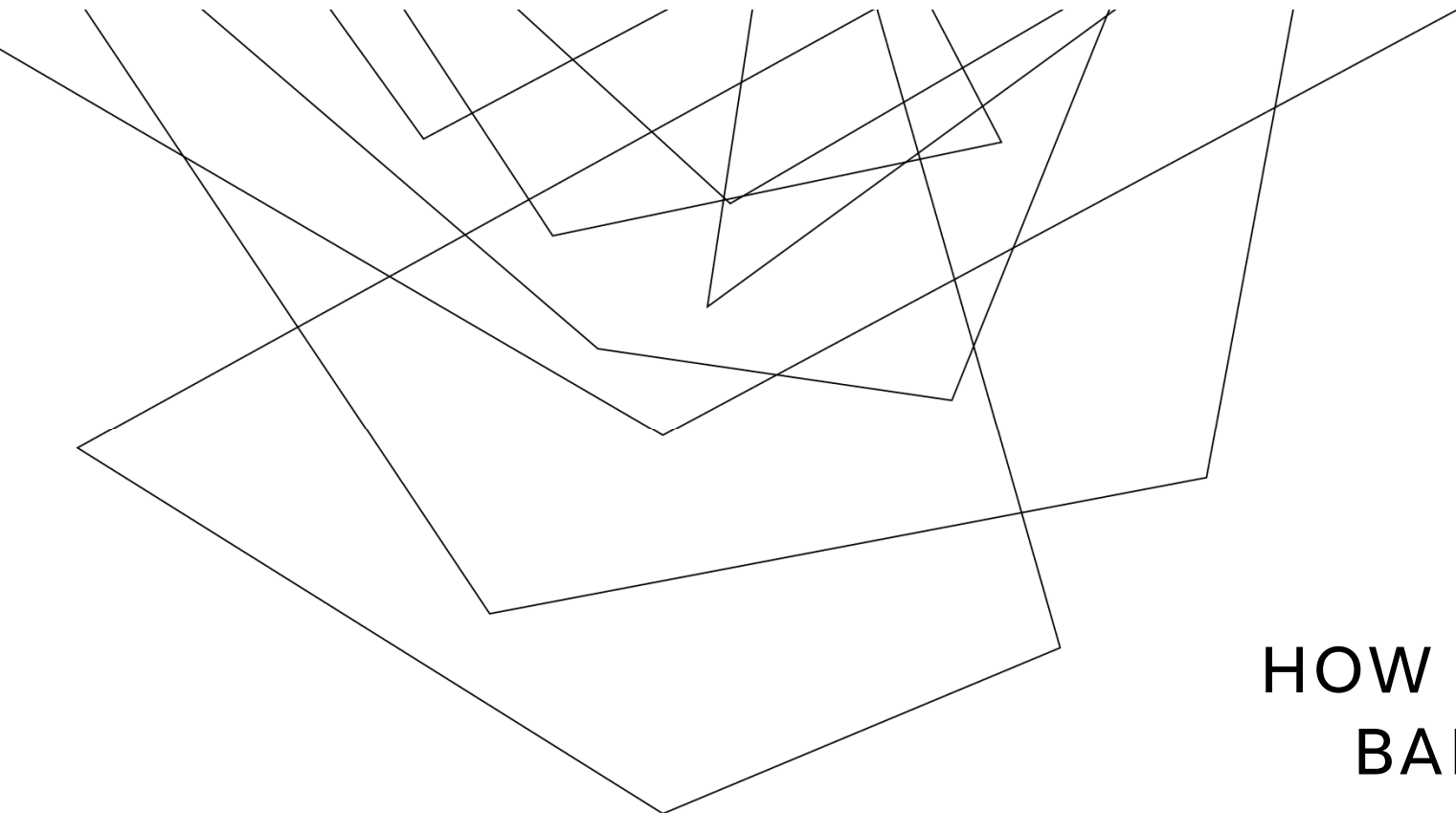




HOW TO SPOT A BAM ISSUE

THURSDAY 03.07.24
RON STANEVICH, PE

WHAT IS IN THIS AMAZING PRESENTATION

WVDOH Information

Good Examples

Bad Examples

STANDARD SPECIFICATIONS

SECTION 106.1.4

106.1.4-Use of Domestic Construction Materials: Any construction materials, as defined in Section 106.1.1, shall be manufactured in the United States and compliant with the “Infrastructure Investment and Jobs Act,” Section 70901-52, entitled the “Build America, Buy America Act.” Section 70901-52, entitled the “[Build America](#), Buy America Act” as implemented by the Office of Management and Budget (OMB) in the “Preliminary Guidance

40

for Construction Materials” in OMB Memorandum M-22-11. No construction material may be used unless the manufacturing process for the manufacture of the construction material occurs in the United States.

Buy America also applies to all projects within the scope of a finding, determination, or decision under the National Environmental Policy Act (NEPA), regardless of the funding source, if at least one contract within the scope of the NEPA decision is funded with Federal funding provided under Title 23.

Buy America only applies to construction materials that are consumed in, incorporated into, or affixed to an infrastructure project. As such, it does not apply to tools, equipment, and supplies, such as temporary scaffolding, removed at or before completion of the project. Nor does Buy America apply to equipment and furnishings, such as movable chairs, desks, and portable computer equipment, that are used at or within the finished project, but are not an integral part of or permanently affixed to the structure.

When construction materials are used, the Contractor shall supply adequate documentation certifying compliance with Buy America requirements prior to the permanent incorporation of the materials into the project.

Any exceptions to Buy America requirements for domestic construction materials will be in accordance with MP 106.10.50 and shall be compliant with the [Build America](#), Buy America Act.

MP 106.10.50

[HTTPS://TRANSPORTATION.WV.GOV/
HIGHWAYS/MCST/MATERIAL%20PRO
CEDURES/2023%20MPS/F-
106.10.50-22.PDF](https://TRANSPORTATION.WV.GOV/HIGHWAYS/MCST/MATERIAL%20PROCEDURES/2023%20MPS/F-106.10.50-22.PDF)

MP 106.10.50
JANUARY 4, 2023
PAGE 1 OF 5

WEST VIRGINIA DEPARTMENT OF TRANSPORTATION
DIVISION OF HIGHWAYS
MATERIALS CONTROL, SOILS AND TESTING DIVISION

MATERIALS PROCEDURE

WVDOH BUY AMERICA ACCEPTANCE GUIDELINES

1. PURPOSE

- 1.1 To set forth instructions for compliance with both State and Federal Buy America Requirements (henceforth referred to as "Buy America Requirements"), as listed in Sections 2.2, 2.3 and 2.4 of this document.

2. REFERENCED DOCUMENTS

- 2.1 WVDOH Standard Specifications, Current Edition.
2.2 23 U.S.C. 313 and 23 CFR 635.410 "Buy America Requirements."
2.3 Chapter 5, Article 19 and Chapter 5A, Article 3, Section 56 of the West Virginia Code, entitled "West Virginia American Steel Act of 2001."
2.4 Build America, Buy America Act, Section 70914.
2.5 Office of Management and Budget (OMB) Memorandum M-22-11, dated April 18, 2022.

3. ACCEPTANCE OF MATERIALS

- 3.1 This procedure applies to the following:
1. Steel and Iron

Buy America Certification of Compliance

Acme Construction Company
123 Main Street
Charleston, WV 25302

Ship Date: 10/31/2023

The below listed materials and products meets all the requirements of all Federal and State Laws for Buy America, including but not limited to: Chapter 5, Article 19 and Chapter 5A, Article 3 Section 56 of the West Virginia Code; 23 U.S.C. 313 Buy America, 23 CFR 635.410 Buy America Requirements, and Build America, Buy America Act, Section 70914.

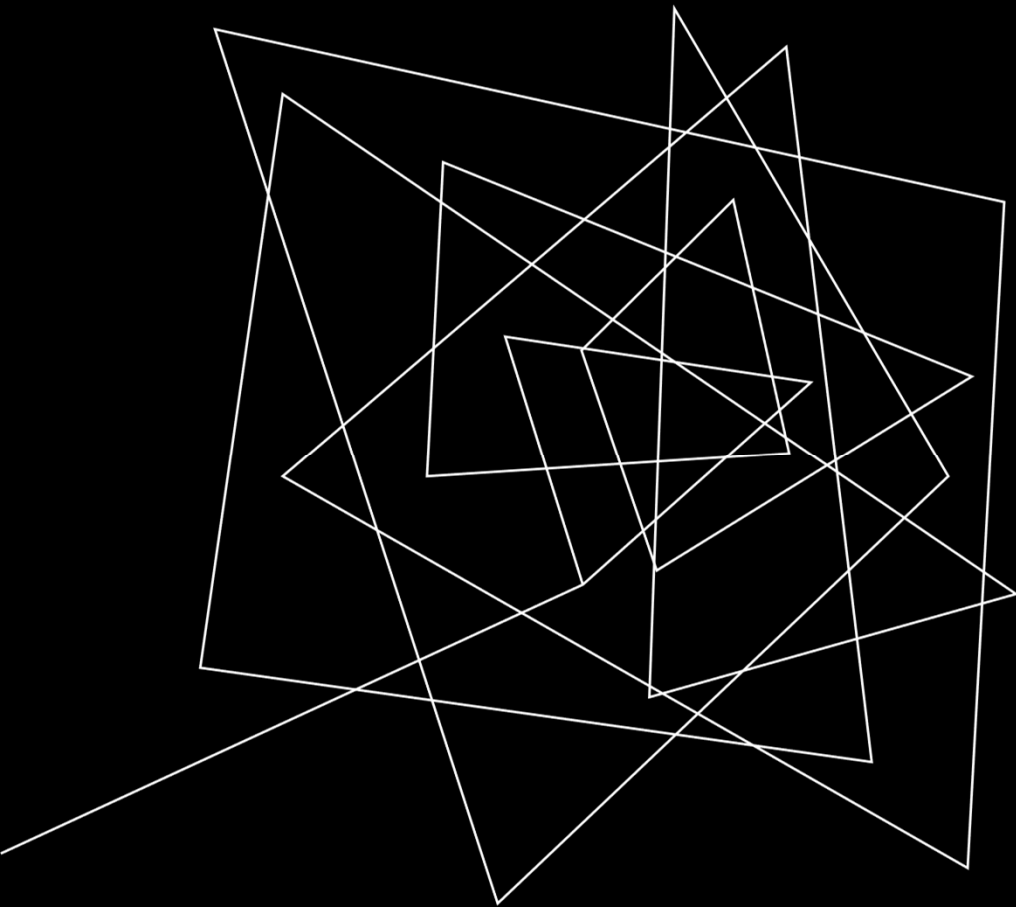
This Certification of Compliance is for the material and project listed below:

CID: 22000005R1
Federal Number: B-0010(000)X
State Number: U002-00-1.00

Line: 0020	Widget, Part Q ⁱ	500 Cubits
Line: 0025	Widget, Part H ^r	300 Cubits

Non-Compliant Buy America Materials		
Line: 0055	Widget, Part I ^r	300 Cubits

EXAMPLE
WVDOT
CERTIFICATE

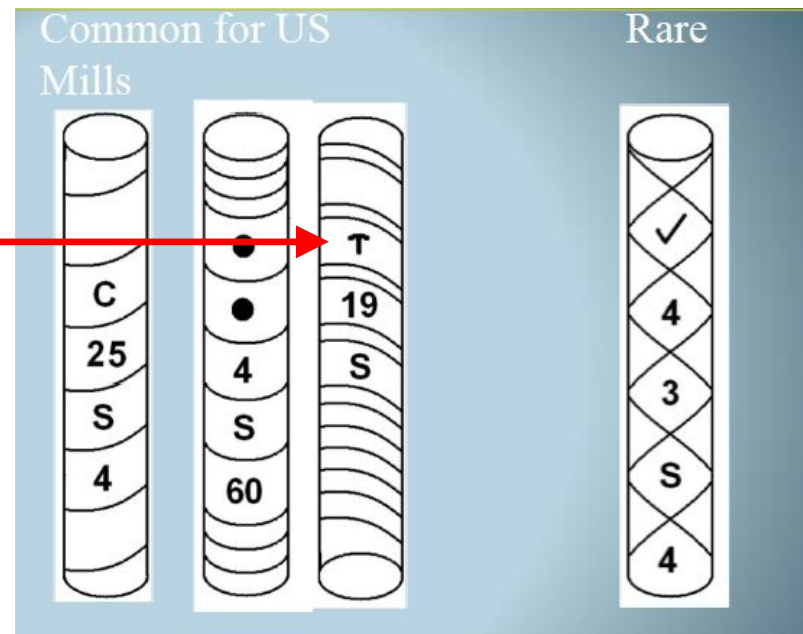


7 THINGS TO
LOOK FOR

NUMBER 7

Watch Your Steel Markings

IM 451 APP. D or Manual Standard Practice
from the Concrete Reinforcing Steel Institute



NUMBER 6

Review The Steel Tags when
arriving on the Project



NUMBER 5

Melted and Manufactured in the United States

SOLD TO: CONSTRUCTION MATERIALS INC
345 49TH AVE DR SW
CEDAR RAPIDS, IA 52404-4819

NUCOR
NUCOR STEEL KANKAKEE, INC.

CERTIFIED MILL TEST REPORT

Page: 1

SHIP TO: CONSTRUCTION MATERIALS
345 49TH AVE SW
CEDAR RAPIDS, IA 52404-4819

Ship from:
MTR #: 0000056177
Nucor Steel Kankakee, Inc.
One Nucor Way
Bourbonnais, IL 60914
815-937-3131

Date: 13-Feb-2015
B.L. Number: 411545
Load Number: 202148

Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.

NSWG-08 January 1, 2012

LOT # HEAT #		DESCRIPTION	PHYSICAL TESTS					CHEMICAL TESTS													
			YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C	NI	Mn	Cr	P	Mo	S	V	Si	Cb	Cu	Sn	C.E.	
PO# => KN1010332301 KN10103323		47774 Nucor Steel - Kankakee Inc 13#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	70,655 487MPa	105,853 730MPa	15.0%	OK	-3.8%	.39 .030	.22	.99 .14	.014 .070	.051 .011	.22 .002	.42							
PO# => KN1010332501 KN10103325		47774 Nucor Steel - Kankakee Inc 13#4 Rebar 40' A615M GR420 (Gr60) ASTM A615/A615M-14 GR 60[420] AASHTO M31-07 Melted 07/09/10 Rolled 07/15/10	68,179 470MPa																		

I hereby certify that the material described the specifications and standards listed above

- 1.) Weld repair was not performed on this material
- 2.) Melted and Manufactured in the United States
- 3.) Mercury, Radium, or Alpha source materials have not been used in the production of this material

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.

- 1.) Weld repair was not performed on this material.
- 2.) Melted and Manufactured in the United States.
- 3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

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.

- 1.) Weld repair was not performed on this material.
- 2.) Melted and Manufactured in the United States.
- 3.) Mercury, Radium, or Alpha source materials in any form have not been used in the production of this material.

QUALITY ASSURANCE: Matt Luykes

Matt Luykes



MATERIAL CERTIFICATION OF COMPLIANCE

Gallatin, TN

CRETEX CONCRETE PRODUCTS MIDWEST INC.
540 E COUNTRY CLUB RD
IOWA FALLS IA 50126

Bill of Lading: 00160951
Order Number: 420562

Insteel Wire Products Company hereby certifies that the specimens taken from production lot(s) consisting of one or more of the following Lot/serial numbers were tested in accordance with and met the specification requirements of A 416 - 12a. The attached test report(s) represent the result of such test(s).

.600 (15.2mm) 7W 270 LR ASTM A416

Test Report Number: 20050459

Lot/12011201120112011201120140410898012014041089771201404108978

The material meets the "Buy America" requirements of 23 CFR 635.410.

The products listed in this certification were manufactured and fabricated in the United States of America.

Insteel Wire Products Company hereby certifies that the prestressing strand described above meets or exceeds the minimum bonding requirements as currently accepted in the NASP (North American Strand Producers) pull-out test and the Moustaffa block pull-out test.

All Domestic Prestressing Strand was made from steel rod that was manufactured and processed completely in America. The rod was then manufactured into Prestressing Strand in the United States at Insteel Wire Products Company plant in either Anderson, FL; Houston, TX; Newnan, GA; or Gallatin, TN. The material meets the "Buy America" requirements of 23 CFR 635.410.

The products listed in this certification were manufactured in the U.S.A. from materials that were manufactured in the U.S.A.

Quality Assurance Manager:

Franklin L. White

Date: 14-OCT-2014

NUMBER 4

Conforms to Buy America Requirements of 23 CFR 635.410



US-ML-ST PAUL
1678 RED ROCK ROAD
SAINT PAUL, MN 55119
USA

CERTIFIED MATERIAL TEST REPORT

Page 1/1

CUSTOMER SHIP TO SIMCOOTE INC 1645 RED ROCK RD SAINT PAUL, MN 55119 USA	CUSTOMER BILL TO SIMCOOTE INC 1645 RED ROCK RD SAINT PAUL, MN 55119-6014 USA	GRADE 60 (420)	SHAPE / SIZE Rebar / #4 (13MM)
SALES ORDER 435713/000080		CUSTOMER MATERIAL N°	SPECIFICATION / DATE or REVISION 1-ASTM A615/A615M-09
CUSTOMER PURCHASE ORDER NUMBER 3564	BILL OF LADING 1332-000006416	DATE 08/06/2013	

C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sb	V	Nb
0.44	1.02	0.017	0.025	0.23	0.37	0.11	0.19	0.028	0.016	0.005	0.001

YS	UTS	UTS	EL	EL
MPa	MPa	MPa	inch	inch
69000	475	108500	748	201.2

EL	EL
inch	inch
10.40	OK

SE	Def Gap	Def Space
inch	inch	inch
-1.75	0.085	0.122

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 Gerdaul St. Paul Mill, 1678 Red Rock Rd., St. Paul, Minnesota, USA. All products produced from strand cast steel are 100% melted and rolled in the USA. No weld repairment performed. Steel not exposed to mercury or any liquid alloy which is liquid at ambient temperatures during processing or while in Gerdaul St. Paul Mill's possession. Any modifications to this certification as provided by Gerdaul - St. Paul Mill without the expressed written consent of Gerdaul St. Paul Mill negates the validity of this test report. This report shall not be reproduced except in full, without the expressed written consent of Gerdaul St. Paul Mill. Gerdaul St. Paul Mill is not responsible for the liability of this material to meet specific applications.

The above figures are certified chemical and physical test records as contained in the permanent records of company. This material, including the billets, was melted and manufactured in the USA. CMTR complies with EN 10204 3.1.

Shaskar
BHASKAR YALAMANCHILI
QUALITY DIRECTOR

ALEA BRANDENBURG
QUALITY ASSURANCE MGR.

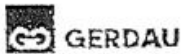
Material 100% melted and rolled in the USA.

NUMBER 3

Melted and
Rolled in the US

Made in the USA

NUMBER 2



ST PAUL STEEL MILL
1676 RED ROCK ROAD
ST PAUL MN 55119 USA

MADE IN UNITED STATES

SHAPE - SIZE	GRADE	SPECIFICATION	SALES ORDER	CUST P.O. NUMBER
X13MM REBAR (#4)	420 (60)	ASTM A615/A615M-09 GR 60/420		
HEAT I.D.	C	Mn P S Si Cu Ni Cr Mo V Nb N Sn Al Ti Ca Zn Co		
M676898	.44	1.02 .022 .027 .20 .59 .14 .18 .024 .004 .000 .0150 .020 .001 .00100 .00090 .00400 .008		
Mechanical Test: Yield 68500 PSI, 479.19 MPA Tensile: 113000 PSI, 779.11 MPA %B: 12.5/8in, 12.5/203.2mm Bend: OK Def HT: .035, .89MM Def Gap: .132, 3.35MM Def SP: .332, 8.43MM %Wt -1.5L Red R 155.89 Idl Diam: 0 Corrosion Index: 4.5				
Customer Requirements SOURCE: CA-STP CASTING: STRAND CAST				
Comment: melted and MFG in the USA				
melt shop heat M122896 melt dtd 8/30/2012, roll lot M676898 roll dtd 9/19/2012				

Melted and MFG in the USA

Repeated

**This Material including billets was melted and
manufactured in the United States of America**

This material, including the billets, was melted and manufactured in the United States of America

THE ABOVE FIGURES ARE CERTIFIED CHEMICAL AND PHYSICAL TEST RECORDS AS CONTAINED IN THE PERMANENT RECORDS OF COMPANY.

Shackery

Bhaskar Yalamanchili
Quality Director
Gerdau

[Signature]

Metallurgical Services Manager
ST PAUL STEEL MILL

Seller warrants that all material furnished shall comply with specifications subject to standard published manufacturing variations. NO OTHER WARRANTIES, EXPRESSED OR IMPLIED, ARE MADE BY THE SELLER. AND SPECIFICALLY EXCLUDED ARE WARRANTIES OF MERCHANTABILITY AND FITNESS FOR A PARTICULAR PURPOSE. In no event shall seller be liable for indirect, consequential or punitive damages arising out of or related to the materials furnished by seller. Any dispute for materials that do not conform to specifications must be made from buyer to seller immediately after delivery of same in order to allow the seller the opportunity to inspect the material in question.

3M

This is to certify that the lot(s) of Scotchkote 413 Fusion Bonded Epoxy Coating manufactured by 3M at Morden, Manitoba, Canada, identified below complies (comply) with the following test requirements and is (are) chemically the same material that was tested and certified by independent test laboratories. SCOTCHKOTE 413 meets ASTM A 775/A 775M-07b, ASTM D 3963, ASTM A 884/A884M-06, ASSHTO M 284-03 and AASHTO M254-77(2000).

This is to certify that
Morden, Manitoba,
(are) chemically the
SCOTCHKOTE 413
M 284-03 and AASHTO

Lot Number

2J10C155

Trouble? Not necessarily

This coating, when applied to steel or iron in the U.S., meets the Buy America provision as set forth in FHWA 23 CFR 635.410 Section 1041(a) of the ISTEA.

Where was it coated?

3M Canada Comp

Sign

Ti

Da

Shipped Fro

This coating, when
FHWA 23 CFR 63

THE NOT SO GOOD

COMPLIES WITH ROHS DIRECTIVE 2002/95/EC OF THE
COATING THICKNESS VALUES PROVIDED BY COATING SUPPLIER

MANUFACTURED IN: CANADA

The steel was melted and rolled
in North America and is mercury and asbestos-free.
Fasteners were tested in the bare metal condition.

INFASCO

A division of Fastgroup LP 700 Carleton Place, Markham (Ontario) J3M 1P6
A Hales Company Tel: (416) 668-0701 Fax: (416) 460-3498

PC-315-2 Rev. 07

ISO 9001:2004



FASTENER TEST REPORT

(THIS DOCUMENT MAY ONLY BE REPRODUCED IN ITS ENTIRETY, WITH PRIOR WRITTEN APPROVAL BY THE INFASCO LABORATORY)
(THE INFASCO LABORATORY IS ACCREDITED BY THE CCN FOR THE TESTS LISTED AT WWW.CCN.CA)

DATE 2011-10-01

DESCRIPTION: HEX RD CAP SCREW J429-5 FNA UNC N ZCL
AND MARKING: ROLLW TRIANGLE & 3 RADIAL LINES

SIZE: 1/2-13 x 5

GRADE: 1050M

QUANTITY: 22,000

HEAT CHEMICAL ANALYSIS (provided by steel supplier)

HEAT NO.	C %	Mn %	P %	S %	SI %				
A06200	0.35	0.97	0.010	0.014	0.21				

METHOD	ASTM F606 PROOF LOAD (psi)	ASTM F606 WEDGE TENSILE STRENGTH (psi)	SHEAR STRENGTH	ASTM E92 SURFACE HARDNESS (HRC 10N)	ASTM F606 CORE HARDNESS (ROCKWELL C)	MICRO HARDNESS	ASTM E376 COATING THICKNESS (0.001 in.)
SAMPLES SELECTED BY: 0511 EPCAL MEXI COPAC MEXI	85,000	120,000		54.0	HRC 25.0 HRC 34.0		0.20
E NO. 1	85,000	140,000		53.7	HRC 31.1		0.42
A NO. 2	86,000	145,000		54.0	31.8		0.42
M NO. 3	86,000	138,000		52.9	32.1		0.37
P NO. 4	86,000	142,000		53.3	30.5		0.42
L NO. 5				53.7	31.0		0.40
E NO. 6				52.4	31.7		0.43
E NO. 7				50.7	31.2		0.46
E NO. 8				52.8	31.1		0.48
E NO. 9							0.56
E NO. 10							0.43
E NO. 11							0.49
E NO. 12							0.46
E NO. 13							0.47
E NO. 14							0.35
E NO. 15							0.42

THE ABOVE TESTED SAMPLES HAVE BEEN INSPECTED FOR VISUAL DISCONTINUITIES AND FOUND ACCEPTABLE.
THEY COMPLY IN ALL RESPECTS WITH THE LATEST EDITION OF THE FOLLOWING SPECS:
Q&K J-42, ASME B18.2.1, THREADS PER ASME B1.1 CLASS 2A UNLESS OTHERWISE SPECIFIED.

ASTM F-194 Fe/Zn SBT

COMPLIES WITH ROHS DIRECTIVE 2002/95/EC OF THE EUROPEAN UNION
COATING THICKNESS VALUES PROVIDED BY COATING SUPPLIER.

MANUFACTURED IN: CANADA

The steel was melted and rolled
in North America and is mercury and asbestos-free.
Fasteners were tested in the bare metal condition.

INFASCO

A division of Fastgroup LP 700 Carleton Place, Markham (Ontario) J3M 1P6
A Hales Company Tel: (416) 668-0701 Fax: (416) 460-3498

PC-315-2 Rev. 07

File on 5011

THE NOT SO GOOD

CUSTOMER PURCHASE ORDER NUMBER 39555		BILL OF LADING 4751,000000784	DATE 04/26/2013
CHEMICAL COMPOSITION			
C %	Mn %	P %	S %
0.30	0.62	0.007	0.009
Si %	Ca %	Ni %	Cu %
0.16	0.30	0.11	0.10
Mo %	Sb %	V %	Other %
0.024	0.003	0.004	0.03

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 USA External. CMTR complies with EN 10204 3.1.

Maskar

BHASKAR YALAMANCHILI
QUALITY DIRECTOR

Lisa Churnetski

LISA CHURNETSKI
QUALITY ASSURANCE MGR.

was melted USA External.

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 USA External. CMTR complies with EN 10204 3.1.

Maskar

BHASKAR YALAMANCHILI
QUALITY DIRECTOR

Lisa Churnetski

LISA CHURNETSKI
QUALITY ASSURANCE MGR.

THE NOT SO GOOD

SOLD TO: CONSTRUCTION MATERIALS INC 345 49TH AVE DR SW CEDAR RAPIDS, IA 52404-4819		CERTIFIED MILL TEST REPORT		Page: 1											
SHIP TO: CONSTRUCTION MATERIALS 345 49TH AVE SW CEDAR RAPIDS, IA 52404-4819		Ship from: MTR #: 0000056177 Nucor Steel Kankakee, Inc. One Nucor Way Bourbonnais, IL 60914 815-937-3131		Date: 13-Feb-2015 B.L. Number: 411545 Load Number: 202148											
Material Safety Data Sheets are available at www.nucorbar.com or by contacting your inside sales representative.															
NBMG-08 January 1, 2012															
LOT # HEAT #		PHYSICAL TESTS				CHEMICAL TESTS									
		YIELD P.S.I.	TENSILE P.S.I.	ELONG % IN 8"	BEND	WT% DEF	C NI	Mn Cr	P Mo	S V	Si Cb	Cu Sn	C.E.		
PO# => 47774															
KN1010332301 Nucor Steel - Kankakee Inc		70,655	105,853	15.0%	OK	-3.8%	.39	.99	.014	.051	.22	.42			
KN10103323 13/#4 Rebar		487MPa	730MPa			.030	.22	.14	.070	.011	.002				
40' A615M GR420 (Gr60)															
ASTM A615/A615M-14 GR 60[420]															
AASHTO M31-07															
Melted 07/09/10 Rolled 07/15/10															
PO# => 47774															
KN1010332501 Nucor Steel - Kankakee Inc		68,179	103,840	15.0%	OK	-3.4%	.40	.95	.020	.052	.19	.42			
KN10103325 13/#4 Rebar		470MPa	716MPa			.030	.23	.12	.073	.011	.002				
40' A615M GR420 (Gr60)															
ASTM A615/A615M-14 GR 60[420]															
AASHTO M31-07															
Melted 07/09/10 Rolled 07/15/10															

INFO LEFT OFF OR INVOICE CUTOFF

THE NOT SO GOOD



NO. 46 Shin Ming Road, KAOHSIUNG TAIWAN, R.O.C.
TEL: 866-7-6964211 FAX: 866-7-6964210

CERTIFICATE OF INSPECTION

PURCHASER : STAR STAINLESS SCREW CO
ADDRESS : 1001 Penner Crest
Houston, TX 77055
United States
COMMODITY : HEX JAM NUTS
SIZE : 3/4-10NC*1-1/8*27/64
MFR. DATE : 11/15/2013
SAMPLE PLAN SPEC.: ANSI/ASME B18.1-2007

CERT NO. : 213311521
LOT NO. : 13AN222
INV. NO. : 2133115
PO# NO. : HOU 122274
ITEM NO. : 1-J-75C
HEAT NO. : S11186
STAMP : +++
LOT QTY : 40,000PCS
MATERIAL TYPE: SUS 304M4

DIMENSIONAL INSPECTIONS (MEASUREMENT BY INCH)		SPECIFICATION: ANSI B 18.2.2-1987			
Characteristics	Specification	Actual result	Smpling	Passed	Rej.
Width across flats	1.125/1.088	1.120/1.094	14	14	0
Width across corners	1.299/1.240	1.285/1.270	8	8	0
Nut thickness	0.446/0.398	0.442/0.415	8	8	0
Minor Diameter	2B	PASS	14	14	0
Thread	2B	PASS	14	14	0
Visual Appearance	ASTM F812/812M-07	PASS	46	46	0

MECHANICAL PROPERTIES		SPECIFICATION: ASTM F594-09					
Characteristics	Test Method	Specified	Scale	Result	Sampling	Passed	Rej.
Hardness	ASTM F606-09	B80 / C35	HRC	31 / 26	8	8	0

CHEMICAL COMPOSITION %										
HEAT NUMBER	C X100	Si X100	Mn X100	P X1000	S X1000	Ni X100	Cr X100	Mo X100	Cu X100	N X100
S11186	2.4	39.2	166	32	6.1	802.7	1826.3	20.2	50.9	252

REMARK:

Name *Ching Fu Yeh* Name Yi Ru Su 11/15/2013 1/1
Name (QA Engineer) SAMPLER DATE PAGE

THIS REPORT MUST NOT BE REPRODUCED EXCEPT IN FULL AND TO THE ITEM TESTED ONLY.
WHENEVER TESTING DISCREPANCIES ARE DETECTED OR DEPARTURE FROM DOCUMENTED
POLICIES AND PROCEDURE OCCUR, THEY WILL BE SHOWN IN REMARKS.
WE HEREBY CONFIRM THAT THIS ITEM HAS BEEN PASSED.
THIS INSPECTION CERTIFICATE IS ISSUED ACCORDING TO EN 10204 3.1/DIN 50049 3.1.

THE NOT
SO GOOD

MY FAVE



豐興鋼鐵股份有限公司
FENG HSIN IRON & STEEL CO., LTD.

品質證明書
(出廠證明書)
TEST CERTIFICATE

OFFICE: 臺中縣后寮鄉中后路702號
702, CHANGHU ROAD, HOU LI SHIANG,
TAICHUNG HSIEN, TAIWAN, ROC
TEL: (04)25585101
FAX: (04)25580955

客戶名稱 CUSTOMER NAME		世賜工廠產蛋股份有限公司		58700083		證明書編號 CERTIFICATE NO.		2AMB9471-001			
規格名稱 SPEC.		JIS G3507 SWRCH10A CN		產品名稱 PRODUCT		HOT ROLLED ROUND BAR IN COIL 熱軋棒狀棒材		生效日期 SHIPPING DATE		2011/03/18 - 2011/03/18	
								證明書列印日期 CERTIFICATE DATE		2011/03/21	

尺寸及規格 MATERIAL DESCRIP.				爐號 HEAT NO.	拉力試驗 TENSILE			化學成分(%) CHEMICAL ANALYSIS											秤量單 號 SHIPPING NO.
直徑 DIA. (mm)	長度 LEN. (m)	數量 QTY (ROLL)	重量 WEIGHT (kg)		斷面積 mm ²	抗拉強 /mm ²	伸長率 EL(%)	C	Si	Mn	P	S	Al	Cr	Mo	Cu	Al	B	
19		2	3586	319808				8	18	38	38	35	20	20					
19		12	25380	319989				13	MAX	40	MAX	MAX	MAX	MAX					
								9	7	33	9	5	4	4					
								9	7	33	13	7	4	4					
TOTAL:				14 ROLLS	27,266 kgs.														
REMARK:																			

茲茲證明本表所列產品,均按材料規格製造及試驗並符合規格之要求
WE HEREBY CERTIFY THAT THE MATERIAL DESCRIBED HEREIN WAS MANUFACTURED AND TESTED WITH

冶金工程師 盧慶興
MANAGER



THANK YOU

Ron Stanevich, PE

Director MCS&T Division

304.414.6659

Ron.I.Stanevich@wv.gov