 Sq cm 2.71  
 0.417 2.69

Elongation  
 % 27.9  
 26.1

Gage Length  
 8 In 200 mm  
 8 In 200 mm

Bend Test  
 Dia. Result  
 ROA %

METALS USA - SEEKONK - TEST REPORT  
 Customer: JAMES A. McBRIDE  
 Date: 1-5-06  
 Your P.O. #: 105248  
 Our Charge #: 118125

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.  
 CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material spe

Signed: Tom J. Harrington Date: Jan. 19, 2006 Signed: Notary Public (if applicable)  
 Tom J. Harrington: Quality Assurance Manager

Date: \_\_\_\_\_  
 Page: 2 of 2

Bill To:  
 METALS USA PLATES & SHAPES NE  
 50 CABOT BOULEVARD EAST  
 LANGHORNE PA US  
 19047

Ship To: 5  
 METALS USA  
 10 TOWER ROAD  
 SEEKONK PA US  
 02771

Order Date: 01/05/2006  
 PO No: SKO-1646  
 Mill Order No: 3072405  
 Load No: 1002058  
 Manifest No: 1724688

CERTIFIED MATERIAL TEST REPORT  
 CHAPARRAL  
 CHAPARRAL STEEL  
 300 Ward Rd  
 Midlothian, TX  
 76065-9651  
 (972) 775-8241

MA US  
 US

GRADE  
 992/572-50

LENGTH  
 55 FT / 16.764 M

PRODUCT  
 WF BEAMS

SIZE  
 W 16 X 31# / W410 X 46.1

SPECIFICATIONS  
 ASTM A6-02, A992-02, A572-01  
 HEAT NO: 30256040

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.10	.88	.012	.033	.20	.43	.10	.11	.016	.016	.000	.001	.009	.31

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

Yield Strength		Tensile Strength		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	%	Gage Length	Dia. Result	Result	%
57.4	395.8	71.9	495.7	25.6	8 In	200 mm		
58.4	402.7	72.3	498.5	26.3	8 In	200 mm		

Metals USA - SEEKONK - TEST REPORT  
 Customer: James A. McQuinn  
 Date: 8-4-06  
 Your P.O. #: 13228  
 Our Charge #: 118125

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.  
 CWTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material spe

Signed: Tom L. Harrington Date: Jan. 19, 2006 Signed: \_\_\_\_\_  
 Tom L. Harrington: Quality Assurance Manager

Notary Public (if applicable)  
 Date: \_\_\_\_\_  
 Page: 1 of 2

CHAPARRAL STEEL  
 CERTIFIED MATERIAL TEST REPORT  
 CHAPARRAL STEEL  
 300 Ward Rd.  
 Midlothian, TX  
 76065-9651  
 (972) 775-8241

Order Date: 12/17/2005  
 PD No: PH-6937  
 Mill Order No: 3063821  
 Load No: 1030217  
 Manifest No: 1748857

Ship To: 7  
 METALS USA PLATES & SHAPES NE METALS USA  
 50 CABOT BOULEVARD EAST  
 LANGHORNE PA 19047  
 LANGHORNE PA 19047  
 US

GRADE: 992/572-50  
 LENGTH: 55 FT / 16.764 M  
 PRODUCT: WF BEAMS

SIZE: W 16 X 31# / W410 X 46.1  
 SPECIFICATION: ASTM A6-05a, A992-04a, A572-04  
 HEAT NO: 30296260

CHEMICAL ANALYSIS

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	V	Al	Nb	CE
.08	.87	.011	.035	.21	.36	.10	.06	.016	.015	.002	.003	.010	.27

PHYSICAL PROPERTIES

Yield Strength

KSI	MPa
55.5	382.7
54.4	375.1

Tensile Strength

KSI	MPa
69.5	479.2
69.5	479.2

Specimen Area

Sq In	Sq cm
0.427	2.75
0.424	2.74

Elongation

%	Gage Length
28.3	8In 200 mm
29.3	8In 200 mm

Bend Test

Dia. Result	ROA %

METALS USA - SEEKONK - TEST REPORT  
 Customer: James B. Mobley  
 Date: 8-4-06  
 Your P.O. #: 10528  
 Our Charge #: 118725

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A. CMTR complies with DIN EN 10204 3.1.B

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material specifications and applicable purchaser designated requirements."

Signed: *Tom L. Harrington* Date: May. 08, 2006 Signed: \_\_\_\_\_  
 Tom L. Harrington: Quality Assurance Manager

Date: \_\_\_\_\_  
 Notary Public (if applicable)  
 Page: 3 of 5

6/09/06 9:33:56  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and rolled to a fully killed and fine grain practice.

**CERTIFIED MILL TEST REPORT**

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

Customer #: 1852 - 6  
 Customer PO: SKO-1744  
 B.O.L. #: 540453  
 Invoice #: 79222

Ship to: METALS USA-AMBRIDGE  
 10 TOWER ROAD  
 SEEKONK, MA 02771

Sold to: METALS USA-AMBRIDGE  
 ATTN: DEBBIE TAYLOR - A/P  
 50 CABOT BOULEVARD EAST  
 LANGHORNE, PA 19047

*A.O. 35*

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.

ASHTO : M270-36-00/M270-50-00  
 ASME : SA-36  
 ASTM : A992-04a./A36-04/A572-04-50/A709-04a36/A709-04a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

Description	Heat#	Grade(s)	Yield Ratio	Yield Tensile (PSI)	Elong %	C		Mn		P		S		Si		Cu		Ni	CE1	
						Cr	Pb	Mo	Ti	Ca	B	N	V	Nb	Zr	CI	PCm			
W12X16	2608148	A992-04a	.81	54900	27.58	.0620	.0430	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0080	.0460	.2261
035, 00.00"			.80	379	470	.0370	.0210	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.0060	.2550
W310X23.8			.80	53800	27.76	.0070	.0010	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.0000	.1254
010.6680m				371	463															
W12X16	1608141	A992-04a	.80	54700	27.81	.0710	.0070	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.2426
035, 00.00"			.80	377	469	.0250	.0270	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.2845
W310X23.8			.80	53800	27.24	.0039	.0022	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.1361
010.6680m				371	463															
W12X16	1608141	A992-04a	.80	54700	27.81	.0710	.0070	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.0074	.2426
040, 00.00"			.80	377	469	.0250	.0270	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.0062	.2845
W310X23.8			.80	53800	27.24	.0039	.0022	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.0008	.1361
012.1920m				371	463															
W12X16	1608145	A992-04a	.81	53800	26.88	.0680	.0030	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.2247
040, 00.00"			.81	371	460	.0340	.0210	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.0069	.2735
W310X23.8			.81	55000	27.70	.0087	.0021	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.0009	.1357
012.1920m				379	471															
W12X16	2608085	A992-04a	.82	55400	28.28	.0650	.0010	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.0065	.2143
045, 00.00"			.79	382	465	.0190	.0180	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.0041	.2490
W310X23.8			.79	52300	28.23	.0067	.0011	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.0003	.1224
013.7160m				361	459															

Elongation based on 8" (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.01Cu+3.88Ni+1.20Cr+1.49Si+17.28P-(7.29Cu\*Ni)-(9.10Ni\*P)-33.39(Cu\*Cu)  
 PCm = C+(Mn+Si)/6+(Cr+Mo+V)/5+((Cr+Mo+V+Cb)/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.

Bruce A. Work  
 Metallurgist  
 State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me  
 \_\_\_\_\_ day of \_\_\_\_\_  
 Candace Urban

METALS USA - SEEKONK - TEST REPORT  
 Customer: James A. Mcbrady  
 Date: 8-7-06  
 Your P.O.#: 13528  
 Our Charge #: 118728

MY COMMISSION EXPIRES MAY 17, 2015

Bill To: METALS USA PLATES & SHAPES NE LANGHORNE PA US  
 50 CABOT BOULEVARD EAST 19047  
 Ship To: 5 METALS USA 10 TOWER ROAD SEEKONK 02771  
 Order Date: 01/18/2006  
 PO No: SKO-1617  
 Mill Order No: 3079740  
 Load No: 1036592  
 Manifest No: 1755832  
 CERTIFIED MATERIAL TEST REPORT  
 CHAPARRAL STEEL  
 300 Ward Rd  
 Midlochan, TX  
 75065-2651  
 (972) 775-8241  
 CHAPARRAL  
 PRODUCT: WF BEAMS  
 LENGTH: 60 FT / 18.288 M  
 GRADE: 992/572-50  
 SIZE: W 12 X 26# / W310 X 38.7  
 SPECIFICATIONS: ASTM A6-05a, A992-04a, A572-04  
 HEAT NO: 30301760

Yield Strength		Tensile Strength		Elongation		Bend Test		ROA
KSI	MPa	KSI	MPa	%	Gage Length	8 In	200 mm	%
52.9	364.7	67.8	467.5	25.6	8 In	200 mm		
54.4	375.1	67.4	464.7	23.4	8 In	200 mm		

CHEMICAL ANALYSIS									
Cr	Mo	Si	Cu	Ni	Al	Nb	CE		
.08	.016	.23	.33	.09	.001	.018	.29		

All manufacturing processes of this product, including electric arc melting and continuous casting, occurred in the U.S.A.  
 CWTR complies with DIN EN 10204 3.1.B.

"I hereby certify that the contents of this report are correct and accurate. All tests and operations performed by this material manufacturer or its sub-contractors, when applicable, are in compliance with the requirements of the material spe

Signed: Tom L. Harrington Date: Jun. 08, 2006  
 Tom L. Harrington: Quality Assurance Manager  
 Notary Public (if applicable)  
 Date: \_\_\_\_\_ Page: 1 of 1

METALS USA - SEEKONK - TEST REPORT  
 Customer: James A. Mcbrady  
 Date: 8-17-06  
 Your P.O.#: 13528  
 Our Charge #: 118728

MUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Phone: (843) 336-6000

**CERTIFIED MILL TEST REPORT**

6/10/04 9:07:10  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: METALS USA-AMBRIDGE  
 ATTN: DEBBIE TAYLOR - A/P  
 2025 GREENTREE ROAD, 2ND FLOOR  
 PITTSBURGH, PA 15220

SHIP To: METALS USA-AMBRIDGE  
 10 TOMER ROAD  
 SEERONK, MA 02771

Customer #: 1852  
 Customer PO: SKC-608  
 B.O.L. #: 386783  
 Invoice #: 548889

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 RASHJO : H270-50W  
 ASTM : A588-03a:A709-50W

Description	Heat#	Grade(s)	Yield/ Tensile Ratio	Yield (PSI)	Tensile (MPa)	Elong %	Chemical Composition											
							C	Mn	P	S	Si	Cu	Ni	CE1	CE2	Pcm		
W12x16	2405822		.78	57900	74500	25.90	0.630	1.1350	0.0370	0.180	0.2280	0.320	0.0360	0.3744	0.4134	0.1695		
045' 00.00"	A588-03a		.79	399	514	25.70	0.490	0.170	0.0140	0.0820	0.0360	0.0050	0.0360	0.4134	0.1695			
N310x23.8				58400	74300	25.70	0.0300	0.0030	0.0011	0.0000	0.0053	0.0000	0.0000	6.4621	0.1695			
013.7150m				403	512		64 piece(s)											

Heat(s) for this: MTR.

Elongation based on 8" (20.32cm) gauge length.  
 $CI = 26.01Cu + 3.88Ni + 1.20Cr + 1.49Si + 17.20P - (7.29Cu * Ni) - (9.10Ni * P) - 33.39(Cu * Cu)$   
 $Pcm = C + (Si/30) + (Mn/20) + (Cu/20) + (Ni/60) + (Cr/20) + (Mo/15) + (V/10) + 5B$   
 $CE1 = C - (Mn/6) + ((Cr + Ho + V) / 5) + ((Ni + Cu) / 15)$   
 $CE2 = C + ((Mn + Si) / 6) - ((Cr + Ho + V + Cb) / 5) + ((Ni + Cu) / 15)$

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.

Bruce A. Work  
 Metallurgist  
 State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me  
 this 10th day of June 2004  
*Bruce A. Work*

METALS USA - SEERONK - TEST REPORT  
 Customer: JAMES A. McBRIDE  
 Date: 8/7/04  
 Your P.O.#: 13528  
 Our Charge #: 118708

My Commission Expires October 5, 2009

DATE 3/13/06  
 INVOICE NO. 29123  
 BILL OF LADING 776135  
 CUSTOMER NO. 1628  
 CUSTOMER P.O. SKO-1785

**NUCOR-YAMATO STEEL CO.**  
 P.O. BOX 1228 @ BLYTHEVILLE, AR 72316

**CERTIFIED MILL TEST REPORT**  
 100% MELTED AND MANUFACTURED IN U.S.A.  
 All shapes produced by Nucor-Yamato Steel are cast and rolled to a fully killed and fine grain practice.

S  
 H METALS USA PLATES & SHAPES SEEKONK  
 I CONGDON & CARPENTER DIV.  
 P 10 TOWER RD.  
 T SEEKONK, MA 02771-0000  
 O

S  
 P  
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 C  
 F  
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 O  
 N  
 S

ASTM A992/A992M-04a A572/A572M GR50-03a  
 ASTM A709/A709M-03a GR50 (345)  
 ASTM A709/A709M-03a GR50S (345S)  
 ASTM A6/A6M-04a

S  
 O METALS USA PLATES & SHAPES  
 L NORTHEAST OFFICE  
 D 50 CABOT BOULEVARD EAST  
 T LANGHORNE, PA 19047  
 O

ITEM #	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES						CHEMICAL PROPERTIES													
				YIELD TO TENSILE RATIO	YIELD STRENGTH		TENSILE STRENGTH		ELONG %	CHARPY IMPACT		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
					PSI	MPa	PSI	MPa		TEMP °F	IMPACT ENERGY FT-LBS												
1	W21 - 44.0' x 60'	6	270996	.75	54000	72000	26			.08	1.10	.016	.029	.32	.28	.09	.11	.02	.00	.015	.31		
	W530 x 66.0 18.288 M				372	496	26											.01	.17				
2	W21 - 44.0' x 60'	1	270997	.75	55000	73000	25			.07	1.10	.015	.030	.31	.26	.09	.08	.02	.00	.016	.29		
	W530 x 66.0 18.288 M				379	503	25											.01	.15				

METALS USA - SEEKONK - TEST REPORT  
 Customer: James A. Mcbrady  
 Date: 8-7-06  
 Your P.O. #: 13528  
 Our Charge #: 118728

CARBON EQUIVALENT: CE = C(IIW) = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15  
 Corrosion Index CI = 26.0[(%Cu)13.88(%Ni)] + 1.34(%Cr) + 1.49(%Mo) + 17.24(%P) + 7.28(%Cu)(%Ni) + 9.10(%Ni)(%P) + 33.33(%Cr)

ELONGATION BASED ON 8.0 INCH GAUGE LENGTH

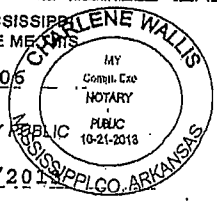
I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by this material manufacturer are in compliance with the requirements of the material specifications, and when designated by the purchaser, meet the applicable specifications.

*Doug Linnell*  
 \_\_\_\_\_  
 QUALITY ASSURANCE

STATE OF ARKANSAS COUNTY OF MISSISSIPPI  
 SWORN TO AND SUBSCRIBED BEFORE ME THIS

13 Day of 03/06

*Charlene Wallis* NOTARY PUBLIC



CUSTOMER COPY

MY COMMISSION EXPIRES 10/21/2013





NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29464  
 Tel: 843/356-6000

SOLD TO: METALS USA-BRIDGE  
 ATTN: DEBBIE TAYLOR - A/P  
 50 CABOT BOULEVARD EAST  
 LANGHORNE, PA 19047

SHIP TO: METALS USA-BRIDGE  
 10 TOWER ROAD  
 SEEKONK, MA 02771

CERTIFIED MILL TEST REPORT

3/15/06 8:49:47  
 100% MELTED, AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Customer #: 1952 - 6  
 Customer PO: SKO-1789  
 E.O.I. #: 519229  
 Invoice #: 74714

90-#  
 13527

Description	Heat#	Grade (s)	Yield/ Tensile Ratio	Yield (PSI) (MPa)	Elong %	Chemical Analysis															
						C	Mn	P	S	Si	Al	B	Cr	Ni	Cu	Nb	Zr	CI	CE1	CE2	PCM
W200X35.9	1603208	A992-04a	.80	55100	69300	24.68	.0670	.8720	.0982	.0194	.0074	.0002	.0003	.1590	.0027	.0252	.1310	.0460	.2331	.2646	.1272
W200X35.9	2600742	A992-04a	.80	54500	67800	26.39	.0540	.8490	.0058	.0210	.0035	.0008	.0012	.2410	.0038	.0291	.0740	.0260	.2099	.2558	.1169
W200X35.9	2500478	A992-04a	.81	53900	66800	27.21	.0190	.0150	.0035	.0000	.0000	.0000	.0000	.0061	.0000	.0000	.1590	.0460	.2331	.2646	.1272
W200X35.9	2500709	A992-04a	.81	55800	69700	30.65	.0390	.0190	.0059	.0000	.0000	.0000	.0019	.2370	.0044	.0278	.1590	.0460	.2331	.2646	.1272
W200X35.9	2500709	A992-04a	.79	55800	70300	25.21	.0000	.0022	.0009	.0012	.0000	.0000	.0000	.0061	.0000	.0000	.0000	.0250	.2388	.2807	.1373
W200X35.9	2500709	A992-04a	.80	57800	72100	23.90	.0720	.9200	.0065	.0236	.0037	.0009	.0012	.2210	.0035	.0255	.0670	.0250	.2388	.2807	.1373
W200X35.9	2500709	A992-04a	.80	57100	71400	22.88	.0150	.0150	.0037	.0000	.0000	.0000	.0016	.1660	.0041	.0313	.1340	.0470	.2374	.2713	.1410
W200X35.9	2500709	A992-04a	.80	57100	71400	22.88	.0000	.0013	.0005	.0016	.0005	.0005	.0016	.0067	.0000	.0000	.0000	.0424	.2374	.2713	.1410

CE1 = C+(Mn/6)+(Cr+Mo+V)/5+(Ni+Cu)/15  
 CE2 = C+(Mn+Si)/6+(Cr+Mo+V+Cb)/75+(Ni+Cu)/15

(State of South Carolina)  
 (County) of Berkeley  
 Bruce A. Work  
 Metallurgist  
 Sworn and subscribed before me

METALS USA - SEEKONK - TEST REPORT  
 Customer: James A. Mahoney  
 Date: 8-7-06  
 Your P.O. #: 19527  
 Our Charge #: 118233

Bruce A. Work  
 day of March

**MILL TEST REPORT**

NUCOR STEEL - BERKELEY  
 P.O. Box 2259  
 Mt. Pleasant, S.C. 29164  
 Phone: (883) 336-6000

5/16/06 17:56:03  
 100% MELTED AND MANUFACTURED IN THE USA  
 All beams produced by Nucor-Berkeley are cast and  
 rolled to a fully killed and fine grain practice.

Sold To: INFRA-METALS CORP. - CI  
 8 PENI HIGHWAY  
 WALLINGFORD, CT 06492

Slip To: INFRA-METALS CORP.  
 INFRA METALS CORP  
 8 PENI HIGHWAY  
 WALLINGFORD, CT 06492

Customer No. 502-1  
 Customer PO: C18914  
 B.O.L. H... 534757

90-43542

SPECIFICATIONS: Tested in accordance with ASTM specification A6/A6M and A370.  
 GASATO : K270-36-00/K270-50-00  
 ASWE : SA-36  
 ASIM : A992-04a/A36-04/A572-04-50/A709-04a36/A709-04a50/A709-345M  
 CSA : CSA-44W/G40.21-50W

HUGGER

Description	Heat# Test	Yield/ Ratio	Yield (PSI) (MPa)	Tensile (PSI) (MPa)	Elong (%)	C			P			S			Si			Cu			CEL		
						Cr	Pb	Mn	Mo	Il	Ca	Sn	Al	B	AL	B	V	N	NI	CI	Ni	Nb	Zr
W12x19 030' 00.00' W310x28.3 009.1440m	2608026 A992-04a	.83 .82	60000 58300	74000 71500	24.80 24.41	.0670 .0320	.0014 .0014	.8220 .0210	.0074 .0013	.0075 .0013	.0075 .0013	.0289 .0015	.0046 .0071	.2280 .0046	.0440 .0000	.1230 .0000	.0267 .0000	.0440 InvH:	.2267 .2700	.1309 .0000	.0000 InvH:	.0000 InvH:	.0000 InvH:
W12x19 030' 00.00' W310x28.3 009.1440m	2608031 A992-04a	.83 .83	58600 58000	70500 70100	25.15 24.64	.0710 .0320	.0015 .0015	.8490 .0210	.0075 .0001	.0076 .0013	.0076 .0013	.0303 .0014	.0045 .0069	.2310 .0041	.0440 .0000	.1120 .0000	.0263 .0000	.0440 InvH:	.2344 .2782	.1373 .0000	.0000 InvH:	.0000 InvH:	.0000 InvH:
W12x19 050' 00.00' W310x28.3 015.2400m	2607958 A992-04a	.82 .82	58000 57600	70700 70100	24.96 25.23	.0700 .0280	.0013 .0013	.8590 .0210	.0070 .0063	.0070 .0041	.0070 .0041	.0277 .0008	.0041 .0059	.2200 .0041	.0420 .0000	.0970 .0000	.0275 .0000	.0420 InvH:	.2331 .2752	.1329 .0000	.0000 InvH:	.0000 InvH:	.0000 InvH:
W12x19 050' 00.00' W310x28.3 015.2400m	2603972 A992-04a	.84 .83	57600 57000	68600 68300	28.03 27.04	.0710 .0390	.0008 .0020	.8240 .0160	.0111 .0083	.0111 .0083	.0111 .0083	.0257 .0046	.0027 .0077	.2010 .0077	.0390 .0000	.1230 .0000	.0260 .0000	.0390 InvH:	.2307 .2694	.1319 .0000	.0000 InvH:	.0000 InvH:	.0000 InvH:
W12x22 030' 00.00' W310x32.7 009.1440m	2607879 A992-04a	.82 .82	57300 57100	69700 69900	27.69 26.58	.0760 .0220	.0060 .0012	.8040 .0200	.0063 .0046	.0063 .0019	.0063 .0019	.0303 .0008	.0040 .0079	.1840 .0079	.0350 .0000	.0790 .0000	.0223 .0000	.0350 InvH:	.2268 .2619	.1356 .0000	.0000 InvH:	.0000 InvH:	.0000 InvH:

Elongation based on 8' (20.32cm) gauge length. 'No Weld Repair' was performed.  
 CI = 26.0(Cu+3.88Ni+1.20Cr+1.49Si+17.28P-7.29CaMn)-9.10NiXP-33.39(CuCu)  
 PCM = C+((Ni+Cu)/5)+((Cr+Mo+W)/5)+((Mn+V)/10)+58

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.

Bruce A. Work  
 Metallurgist

(State of South Carolina  
 County of Berkeley  
 Sworn and subscribed before me

day of

39 05-16 10: 12038794280

# Cert Summary Page HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Invoice No. B6070604

Invoice Date 07/18/06

Customer PO 13506

Sales Order K01768

Cert No Inv Line No Item No

Quantity Lot No

Heat

Assembly No

Haydon PO

28695 10000 PTU075175

1,200 AD721A

387270

A44771

Description: 3/4(10)X 1-3/4 F1852-1/A325 PT DOMESTIC

Manufacturer: UNYTITE INC.

28968 30000 PTU075200

840 AS861A

403440

A44771

Description: 3/4(10)X 2" F1852-1/A325 PT DOMESTIC

Manufacturer: UNYTITE INC.

28969 40000 PTU075225

810 AT821A

419000

A44771

Description: 3/4(10)X 2-1/4 F1852-1/A325 PT DOMESTIC

Manufacturer: UNYTITE INC.

29076 50000 PTU075250

500 AK941A

405860

A44771

Description: 3/4(10)X 2-1/2 F1852-1/A325 PT DOMESTIC

Manufacturer: UNYTITE INC.

HAYDON BOLTS, INC.

JAMES A. MC BRADY INC.

Invoice No. B6070604

Cert No 28695

Inv Line No 10000

Item No PTU075175

Customer PO 13506

Invoice Date 07/18/06

Sales Order K01768

Quantity 1,200

Heat

Assembly No

Haydon PO  
A44771

Lot No AD721A

387270

AD721A

# INSPECTION CERTIFICATE

**UNYITE, INC.**  
 One Unyite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434



SET LOT NO.

Specification	Size	Quantity
ASTM F4852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 1-3/4	35,125 pcs.

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18  
 AD721

BOLT LOT NO.

Date: Jan. 25, '06

Mechanical Property of Full Size Bolts	Heat Treatment	IDENTIFICATION	Chemical Composition %											
			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000		
Tensile Strength Load (lbf) Min. 40100 Position of fracture Part of Screw	Quench Temper Min. 800		30	15	60	Max. 40	Max. 50	-	-	-	-	-	-	-
Hardness HRC 34 MAX 47-0.0005 in. ALL PASS	Heat No. 878	Heat No. 387270	52	30	79	40	50	9	10	9	4	5	1	26
Spec.			32	26	79	9	10	9	10	9	4	5	1	26
Average			32	26	79	9	10	9	10	9	4	5	1	26

NUT LOT NO. AE471

Mechanical Property of Full Size Nuts	Heat Treatment	IDENTIFICATION	Chemical Composition %										
			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100			
Hardness After 24 hr x 1000° F HRB Min. 58450 HRB 89	Quench Temper Min. 800		20	-	60	Max. 40	Max. 50	-	-	-	-	-	-
Proof Load (Lbf) 58450 ALL PASS	Heat No. 1202	Heat No. S73024	55	-	71	40	50	22	11	7	-	-	-
Spec.			45	21	71	5	32	22	11	7	-	-	-
Mean/5 pcs. 28.1			45	21	71	5	32	22	11	7	-	-	-

WASHER LOT NO. WB7433

Mechanical Property of Washers	Heat Treatment	IDENTIFICATION	Chemical Composition %										
			C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100			
Hardness (HRC) 38-45 39.1	Quench Temper Min. 800		-	-	-	Max. 40	Max. 50	-	-	-	-	-	-
Proof Load (Lbf) ALL PASS	Heat No. 9500913	Heat No. 9500913	35	8	73	11	2	-	-	-	-	-	-
Spec.			35	8	73	11	2	-	-	-	-	-	-
Mean/5 Pcs.			35	8	73	11	2	-	-	-	-	-	-

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unyite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Thread Accuracy (Bolt & Nut)
Bolt ASME B1.1 Class 2A Nut ANSI B1.1 Class 2B

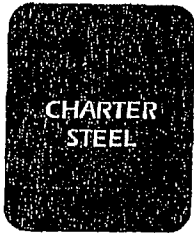
Fastener Tension	Fastener Tension	
	Spec. (lbf)	Min.
	29000	
	Mean / 6 sets. 40036	
	Standard Deviation 3380	

REMARKS  
 OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES 10/18/09  
 01-26-06

Chief of Quality Assurance Section

*Adriana*

LOAD



# CHARTER STEEL

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of  
Charter Manufacturing Company, Inc.

1658 Cold Springs Road  
Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTEN: JEAN MARGHERIO

Cust. P.O.:	29646
Cust. Part#:	C10B30SCO.732D
Charter Sales Order:	177723
Heat #:	387270
Ship Lot #:	471831
Grade#:	10B30 M SK FG RHQ
Process:	DD
Finish Size:	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side; and that it satisfies those requirements.

### Test Results of Heat Lot# 387270

LAB CODE: 7388

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
Wt%	0.32	0.79	0.009	0.010	0.260	0.04	0.05	0.01	0.09	0.006	0.001

AL	N	B	TI	NB
0.024	0.0070	0.0026	0.020	0.001

Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	53	52	51	49	32	24	22	22	21	20	20	0
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R  
CHEM. DEVIATION EXT.-GREEN = N/R  
E45 INCLUSION LAB = 0358-02

JOMINY LAB = 0358-01

Cleanliness	ASTM-E45 Method A				
	A	B	C	D	
	Thin	0.5	0.5	0.0	1.0
	Heavy	0.0	0.0	0.0	0.0

### Test Results of Rolling Lot # 325586

QC DEVIATION EXT.-GREEN = N/R

### Test Results of Processing Lot # 471831

TENSILE (KSI)	# of Tests	Min Value	Max Value	Mean Value	TENSILE LAB = 0358-02
REDUCTION OF AREA (%)	3	97.1	98.3	97.8	RA LAB = 0358-02
ROCKWELL B (HRBW)	3	53	53	53	RB LAB = 0358-02
WIRE SIZE (Inches)	3	90	93	91	
WIRE OUT OF ROUND (Inches)	9	0.732	0.732	0.732	
QC DEVIATION EXT.-PROCESSED = N/R	9	0.000	0.000	0.000	

Specifications: Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE Revision = 5 Dated = 8-MAY-2003

Charter Steel  
Saukville, WI, USA

Fax number: ( )

Rem: Load 1, Mail 0, Fax 0



*Tim Leahy*  
Tim Leahy  
Manager of Quality Assurance  
12/09/2005

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	CSMD	Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	CSR/D/CSPD	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	P4	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	CSC	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
*	*	**	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD	ASTM E415; ASTM E1019
Macroetch	CSMD	ASTM E381
Hardenability (Jominy)	CSMD	ASTM A255; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/D/CSPD, P4, CSC	ASTM E8; ASTM A370
Rockwell Hardness	CSR/D/CSPD, P4, CSC	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/D/CSPD, P4	ASTM A892
Cleanliness	CSR/D/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/07.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report, subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgment (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



**GERDAU AMERISTEEL St Paul Mill**

M519419

P.O Box 64189  
1678 Red Rock Road  
Saint Paul, Minnesota 55164

Heat #:	S73024
Size:	1"
Product:	Round Bar
Grade:	C1045M23FC
Date Rolled:	11-01-2005
P.O	32485
M.O #:	508728801
B1045SC1.0000, lgth 24'10"	

**CERTIFIED TEST REPORT**

CHEMICAL ANALYSIS (WT %)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	Cb	V	Co	Al	Ti	Ca	N
0.45	.71	0.005	0.032	0.21	0.021	0.22	0.11	0.07	0.03	0.001	0.028	0.009	0.002	0.0028	14	106

MATERIAL 100% MELTED AND ROLLED IN THE USA. MANUFACTURING PROCESSES FOR THIS STEEL, WHICH MAY INCLUDE SCRAP MELTED IN AN ELECTRIC ARC FURNACE AND HOT ROLLING, HAVE BEEN PERFORMED AT GERDAU AMERISTEEL MINNESOTA, 1678 RED ROCK ROAD, SAINT PAUL MINNESOTA, USA. ALL PRODUCT PRODUCED FROM STRAND CAST BILLETS. NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN GERDAU AMERISTEEL MINNESOTA POSSESSION.

JOMINY END QUENCH HARDENABILITY RESULTS (HRC)

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

MECHANICAL TEST REPORT

SPECIMEN AREA (in <sup>2</sup> )	YIELD (Kips)	YIELD (Kst)	TENSILE (Kips)	TENSILE (Kst)	GAUGE LENGTH (in)	% ELONG	BEND	% R.A.

Additional Specifications/Comments:

A576-90b (2000)

A29/A29M-05

Quality Program Manual Rev. 1, dtd 6/10/05

Grain Size: <u>Fine</u>	Reduction Ratio: <u>38.5:1</u>	C.E Per: _____	As Rolled surface Hardness
Coding: _____	D.I: <u>1.28</u> in. Ms: <u>609.0</u> Deg F.	C.E: _____	HBW HRC
			Test 1: _____
			Test 2: _____

CHARPY IMPACT TEST

* Test 1	Test 2
Temp (F)	
ft-lb 1	
ft-lb 2	
ft-lb 3	

ASTM E45 is not a laboratory accredited test.

Micro Clean Average									
At: _____	Ah: _____	Bt: _____	Bh: _____	Ct: _____	Ch: _____	Dt: _____	Dh: _____	S-Rating: _____	O-Rating: _____
Macro Etch: _____									

ASTM Test Method

Accredited to:	ASTM A370	ASTM E8	ASTM E10	ASTM E18	ASTM E23	ASTM E112	ASTM E255	ASTM E290	ASTM E415	ASTM E1019
ISO 17025	X	X	X	X				X	X	X
subcontractor (ISO 170 25)		*			*	*	*			

The above results relate only to the items tested.

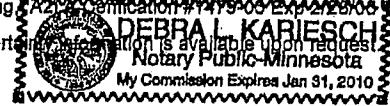
Chemical tests performed in accordance with ASTM E415 and E1019. Mechanical tests performed in accordance to ASTM E8, E10, E18, E290 and A370. All other tests performed in accordance with the requirements of applicable specifications unless otherwise noted above. We hereby certify that the above test results are representative of those contained in the records of the company.

Any modification to this certificate as provided by Gerdau Ameristeel - Minnesota without the expressed written consent of Gerdau Ameristeel - Minnesota negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau Ameristeel Minnesota. Gerdau Ameristeel - Minnesota is not responsible for the inability of this material to meet specific applications.

X Gerdau Ameristeel Minnesota, A2LA Certification #1055-01 Exp. 6/30/06

\* Denotes Testing By Sub-Contractor:  
Metallurgical Services Inc., A2LA Certification #510-01 Exp. 12/31/06  
Stork Twin City Testing

Measurement of uncertainty is available upon request.



SWORN AND SUBSCRIBED TO BEFORE ME

THIS 10 DAY January 2006  
*Debra L. Kariesch*  
(NOTARY PUBLIC)

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED.

SIGNED: \_\_\_\_\_

DATE: 01-13-2006

APPROVAL: \_\_\_\_\_

QA Approval  
*K. Wong*  
Ken Wong



B7433



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 13532	CERTIFICATION No: 2 -203214	SHIPPER No: 2 -203214	CERTIFIED DATE: 10/11/05
CUSTOMER PART No: P1580HP200	DH	SIZE: .1220 x 5.7000 x	COIL
CUSTOMER:  PRESTIGE STAMPING INC. **  P O BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1035	
COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.			

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO. HEAT NUMBER CHEMISTRY AND MECHANICAL PROPERTIES

EU4904 9500913 C = 0.360 MN= 0.750 P = 0.010 S = 0.002 SI= 0.100  
AL= 0.047

COMMENT:\*\* MILL CERTIFICATION WITH LOAD \*\*

## RECEIVED

OCT 12 2005

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 1

Heidman Steel Products, Inc.

**HAYDON BOLTS, INC.**

JAMES A. MC BRADY INC.

Invoice No. B6070604

Cert No 28968    Inv Line No 30000    Item No PTU075200

Customer PO 13506

Invoice Date 07/18/06    Sales Order K01768

Quantity 840    Lot No AS861A    Heat 403440

Assembly No

Haydon PO  
A44771

# INSPECTION CERTIFICATE



**UNYITE, INC.**  
 One Unyite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434

AS861A

SET LOT NO.

Specification	Size	Quantity
ASTM F1852 Type 1 ASTM A563 Grade DH ASTM F436 Type 1	3/4-10 UNC X 2	43,805 pcs.

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOLT LOT NO. AS861

Date: Jun. 21, '06

Mechanical Property of Full Size Bolts	Heat Treatment °F (°C)	Chemical Composition %									
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
Tensile Strength	Proof Load 28400	30	15	60	Max. 40	Max. 50	-	-	-	-	-
Position of fracture	Quench	52	30	60	40	50	-	-	-	-	-
Load (lbf)	Temper	33	24	74	10	10	8	6	1	30	-
Min.	Min.	Heat No. 403440									
40100 Part of Screw	800										
Max. +/- 0.0005 in.	869										
50225 Part of Screw	1580										
ALL PASS	32.3										
Average	32.3										

NUT LOT NO. AQ561

Mechanical Property of Full Size Nuts	Heat Treatment °F (°C)	Chemical Composition %									
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
Hardness After 24 hr x 1000° F HRB	Quench	20	-	60	Max. 40	Max. 50	-	-	-	-	-
Min.	Min.	55	24	80	13	33	12	6	17	-	
HRB 89	800	44	24	80	13	33	12	6	17	-	
ALL PASS	1220	Heat No. M19919									
28.8	1562										
ALL PASS	1562										

WASHER LOT NO. WB7946

Mechanical Property of Full Size Washers	Heat Treatment °F (°C)	Chemical Composition %									
		C x 100	Si x 100	Mn x 100	P x 1000	S x 1000	Cu x 100	Ni x 100	Cr x 100	Mo x 100	B x 10,000
Hardness (HRC)	Quench	-	-	-	Max. 40	Max. 50	-	-	-	-	-
Spec. 38-45	Min.	33	6	73	4	4	-	-	-	-	
41.0	800	44	6	73	4	4	-	-	-	-	
ALL PASS	1220	Heat No. 9402080									
ALL PASS	1562										

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unyite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Thread Accuracy (Bolt & Nut)	Bolt ASME B1.1 Class 2A Nut ANSI B1.1 Class 2B
REMARKS	OFFICIAL SEAL JEAN MARGHERIO NOTARY PUBLIC - STATE OF ILLINOIS MY COMMISSION EXPIRES: 10/18/09 06-29-06

Chief of Quality Assurance Section

LOAD



# CHARTER STEEL

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of  
Charter Manufacturing Company, Inc.

1658 Cold Springs Road  
Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354  
Attn: ATTEN: JEAN MARGHERIO

Cust. P.O.	29646
Cust. Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	403440
Ship Lot #	478616
Grade#	10B30 M SK FG RHQ
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

### Test Results of Heat Lot# 403440

ASTM CODE: 7388

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
%	0.33	0.74	0.010	0.010	0.240	0.05	0.06	0.01	0.08	0.008	0.001
	AL	N	B	TI	NB						
	0.021	0.0070	0.0030	0.021	0.002						

JOMINY (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	53	52	51	47	31	24	22	21	21	21	20	0
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R      JOMINY LAB = 0358-01  
CHEM. DEVIATION EXT. GREEN = N/R  
RA5 INCLUSION LAB = 0358-02

Cleanliness	ASTM-E45 Method A			
	A	B	C	D
Thin	1.0	0.5	0.0	0.5
Heavy	0.0	0.0	0.0	0.5

### Test Results of Rolling Lot # 332536

CHEM. DEVIATION EXT. GREEN = N/R

				Test Results of Processing Lot # 478616:			
	# of Tests	Min Value	Max Value	Mean Value			
TENSILE (KSI)	3	94.3	97.1	96.1		TENSILE LAB = 0358-02	
REDUCTION OF AREA (%)	3	52	53	52		RA LAB = 0358-02	
ROCKWELL B (HRBW)	3	92	95	93		RB LAB = 0358-02	
WIRE SIZE (Inches)	21	0.731	0.731	0.731			
WIRE OUT OF ROUND (Inches)	21	0.000	0.000	0.000			
CHEM. DEVIATION EXT. PROCESSED = N/R							

Specifications: Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE      Revision = 5      Dated = 8-MAY-2003

JC  
BP  
E

Charter Steel  
Saukville, WI, USA

Fax number: ( )

Rem: Load 1, Mail 0, Fax 0



Tim Leahy  
Manager of Quality Assurance  
02/21/2006

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	<b>CSMD</b>	Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	<b>CSR/D/ CSPD</b>	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD	ASTM E415; ASTM E1019
Macroetch	CSMD	ASTM E381
Hardenability (Jominy)	CSMD	ASTM A255; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/D/CSPD, P4, CSC	ASTM E8; ASTM A370
Rockwell Hardness	CSR/D/CSPD, P4, CSC	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/D/CSPD, P4	ASTM A892
Cleanliness	CSR/D/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/07.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. ~~This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel.~~ The primary customer whose name and address appear on the front of this form may reproduce this test report, subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgment (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



**MacSteel**

ONE JACKSON SQUARE  
SUITE 600  
JACKSON, MICHIGAN 49201

**CERTIFIED MATERIAL TEST REPORT**

CUSTOMER ORDER NUMBER	CUSTOMER PART NUMBER	HEAT NUMBER	WORK ORDER NUMBER	DATE
33405	B1045SC10000	M19919	36183 102	5/09/06

REPORT TO  
TRACO  
UNYTITE, INC.  
  
ONE UNYTITE DRIVE  
  
PERU , IL 61354-9710

SHIP TO  
  
UNYTITE, INC.  
  
ONE UNYTITE DRIVE  
  
PERU , IL 61354

**ORDERED**

GRADE	SIZE	LENGTH
1045	1" RND	24' 1 1/2"

SAE 1045  
CUSTOMER SPECIFICATIONS

REDUCTION RATIO

RATIO= .45.8 TO 1.0

\*\* MATERIAL 100% MELTED AND MANUFACTURED IN THE U.S.A. BY THE ELECTRIC ARC FURNACE AND CONTINUOUS CASTING METHOD. THE PRODUCT HAS NOT BEEN REPAIRED BY WELDING AND THIS MATERIAL HAS NOT BEEN EXPOSED TO MERCURY OR TO ANY OTHER METAL ALLOY THAT IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN OUR POSSESSION. \*\*

PAGE 2 OF 2

We certify that these data are correct and in compliance with specified requirements.

MacSteel-Arkansas  FAX #: 815-224-3434  
MacSteel-Michigan  MacSteel-Monroe X

  
Chris Doyle  
Quality Assurance Representative

02/20/2006 18:58 FAX

CLEVELAND

005/008



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

B-1946

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 13922	CERTIFICATION No: 2-207363	SHIPPER No: 2-207363	CERTIFIED DATE: 02/20/06
CUSTOMER PART No: P1580R00	RF	SIZE: .1220 x 5.7000 x	COIL
CUSTOMER: PRESTIGE STAMPING INC. ** P O BOX 1086 WARREN MI 480901086		GRADE: 1035	
COILS SPECIALLY PRODUCED AND MANUFACTURED IN THE U.S.A.			

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
GE5802	9402080	C = 0.330 MN= 0.730 P = 0.004 S = 0.004 SI= 0.060 AL= 0.055

## RECEIVED

FEB 22 2006

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 2

Agent for Heidman Steel Products, Inc.

**HAYDON BOLTS, INC.**

JAMES A. MC BRADY INC.

Invoice No. B6070604

Cert No Inv Line No Item No

28969 40000 PTU075225

Customer PO 13506

Invoice Date 07/18/06

Sales Order K01768

Quantity Lot No

810 AT821A

Assembly No

Haydon PO  
A44771

Heat

419000



# INSPECTION CERTIFICATE

**UNYTITE, INC.**  
 One Unytite Drive  
 Peru, Illinois 61354  
 815-224-2221 — FAX # 815-224-3434



SET LOT NO. AT821A

Specification	Quantity
ASTM F1852 Type 1	
ASTM A563 Grade DH	
ASTM F436 Type 1	34,045 pcs.
Size 3/4-10 UNC X 2-1/4	

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

BOIL LOT NO. AT821

Date: Jun. 23, '06

Mechanical Property of Full Size Bolts	Tensile Strength		Proof Load 28400		Hardness		Heat Treatment °F (°C)		IDENTIFICATION	Chemical Composition %											
										Load (lbf)	Min.	Position of Fracture	Max.	Quench	Temper	Min.	800	C	Si	Mn	P
	Min.	40100	Part of Screw	4/-0.0005 in.	34 MAX	Min.	800	Heat No.		30	15	60	Max.	40	50	73	11	8	5	6	1
Average	49875	Part of Screw	ALL PASS	32.1	1580	869	419000		30	24	73	11	8	5	6	1	24				

NUT LOT NO. AT041

Mechanical Property of Full Size Nuts	Tensile Strength		Proof Load (lbf)		Hardness		Heat Treatment °F (°C)		IDENTIFICATION	Chemical Composition %										
										Load (lbf)	Min.	Position of Fracture	Max.	Quench	Temper	Min.	800	C	Si	Mn
	Min.	24-38	HRB 89	58450	Min.	800	Heat No.	20		55	60	40	50	29 <td>25</td> <td>16</td> <td>9</td> <td></td> <td></td> <td></td> <td></td>	25	16	9			
Average	28.8	ALL PASS	1562	1184	1562	1184	S75181	43	24	68	8	29	25	16	9					

WASHER LOT NO. WB7946

Mechanical Property of Full Size Washers	Tensile Strength		Proof Load (lbf)		Hardness		Heat Treatment °F (°C)		IDENTIFICATION	Chemical Composition %										
										Load (lbf)	Min.	Position of Fracture	Max.	Quench	Temper	Min.	800	C	Si	Mn
	Min.	38-45	HRB 89	58450	Min.	800	Heat No.	20		55	60	40	50	29	25	16	9			
Average	41.0	ALL PASS	1562	1184	1562	1184	S75181	43	24	68	8	29	25	16	9					

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Fastener Tension	Thread Accuracy
Spec. (lbf)	(Bolt & Nut)
Min.	Bolt ASME B1.1 Class 2A ANSI B1.1
Mean / 6 sets.	Nut ASME B1.1 Class 2B
Standard Deviation	
1574	

Fastener Tension	
Spec. (lbf)	Min.
29000	29000
Mean / 6 sets.	36808
Standard Deviation	1574

Chief of Quality Assurance Section

*[Signature]*

REMARKS: *[Handwritten signature]*  
 OFFICIAL SEAL  
 JEAN MARGHERIO  
 NOTARY PUBLIC - STATE OF ILLINOIS  
 MY COMMISSION EXPIRES: 10/18/09  
 01-2-0-0

LOAD



# CHARTER STEEL

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

A Division of  
Charter Manufacturing Company, Inc.

1658 Cold Springs Road  
Saukville, Wisconsin 53080

(262) 268-2400

1-800-437-8789

FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTEN: JEAN MARGHERIO

Cust. P.O.	29646
Cust. Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	419000
Ship Lot #	488038
Grade#	10B30 M SK-FG RHQ
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

### Test Results of Heat Lot# 419000

LAB CODE: 7388

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V
Wt%	0.30	0.73	0.011	0.008	0.240	0.05	0.06	0.01	0.08	0.008	0.001
	AL	N	B	TI	NB						
	0.024	0.0060	0.0024	0.018	0.001						

Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	52	51	50	38	24	21	21	20	0	0	0	0
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R  
CHEM. DEVIATION EXT.-GREEN = N/R  
E45 INCLUSION LAB = 0358-02  
JOMINY LAB = 0358-01

Cleanliness	ASTM-E45 Method A			
	A	B	C	D
Thin	0.5	1.5	0.0	1.0
Heavy	0.0	0.0	0.0	0.5

### Test Results of Rolling Lot # 338835

QC DEVIATION EXT.-GREEN = N/R

### Test Results of Processing Lot # 488038

TENSILE (KSI)	# of Tests	Min Value	Max Value	Mean Value	
REDUCTION OF AREA (%)	3	90.4	92.1	91.2	TENSILE LAB = 0358-02
ROCKWELL B (HRBW)	3	33	54	47	RA LAB = 0358-02
WIRE SIZE (Inches)	3	88	91	89	RB LAB = 0358-02
WIRE OUT OF ROUND (Inches)	4	0.730	0.731	0.731	
QC DEVIATION EXT.-PROCESSED = N/R	4	0.000	0.000	0.000	

Specifications: Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE Revision = 5 Dated = 8-MAY-2003

Charter Steel  
Saukville, WI, USA

Fax number: ( ) Rem: Load1,Mail0,Fax0



*Tim Leahy*  
Tim Leahy  
Manager of Quality Assurance  
06/06/2006

The following statements are applicable to the material described on the front of this Test Report:

1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	<b>CSMD</b>	Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	<b>CSR/D/CSPD</b>	Charter Steel Rolling/Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD	ASTM E415; ASTM E1019
Macroetch	CSMD	ASTM E381
Hardenability (Jominy)	CSMD	ASTM A255; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/D/CSPD, P4, CSC	ASTM E8; ASTM A370
Rockwell Hardness	CSR/D/CSPD, P4, CSC	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/D/CSPD, P4	ASTM A892
Cleanliness	CSR/D/CSPD, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/07.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

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  - Both sides of all pages must be reproduced in full
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9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



M623099

P.O Box 64189  
1678 Red Rock Road  
Saint Paul, Minnesota 55164

Heat #: S75181  
Size: 1"  
Product: Round Bar  
Grade: C1045M23FC  
Date Rolled: 03-19-2006  
P.O: 33407  
M.O #: 601408801  
lgth 24'10"

**CERTIFIED TEST REPORT**

CHEMICAL ANALYSIS (WT %)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	Cb	V	Co	Al	Ti	Ca	N
0.43	.68	0.008	0.029	0.24	0.02	0.25	0.16	0.09	0.04	0.001	0.024	0.01	0.002	0.0035	16	83

MATERIAL 100% MELTED AND ROLLED IN THE USA. MANUFACTURING PROCESSES FOR THIS STEEL, WHICH MAY INCLUDE SCRAP MELTED IN AN ELECTRIC ARC FURNACE AND HOT ROLLING, HAVE BEEN PERFORMED AT GERDAU AMERISTEEL MINNESOTA, 1678 RED ROCK ROAD, SAINT PAUL MINNESOTA, USA. ALL PRODUCT PRODUCED FROM STRAND CAST BILLETS. NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN GERDAU AMERISTEEL MINNESOTA POSSESSION.

JOMINY END QUENCH HARDENABILITY RESULTS (HRC)

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

MECHANICAL TEST REPORT

SPECIMEN AREA (In <sup>2</sup> )	YIELD (Klps)	YIELD (Kst)	TENSILE (Klps)	TENSILE (Kst)	GAUGE LENGTH (In)	% ELONG	BEND	% R.A.

Additional Specifications/Comments:

A576-90b (2000)

A29/A29M-05

Quality Program Manual Rev. 1, DTD 6/10/05

Grain Size: Fine	Reduction Ratio: 38.5:1	C.E Per:	As Rolled surface Hardness
Coding:	D.I: 1.35 in. Ms: 625.4 Deg F.	C.E:	HBW. HRC
			Test 1:
			Test 2:

CHARPY IMPACT TEST		
* Test 1	Test 2	
Temp (F)		
ft-lb 1		
ft-lb 2		
ft-lb 3		

ASTM E45 is not a laboratory accredited test.

Micro Clean Average									
At:	Ah:	Bt:	Bh:	Ct:	Ch:	Dt:	Dh:	S-Rating	O-Rating:
Macro Etch :									

ASTM Test Method

Accredited to:	ASTM A370	ASTM E8	ASTM E10	ASTM E18	ASTM E23	ASTM E112	ASTM E255	ASTM E290	ASTM E415	ASTM E1019
ISO 17025	X	X	X	X				X	X	X
subcontractor (ISO 170 25)										

The above results relate only to the items tested.

Chemical tests performed in accordance with ASTM E415 and E1019. Mechanical tests performed in accordance to ASTM E8, E10, E18, E290 and A370. All other tests performed in accordance with the requirements of applicable specifications unless otherwise noted above. We hereby certify that the above test results are representative of those contained in the records of the company.

Any modification to this certificate as provided by Gerdau Ameristeel - Minnesota without the expressed written consent of Gerdau Ameristeel - Minnesota negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau Ameristeel Minnesota. Gerdau Ameristeel - Minnesota is not responsible for the inability of this material to meet specific applications.

X Gerdau Ameristeel Minnesota, A2LA Certification #1055-01 Exp. 6/30/06

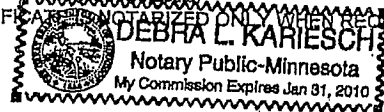
\* Denotes Testing By Sub-Contractor:  
Metallurgical Services Inc., A2LA Certification #510-01 Exp. 12/31/06  
Stork Twin City Testing, A2LA Certification #1479-01 Exp 12/31/06

Measurement of uncertainty information is available upon request.

SWORN AND SUBSCRIBED TO BEFORE ME

THIS 31 DAY May 2006  
Debra Kariesch

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED.



SIGNED:

QA Approval

DATE: 05-31-2006

Ken Wong

APPROVAL:

Ken Wong

02/20/2006 13:58 FAX

CLEVELAND

005/008



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

**CERTIFICATE  
OF  
ANALYSIS**

B-1946

CUSTOMER ORDER NO: 13922	CERTIFICATION NO: 2-207363	SHIPPER NO: 2-207363	CERTIFIED DATE: 02/20/06
CUSTOMER PART NO: P1580H00	RF	SIZE: .1220 x 5.7000 x	COIL
CUSTOMER:  PRESTIGE STAMPING INC. **  P O BOX 1086  WARREN MI 480901086		GRADE: 1035	
MELTED AND MANUFACTURED IN THE U.S.A.			

ATTENTION:

~~All units of measurement for chemistry are in weight percent.~~

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
GE5802	9402080	C = 0.330 MN= 0.730 P = 0.004 S = 0.004 SI= 0.060 AL= 0.055

**RECEIVED**

FEB 22 2006

*JA*

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.  
Form No. FQC 001 Rev. 2

Agent for Heidman Steel Products, Inc.

**HAYDON BOLTS, INC.**

JAMES A. MC BRADY INC.

Invoice No. B6070604

Cert No Inv Line No Item No

29076 50000 PTU075250

Customer PO 13506

Invoice Date 07/18/06 Sales Order K01768

Quantity Lot No

500 AK941A

Assembly No

Haydon PO  
A44771

Heat

405860

# INSPECTION CERTIFICATE

SET LOT NO. AK941A

Specification	Size	Quantity
ASTM F1852 Type 1		
ASTM A563 Grade DH		
ASTM F436 Type 1	3/4-10 UNC X 2-1/2	27,093 pcs.



**UNYTITE, INC.**  
One Unytite Drive  
Peru, Illinois 61354

815-224-2221 — FAX # 815-224-3434

Mechanical properties tested in accordance to ASTM F606/F606M, ASTM A370, ASTM E18

**BOLT LOT NO.** AK941

Date: Mar. 30, '06

Mechanical Property of Full Size Bolts				Chemical Composition %																
Tensile Strength	Proof Load 28400 lbf. (Length Method)	Hardness	HRC	Heat Treatment		IDENTIFICATION														
				Quench	Temper	C	Si	Mn	P	S	Cu	Ni	Cr	Mo	B					
Min.	Max.					30	15	Min.	Max.	Max.										
40100	47-00005 in.	34 MAX.				52	30	60	40	50										
Average	ALL PASS	31.9		1580	869	31	27	79	11	11	8	2	27							

**NUT LOT NO.** AJ521

Mechanical Property of Full Size Nuts				Chemical Composition %																
Hardness After 24 hr x 1000° F HRB	Proof Load (Lbf)	Hardness	HRC	Heat Treatment		IDENTIFICATION														
				Quench	Temper	C	Si	Mn	P	S	Cu	Ni	Cr							
Min.						20		Min.	Max.	Max.										
24 - 38	58450	HRB 89				55		60	40	50										
28.7	ALL PASS	1562	1211	573918		45	22	71	9	31	29	10	16							

**WASHER LOT NO.** WB7433

Mechanical Property of Full Size Washers				Chemical Composition %																
Hardness (HRC)	Proof Load (Lbf)	Hardness	HRC	Heat Treatment		IDENTIFICATION														
				Quench	Temper	C	Si	Mn	P	S	Cu	Ni	Cr							
Min.								Min.	Max.	Max.										
38 - 45																				
39.1	9500913	35	8	73	11	2														

Material used for the bolt, nut and washer were melted & manufactured in the USA. The product was manufactured in the USA to ASTM specifications. The bolt and nut are manufactured by Unytite. We hereby certify that the material described has been manufactured and inspected satisfactory with requirement of the above specification.

Chief of Quality Assurance Section

*[Signature]*

Thread Accuracy	
Bolt	ASME B1.1 Class 2A
Nut	ANSI B1.1 Class 2B

Fastener Tension	
Spec. (lbf)	29000
Mean / 6 sets.	38940
Standard Deviation	1154

Fastener Tension	
Spec. (lbf)	29000
Mean / 6 sets.	38940
Standard Deviation	1154

Fastener Tension	
Spec. (lbf)	29000
Mean / 6 sets.	38940
Standard Deviation	1154

Fastener Tension	
Spec. (lbf)	29000
Mean / 6 sets.	38940
Standard Deviation	1154

REMARKS  
OFFICIAL SEAL  
JEAN MARGHERIO  
NOTARY PUBLIC - STATE OF ILLINOIS  
MY CO. MISSION EXPIRES 10/18/08  
04-03-06



# CHARTER STEEL

A Division of  
Charter Manufacturing Company, Inc.

## CHARTER STEEL TEST REPORT Reverse Has Text And Codes

1658 Cold Springs Road  
Saukville, Wisconsin 53080  
(262) 268-2400  
1-800-437-8789  
FAX (262) 268-2570

UNYTITE, INC.  
ONE UNYTITE DRIVE  
PERU, IL 61354-  
Attn: ATTEN: JEAN MARGHERIO

Cust. P.O.	29646
Cust. Part#	C10B30SCO.732D
Charter Sales Order	177723
Heat #	405860
Ship Lot #	481750
Grade#	10B30 M SK FG RHO
Process	DD
Finish Size	0.732

I hereby certify that the material described herein has been manufactured in accordance with the specifications and standards listed below and on the reverse side, and that it satisfies those requirements.

LAB CODE: 7388      Test Results of Heat Lot# 405860

Chemistry	C	MN	P	S	SI	NI	CR	MO	CU	SN	V	
Wt%	0.31	0.79	0.011	0.011	0.270	0.06	0.08	0.02	0.08	0.005	0.001	
	AL	N	B	TI	NB							
	0.023	0.0060	0.0027	0.018	0.001							
Jominy (HRC)	JOM01	JOM02	JOM03	JOM04	JOM05	JOM06	JOM07	JOM08	JOM09	JOM10	JOM11	JOM12
	53	52	51	50	42	28	24	23	22	21	21	20
	JOM13	JOM14	JOM15	JOM16	JOM18	JOM20	JOM22	JOM24	JOM26	JOM28	JOM30	JOM32
	0	0	0	0	0	0	0	0	0	0	0	0

JOMINY SAMPLE TYPE ENGLISH = R      JOMINY LAB = 0358-01  
CHEM. DEVIATION EXT.-GREEN = N/R  
E45 INCLUSION LAB = 0358-02

Cleanliness      ASTM-E45 Method A

	A	B	C	D
Thin	0.5	1.5	0.0	0.5
Heavy	0.0	0.0	0.0	0.5

### Test Results of Rolling Lot # 335337

QC DEVIATION EXT.-GREEN = N/R

Test Results of Processing Lot # 481750

	# of Tests	Min Value	Max Value	Mean Value	
TENSILE (KSI)	3	95.2	95.8	95.6	TENSILE LAB = 0358-02
REDUCTION OF AREA (%)	3	51	53	52	RA LAB = 0358-02
ROCKWELL B (HRBW)	3	92	93	92	RB LAB = 0358-02
WIRE SIZE (Inches)	17	0.731	0.732	0.731	
WIRE OUT OF ROUND (Inches)	17	0.000	0.000	0.000	

QC DEVIATION EXT.-PROCESSED = N/R

Specifications:      Meets customer specifications with any applicable Charter Steel exceptions for the following customer documents:  
Customer Document = UNYTITE      Revision = 5      Dated = 8-MAY-2003

Charter Steel  
Saukville, WI, USA

Fax number: ( )      Rem: Load 1, Mail 0, Fax 0



*Tim Leahy*  
Tim Leahy  
Manager of Quality Assurance  
03/22/2006



- The following statements are applicable to the material described on the front of this Test Report:
1. Except as noted, the steel supplied for this order was melted, rolled and processed in the United States.
  2. Mercury was not used during the manufacture of this product; nor was the steel contaminated with mercury during processing.
  3. Unless directed by the customer, there are no welds in any of the coils produced for this order.
  4. The laboratory that generated the analytical or test results can be identified by the following key:

Certificate Number	Lab Code	Laboratory		Address
0358-01	7388	<b>CSMD</b>	Charter Steel Melting Division	1658 Cold Springs Road, Saukville, WI 53080
0358-02	8171	<b>CSR/ CSPD</b>	Charter Steel Rolling/ Processing Division	1658 Cold Springs Road, Saukville, WI 53080
0358-03	123633	<b>P4</b>	Charter Steel Ohio Processing Division	6255 US Highway 23, Risingsun, OH 43457
0358-04	125544	<b>CSC</b>	Charter Steel Cleveland	4300 E. 49 <sup>th</sup> St., Cuyahoga Heights, OH 44125-1004
*	*	--	Subcontracted test performed by laboratory not in Charter Steel system	

5. When run by a Charter Steel laboratory, the following tests were performed according to the latest revisions of the specifications listed below, as noted in the Charter Steel Laboratory Quality Manual:

Test	Possible Laboratory	Specification
Chemistry Analysis	CSMD	ASTM E415; ASTM E1019
Macroetch	CSMD	ASTM E381
Hardenability (Jominy)	CSMD	ASTM A255; JIS G0561
Grain Size	CSMD	ASTM E112
Tensile Test	CSR/CSR/CSR, P4, CSC	ASTM E8; ASTM A370
Rockwell Hardness	CSR/CSR/CSR, P4, CSC	ASTM E18; ASTM A370
Microstructure (spheroidization)	CSR/CSR/CSR, P4	ASTM A892
Cleanliness	CSR/CSR/CSR, CSC	ASTM E45

Charter Steel has been accredited to perform all of the above tests by the American Association for Laboratory Accreditation (A2LA). These accreditations expire 01/31/07.

All other test results associated with a Charter Steel laboratory that appear on the front of this report, if any, were performed according to documented procedures developed by Charter Steel and are not accredited by A2LA.

6. The test results on the front of this report are the true values measured on the samples taken from the production lot. They do not apply to any other sample.
7. This test report cannot be reproduced or distributed except in full without the written permission of Charter Steel. The primary customer whose name and address appear on the front of this form may reproduce this test report, subject to the following restrictions:
  - It may be distributed only to their customers
  - Both sides of all pages must be reproduced in full
8. This certification is given subject to the terms and conditions of sale provided in Charter Steel's acknowledgment (designated by our Purchase Order number) to the customer's purchase order. Both Purchase Order numbers appear on the front page of this Report.
9. Where the customer has provided a specification, the results on the front of this test report conform to that specification unless otherwise noted on this test report.



M520583

P.O Box 64189  
1678 Red Rock Road  
Saint Paul, Minnesota 55164

**CERTIFIED TEST REPORT**

Heat #: S73918  
Size: 1"  
Product: Round Bar  
Grade: C1045M23FC  
Date Rolled: 12-26-2005  
P.O: 32975  
M.O #: 511637401  
Item B1045SC1.0000, lgth 24'

CHEMICAL ANALYSIS (WT %)

C	Mn	P	S	Si	Sn	Cu	Ni	Cr	Mo	Cb	V	Co	Al	Ti	Ca	N
0.45	.71	0.009	0.031	0.22	0.008	0.29	0.1	0.16	0.03	0.001	0.026	0.009	0.004	0.0025	20	99

MATERIAL 100% MELTED AND ROLLED IN THE USA. MANUFACTURING PROCESSES FOR THIS STEEL, WHICH MAY INCLUDE SCRAP MELTED IN AN ELECTRIC ARC FURNACE AND HOT ROLLING, HAVE BEEN PERFORMED AT GERDAU AMERISTEEL MINNESOTA, 1678 RED ROCK ROAD, SAINT PAUL MINNESOTA, USA. ALL PRODUCT PRODUCED FROM STRAND CAST BILLETS. NO WELD REPAIRMENT PERFORMED. STEEL NOT EXPOSED TO MERCURY OR ANY LIQUID ALLOY WHICH IS LIQUID AT AMBIENT TEMPERATURES DURING PROCESSING OR WHILE IN GERDAU AMERISTEEL MINNESOTA POSSESSION.

JOMINY END QUENCH HARDENABILITY RESULTS (HRC)

J1	J2	J3	J4	J5	J6	J7	J8	J9	J10	J11	J12
J13	J14	J15	J16	J18	J20	J22	J24	J26	J28	J30	J32

MECHANICAL TEST REPORT

SPECIMEN AREA (in <sup>2</sup> )	YIELD (Kips)	YIELD (Ksi)	TENSILE (Kips)	TENSILE (Ksi)	GAUGE LENGTH (in)	% ELONG	BEND	% R.A.

Additional Specifications/Comments:

A578-90b (2000)

A29/A29M-05

Quality Program Manual Rev. 1, dtd 6/10/05

Grain Size: Fine	Reduction Ratio: 38.5:1	C.E Per:	As Rolled surface Hardness
Coding:	D.I: 1.54 in.	Ms: 606.6 Deg F.	HBW. HRC
		C.E:	Test 1:
			Test 2:

CHARPY IMPACT TEST	
* Test 1	Test 2
Temp (F)	
ft-lb 1	
ft-lb 2	
ft-lb 3	

ASTM E45 is not a laboratory accredited test.

Micro Clean Average									
At:	Ah:	Bt:	Bh:	Ct:	Ch:	Dt:	Dh:	S-Rating	O-Rating:
Macro Etch :									

The above results relate only to the items tested.

Chemical tests performed in accordance with ASTM E415 and E1019. Mechanical tests performed in accordance to ASTM E8, E10, E18, E290 and A370. All other tests performed in accordance with the requirements of applicable specifications unless otherwise noted above. We hereby certify that the above test results are representative of those contained in the records of the company.

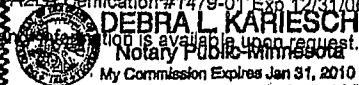
Any modification to this certificate as provided by Gerdau Ameristeel - Minnesota without the expressed written consent of Gerdau Ameristeel - Minnesota negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdau Ameristeel Minnesota. Gerdau Ameristeel - Minnesota is not responsible for the inability of this material to meet specific applications.

Accredited to:	ASTM Test Method									
	ASTM A370	ASTM E8	ASTM E10	ASTM E18	ASTM E23	ASTM E112	ASTM E285	ASTM E290	ASTM E415	ASTM E1019
ISO 17025	X	X	X	X				X	X	X
subcontractor (ISO 17025)										

X Gerdau Ameristeel Minnesota, A2LA Certification #1055-01 Exp. 6/30/06

\* Denotes Testing By Sub-Contractor:  
Metallurgical Services Inc., A2LA Certification #510-01 Exp. 12/31/06  
Stork Twin City Testing, A2LA Certification #179-01 Exp. 03/31/06

Measurement of uncertainty is available upon request.



SWORN AND SUBSCRIBED TO BEFORE ME

THIS 20 DAY March 2006  
Debora Kariesch  
(NOTARY PUBLIC)

THIS CERTIFICATE IS NOTARIZED ONLY WHEN REQUESTED.

SIGNED:

DATE: 03-20-2006

APPROVAL:

QA Approval

*K. Wong*  
Ken Wong

10/10/2005 23:31 FAX 734 848 3303

HSP. CERTS

+ CLEVELAND

007



640 Lavoy Road  
Erie, MI 48133  
Phone: 734/848-2915 Fax: 734/848-8734

B7433

# CERTIFICATE OF ANALYSIS

CUSTOMER ORDER No: 13532	CERTIFICATION No: 2 -203214	SHIPPER No: 2 -203214	CERTIFIED DATE: 10/11/05
CUSTOMER PART No: P1580HP200	DH	SIZE: .1220 x 5.7000 x COIL	
CUSTOMER:  PRESTIGE STAMPING INC. **  P O BOX 1086  WARREN MI 480901086		GRADE: SAE J403 1035	
COATING SPECIFICATION: MELTED AND MANUFACTURED IN THE U.S.A.			

ATTENTION:

All units of measurement for chemistry are in weight percent.

COIL NO.	HEAT NUMBER	CHEMISTRY AND MECHANICAL PROPERTIES
EU4904	9500913	C = 0.360 MN= 0.750 P = 0.010 S = 0.002 SI= 0.100 AL= 0.047
COMMENT:** MILL CERTIFICATION WITH LOAD **		

## RECEIVED

OCT 12 2005

THE ABOVE MECHANICAL AND CHEMICAL ANALYSES WERE SUPPLIED  
BY THE PRODUCING MILL OR TESTED ON OUR OWN EQUIPMENT.

Form No. FQC 001 Rev. 1

Heidman Steel Products, Inc.

05200 Open Web Steel Joists

05200.1 BSE Observation Reports

# BECKER

05200

structural engineers, inc.

## OBSERVATION REPORT

Open Web Steel Joists

Date:	8/30/06
Time:	1:45
Temp:	75
Weather:	SUNNY

Project:	PINE TREE R-3
Location:	PORTLAND, ME
Becker Job No:	1527

Observation Location: ENTIRE BUILDING

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Seat Connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Bridging	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Tie joist Connection	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes: WORK WAS ONGOING @ THE TIME OF THE SITE VISIT.

Signed: Adam M. White, E.I.

05200 Open Web Steel Joists  
05200.2 Material Certifications

**NUCOR**  
**VULCRAFT GROUP**

VULCRAFT SALES CORPORATION

DATE: December 11, 2006

Contact: Mike Cronin  
Company: NORTHLAND STEEL CORP  
Address: 148 PARK STREET  
City: NORTH READING, MA 01864

Reference: PINE TREE RETAIL #3 / PORTLAND, ME  
Purchase Order Number: 06-170  
Vulcraft Number: 26-06-1046

Gentlemen:

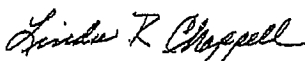
Vulcraft Division, Nucor Corporation, hereby certifies that we are a member of the Steel Joist Institute. Vulcraft open web steel joists and joist girders ( K, H, LH, DLH and G series) are designed and manufactured in accordance with the standard joist specifications of the Steel Joist Institute.

These joists will safely support a uniformly distributed load as designated in the applicable Steel Joist Institute load table, for the particular type and span, when field applications are in accordance with these specifications.

If verification is required please contact the Managing Director at the address below:

Steel Joist Institute  
3127 10th Ave. North Ext.  
Myrtle Beach, SC 29577-6760  
Phone: 803-626-1955  
Fax : 803-626-5568

Cordially,



Linda R Chappell  
DISTRICT SALES CLERK

254B NORTH BROADWAY, SUITE 204 SALEM, NH 03102 BUS: 603.894.1146 FAX: 603.894.1149

**NUCOR**  
**VULCRAFT GROUP**

VULCRAFT SALES CORPORATION

DATE: December 11, 2006


Contact: Mike Cronin  
Company: NORTHLAND STEEL CORP  
Address: 148 PARK STREET  
CITY: NORTH READING, MA 01864

Reference: PINE TREE RETAIL #3/ PORTLAND, ME  
Purchase Order Number: 06-170  
Vulcraft Number: 26-06-1046  
Gentlemen:

This is to certify that Vulcraft Division of Nucor Corporation, Chemung, NY, is a member of the Steel Deck Institute. Vulcraft Steel Decks are produced in accordance with Steel Deck Institute Publications No. 29.

As members of the Steel Deck Institute, Vulcraft steel deck section properties are determined using the appropriate provisions of the latest edition of the American Iron and Steel Institute's specification for the design of cold-formed steel structural members and is built with strict adherence to the standard specifications of the Steel Deck Institute.

Cordially,



Linda R Chappell  
DISTRICT SALES CLERK



05400 Cold Formed Metal Framing  
05400.1 Engineer's Affidavit

# BECKER

05400

structural engineers, inc.

**OBSERVATION REPORT**  
Light Gauge Metal Framing

Date:	SEPT 8, 2006
Time:	
Temp:	
Weather:	FOG

Project:	PINE TREE PLAZA - RETAIL 3
Location:	PORTLAND
Becker Job No:	1409

Observation Location: RETAIL 3 - ALL (4) EXTERIOR WALLS

	Satisfactory	Un-Satisfactory	Not Completed	Not Applicable	Comments
Spacing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Condition	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Anchorage	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Temp Bracing	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Perm Bracing	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Sheathing Attachment	<input type="checkbox"/>	<input type="checkbox"/>	<input checked="" type="checkbox"/>	<input type="checkbox"/>	
Size of Members	<input checked="" type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	
Additional Items	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	<input type="checkbox"/>	

Notes:

Signed: Adam M. White, E.I.



**ASSOCIATED DESIGN  
PARTNERS INC.**

Office: 207.878.1751  
Fax: 207.878.1788  
e-mail: [adp@adpengineering.com](mailto:adp@adpengineering.com)  
web: [www.adpengineering.com](http://www.adpengineering.com)

80 Leighton Road ■ Falmouth, Maine 04105

January 3, 2007

06226

Yves Lapointe  
Yves Lapointe Drywall, Inc.  
3 Powderhorn Lane  
Auburn, ME 04210

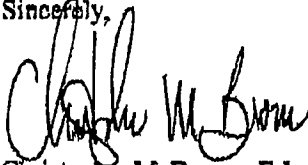
Re: Pine Tree Shopping Center, Portland, ME

Dear Mr. Lapointe:

This letter is being provided upon your request in order to indicate that the light gauge metal wall framing shop drawing submission, dated August 28, 2006 has been prepared by Associated Design Partners, Inc. This light gauge framing shop drawing submittal for the above referenced project was designed and detailed based upon the most current building codes available at the time of submission.

Please call should you have any questions regarding this letter.

Sincerely,



Christopher M. Brown, E.I.  
Structural Designer  
Associated Design Partners, Inc.