Bill of Lading	598978
Customer No.	1377
Customer P.O.	4500554322

NUCOR - YAMATO STEEL COMPANY

P.O. Box 1228; Blytheville AR 72316

CERTIFIED MILL TEST REPORT

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

Date	2023-07-26 01:03 PM

SOLD TO

SHIP TO

ASTM A992/A992M-20 A572/A572M GR50-18
ASTM A709/A709M-18 GR50 (345)
ASTM A709/A709M-18 GR50S (345S)
CSA G40.21-13 50WM (345WM)
ASTM A6/A6M-19

Item	Item Description	QTY	Heat	Mechanical Properties								Chemical Properties														
				Yield to Tensile Ratio	Yield Strength KSI MPA	Tensile Strength KSI MPA	ELONG % %	Charpy Impact Temp ° F ° C	Impact Energy Ft•Lbf J			Loc	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	Sn	Pcm	Cl
1	W12X072.0 40 ft 0 in W310X107 (12 m)	3	580265	0.81 0.79	56 55 389 381	70 70 481 485	28 27						.07	.93	.013	.028	.28	.29	.19	.13	.07	.01	.016	.29	.01	.15	

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH

Pcm= 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 (KV) per ASTM A370 Section 22.1.2 and ISO 148-1 Section 7.3.

CARBON EQUIVALENT CE =C+Mn/6+(Cr+Mo+V)/5+(Ni+Cu)/15

Mercury has not been used in the direct manufacturing of this material

Boron has not been intentionally added and will not exceed 0.0008%

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

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.

Gary Pennell
Chief Metallurgist

State of Arkansas
County of Mississippi
Sworn to and subscribed before me
Amanda Stockman
On 2023-07-26
My commission expires on 03 / 25 / 2024

AMANDA F STOCKMAN
NOTARY PUBLIC - ARKANSAS
MISSISSIPPI COUNTY
My Commission Expires 03-25-2024
Commission No. 12397936