NUCOR
FASTENER DIVISION

Post Office Box 6100
Saint Joe, Indiana 46785
Telephone 260/337-1600

LOT NO.
383970A

CUSTOMER NO/NAME
9238 MIDWEST STRUCTURAL PROD.

NUCOR ORDER # 986506
TEST REPORT SERIAL# FB514997
CUST PART # 50C375BA30G
TEST REPORT ISSUE DATE 12/22/16
DATE SHIPPED 1/13/17
CUSTOMER P.O. # 74452
NAME OF LAB SAMPLER: LISA EDGAR, LAB TECHNICIAN

A325

**********CERTIFIED MATERIAL TEST REPORT**********

| NUCOR PART NO | QUANTITY | LOT NO. | DESCRIPTION |
|---|---|---|---|
| 160147 | 1650 | 383970A | 1/2-13 X 3 3/4 A325 H.D.G. |
| MANUFACTURE DATE 11/29/16 | | | STRUC SCREW H.D.G. |

--CHEMISTRY MATERIAL GRADE -1035MR

| MATERIAL NUMBER | HEAT NUMBER | **CHEMISTRY COMPOSITION (WT% HEAT ANALYSIS) BY MATERIAL SUPPLIER C | MN | P | S | SI | |
|---|---|---|---|---|---|---|---|
| RM031154 | 100785759 | .36 | .77 | .007 | .019 | .24 | NUCOR STEEL - NEBRASKA |

--MECHANICAL PROPERTIES IN ACCORDANCE WITH ASTM F3125-15a

| SURFACE HARDNESS (R30N) | CORE HARDNESS (RC) | PROOF LOAD 12100 LBS | TENSILE STRENGTH 10 DEG-WEDGE (LBS) | STRESS (PSI) |
|---|---|---|---|---|
| N/A | 30.3 | PASS | 19450 | 136972 |
| N/A | 28.9 | PASS | 19610 | 138099 |
| N/A | 27.6 | PASS | 21180 | 149155 |
| N/A | 28.3 | | | |
| AVERAGE VALUES FROM TESTS | | | | |
| | 28.8 | | 20080 | 141409 |

PRODUCTION LOT SIZE 5500 PCS

--VISUAL INSPECTION IN ACCORDANCE WITH ASTM F3125-15a 4 PCS. SAMPLED LOT PASSED

--COATING - HOT DIP GALVANIZED TO ASTM F2329-13 - GALVANIZING PERFORMED IN THE U.S.A.

| | | | | | | | | | | | | | |
|---|---|---|---|---|---|---|---|---|---|---|---|---|---|
| 1. | 0.00239 | 2. | 0.00291 | 3. | 0.00655 | 4. | 0.00512 | 5. | 0.00472 | 6. | 0.00336 | 7. | 0.00601 |
| 8. | 0.00367 | 9. | 0.00398 | 10. | 0.00318 | 11. | 0.00297 | 12. | 0.00511 | 13. | 0.00419 | 14. | 0.00268 |
| 15. | 0.00533 | | | | | | | | | | | | |

AVERAGE THICKNESS FROM 15 TESTS .00414
HEAT TREATMENT - AUSTENITIZED, OIL QUENCHED & TEMPERED (MIN 800 DEG F)

--DIMENSIONS PER ASME B18.2.6-2010

| CHARACTERISTIC | #SAMPLES TESTED | MINIMUM | MAXIMUM |
|---|---|---|---|
| Width Across Corners | 8 | 0.984 | 0.988 |
| Grip Length | 8 | 2.69 | 2.71 |
| Head Height | 8 | 0.320 | 0.323 |
| Threads | 8 | PASS | PASS |

ALL TESTS ARE IN ACCORDANCE WITH THE LATEST REVISIONS OF THE METHODS PRESCRIBED IN THE APPLICABLE SAE AND ASTM SPECIFICATIONS. THE SAMPLES TESTED CONFORM TO THE SPECIFICATIONS AS DESCRIBED/LISTED ABOVE AND WERE MANUFACTURED FREE OF MERCURY CONTAMINATION. NO HEATS TO WHICH BISMUTH, SELENIUM, TELLURIUM, OR LEAD WAS INTENTIONALLY ADDED HAVE BEEN USED TO PRODUCE THE BOLTS.
THE STEEL WAS MELTED AND MANUFACTURED IN THE U.S.A. AND THE PRODUCT WAS MANUFACTURED AND TESTED IN THE U.S.A.
PRODUCT COMPLIES WITH DFARS 252.225-7014. WE CERTIFY THAT THIS DATA IS A TRUE REPRESENTATION OF INFORMATION PROVIDED BY THE MATERIAL SUPPLIER AND OUR TESTING LABORATORY. THIS CERTIFIED MATERIAL TEST REPORT RELATES ONLY TO THE ITEMS LISTED ON THIS DOCUMENT AND MAY NOT BE REPRODUCED EXCEPT IN FULL.

A2LA ACCREDITED

MECHANICAL FASTENER
CERTIFICATE NO. A2LA 0139.01
EXPIRATION DATE 12/31/17

NUCOR FASTENER
A DIVISION OF NUCOR CORPORATION

John W. Ferguson

JOHN W. FERGUSON
QUALITY ASSURANCE SUPERVISOR

31154

NUCOR
Nucor Steel Nebraska

# Mill Certification
11/17/2016

MTR#: 3240
Lot #:10078575920
2911 E NUCOR ROAD
PO BOX 309
NORFOLK, NE 68701 US
402-644-0200
Fax: 402-644-0329

Sold To: NUCOR FASTENER
PO BOX 6100
6730 CR 60
SAINT JOE, IN 46785 US

Ship To: NUCOR FASTENER
6730 CR 60
SAINT JOE, IN 46785 US

| | | | |
|---|---|---|---|
| Customer P.O | 163197 | Sales Order # | 152027 - 7.12 |
| Product Group | Wire Rod - Cold Heading Quality | Product # | 1034979 |
| Grade | 1035MR | Lot # | 10078575920 |
| Size | 0.5156" | Heat # | 100785759 |
| BOL # | BOL-100956 | Load # | 3240 |
| Description | WR-CHQ RD 0.5156" 1035MR COIL 5200 lbs | Customer Part # | 005008 |
| Production Date | 11/13/2016 | Qty Shipped LBS | 46750 |
| Product Country Of Origin | United States | Qty Shipped EA | 9 |
| Original Item Description | | Original Item Number | |

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.

Melt Country of Origin : United States — Melting Date: 11/04/2016

| C (%) | Mn (%) | P (%) | S (%) | Si (%) | Ni (%) | Cr (%) | Mo (%) | Cu (%) | Tl (%) | V (%) | B (%) |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 0.36 | 0.77 | 0.007 | 0.019 | 0.24 | 0.07 | 0.04 | 0.02 | 0.21 | 0.001 | 0.003 | 0.000 |
| Nb (%) | Sn (%) | Al (%) | Pb (%) | Ca (%) | Zn (%) | | | | | | |
| 0.003 | 0.009 | 0.00 | 0.000 | 0.000 | 0.004 | | | | | | |

Reduction Ratio 210.68 : 1

Comments:
Coarse Grain Practice
All manufacturing processes of the steel materials in this product, including melting, have been performed in the United States.
All products produced are weld free.
Mercury, in any form, has not been used in the production or testing of this material.
Test conform to ASTM A29-15, ASTM E415 and ASTM E1019-resulphurized grades or applicable customer requirements.
All material melted at Nucor Steel Nebraska is produced in an Electric Arc Furnace.
Strand Cast
ISO-17025 LAB accreditation cert available upon request.
Exporting Country-USA
Sales@nucorne.com

**Chemistry Verification Checks**

**Part#** 5008 **RM#** 31154

| | Checked By | Date |
|---|---|---|
| **Receiving OK:** | 297 | 11-21-16 |
| **Certifications OK:** | 375 | 11-23-16 |

Jim Hill

Jim Hill, Division Metallurgist

NBMG-10 January 1, 2012

# INDIANA GALVANIZING, LLC

Hot-Dip Galvanizing
51702 Lovejoy Dr.
Middlebury IN, 46540
Phone: 574-822-9102 Fax: 574-822-9106

**Customer**
**NUCOR FASTENER**
**6730 CR 60**
**Saint Joe, IN 46785**

PO: 183815
DATE: 12/16/2016

Hot-Dip Galvanizing Certification

Indiana Galvanizing certifies that samples representing listed lot(s) have been tested and inspected as required by applicable specifications. The results of this inspection and testing demonstrates that the requirements for ASTM F2329, including the requirements ASTM A153 that are referenced within the specification, have been met and have been galvanized in Middlebury, Indiana of the United States of America.

Kettle Temperature (Must be between 815 and 850 Degrees Fahrenheit) 840

Mil Readings

| Lot Number | High | Low | Average | Bin Tag Verification | Nut Test |
|---|---|---|---|---|---|
| 384876A | 3.60 | 2.30 | 2.85 | X | X |
| 385476A | 3.70 | 2.00 | 2.60 | X | X |
| 385284A | 2.40 | 2.20 | 2.33 | X | X |
| 383970A | 4.20 | 3.10 | 3.65 | X | X |
| 385288A | 2.80 | 2.20 | 2.48 | X | X |

Heidi Bates

Quality Manager or Assignee