| (ms 10 morr P O 69942 | Customer No. 0304 | Bill of Lading 625329 | Invoice No. |
|-----------------------|-------------------|-----------------------|-------------|
| 69942 | 0304 | 625329 | |

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

CERTIFIED MILL TEST REPORT

All Shapes produced by Nucor-Yamato Steel are cast and rolled to 100% Melted and Manufactured in U.S.A fully killed and fine grain practice

01/24/2024

801 E 2 ST TIFTON GA 31794 COOKSEY IRON & METAL COMPANY PO BOX 391 0 -COOKSEY IRON & METAL COMPANY ASU PO BOX 391 801 E 2 ST TIFTON GA 31794

ASTM A709/A709M-21 GR50 (345) ASTM A709/A709M-21 GR50S (345S) ASTM A992/A992M-22 A572/A572M GR50-21 ASTM A6/A6M-22 CSA G40.21-13 SOWM (345WM)

Ω

| 2 | | 4 | _ | 7 | | ω | | | | | N | | | | <u> </u> | | | | īte | | | |
|--|-----------|------|--------|-----------|---|--------|-----|----|---|--------------|----------|------|---|--------------|----------|------------------------|------------|----------------------------|--------------------|---------------|-----------------------|--|
| FLONGATION BASED ON 8.00 INCH GAUGE LENGTH | (12.19 m) | | | W06X025.0 | W06XG25.0 40 ft 0 in W15GX37.1 (12.19 m) | | | | W06X020.0 40 ft 0 in W150X29.8 (12.19 m) | | | | W06X02D.0 40 ft 0 in W150X29.8 (12.19 m) | | | Itern#Item Description | | | | | | |
| GAUG | H | _ | , | - | - | 00 | | | | 2 | | | | 80 | | | | QIIY | | | | |
| ELENGTH | | | 582053 | | | 586013 | | | | 585976 | | | | Heat# | | | | | | | | |
| | | 0.79 | 0.79 | | | 0.79 | | | | 0.74 0.74 | | | | 0.80 0.81 | | | | Yield to Tensile Ratio MPa | | | | |
| | 371 | 373 | 54 | 54 | 383 | 394 | 56 | 57 | 355 | 361 | 51 | 52 | 412 | 404 | 60 | 59 | KSI MPa | | The section of the | Vald Street | | |
| | 469 | 471 | 68 | 68 | 483 | 497 | 70 | 72 | 481 | 487 | 70 | 71 | 506 | 502 | 73 | 73 | MPa | KSI | Strength | Tensile | Mechan | |
| | | | 27 | 27 | | | 25 | 25 | | | 26 | 27 | | | 24 | 26 | * | * | ELONG | | Mechanical Properties | |
| | | | | | | | | | | | | | | | | | ဂိ | Ţ. | Temp | Charpy | erties | |
| | | | | | | | | | | | | | | | | _ | - | ft•lbf | | Charpy Impact | | |
| 1 | | | | | t | | | | | | _ | | t | | | _ | | | Impact Energy Loc | | | |
| وا | | | .07 | | | .07 | | | | .08 | | | .07 | | | n | | | | | | |
| CARBON | | į | 91 | | | .90 | | | | 1.00 | | | .91 | | | M _n | | | | | | |
| N EQUIVALENT CE= C+Mn/6+(Cr+Mo+V)/5+(NI+Cu)/15 | | .014 | | | | .012 | | | .016 | | | | .012 | | | | P | | | | | |
| ENIC | | .023 | | | | .017 | | | | .024 | | | | .025 | | | | v | | | | |
| C+N | 22 | | | | | .25 | | | .23 | | | | .19 | | | | δi. | | | | Chemical Properties | |
| 1n/6+(C | | .26 | | | | .26 | | | .32 | | | | .34 | | | | 5 | | | | | |
| r+Mo+ | | .13 | | | | Ħ | | | .14 | | | | .14 | | | | Z. | | | | | |
| 1)/5+(N | | .15 | | | | 13 | | | .16 | | | | .10 | | | ਨ | | | | | | |
| +Cu)/1 | | .04 | | | | .03 | | | .04 | | | | 52 | | | <u>x</u> | | | | erties | | |
| 5 | | .00 | | | L | .00 | | | .02 | | | ġ | | | | < | | | | | | |
| | L | .015 | | | L | ,015 | | | .001 | | | .016 | | | | ද | | | | | | |
| | L | .29 | | | ļ | .28 | | | .32 | | | | .2 8 | | | | £ | | | | | |
| | L | .02 | | | 1 | 10. | | | 1 | 10. | | | |) 101 | | | | Ž. | | | | |
| | .15 | | | | 1 | _ | .15 | | 1 | _ | .17 | | 1 | | .15 | | 1 | | Pcm C | | - | |
| | 1 | | | | 1 | | | | | | | | - 1 | | | | 1 | | _ | | 1 | |

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH

em= C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B(B=Approx.0005)

Corrosion Index= 26.01(%Cu)+3.88(%Ni)+1.2(%Cr)+1.49(%Si)+17.28(%P}-7.29(%Cu)(%Ni)-9.10(%Ni)(%P}-33.39(%Cu)^2

ISO 9001:2015 certified (Registration #0985-07).

Meets mechanical lab independence requirements of EN10204 type 3.1

The Charpy machine striker geometry used by Nucor Yamato Steel is the 8 mm (0.315") striker (KV8) per ASTM A370 Section 22.1.2 and ISO 148-1 Section 7.3.

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

State of Arkansas

Sworn to and subscribed before me County of Mississippi

on 2024-01-24 (Includes Stockmow

AMANDA F STOCKMAN
NOTARY PUBLIC - ARKANSAS
MISSISSIPPI COUNTY
Ry Commission Expires 03-25-2024

This material was produced in accordance with the Nucor-Yamato Steel Quality Manual.

Boron has not been intentionally added and will not exceed 0.0008% Mercury has not been used in the direct manufacturing of this material

Chief Metallurgist