57308

DATE	11/26/13
INVOICE NO.	594928
BILL OF LADING	133345
CUSTOMER NO.	5829
CUSTOMER P.O.	4500106087

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.

SHIP TO
FORTACERO C/O DICEX INTERNATIONAL
8307 KILLAM INDUSTRIAL PARK
FINAL DESTINATION - MEXICO
LAREDO, TX 78045

SPECIFICATIONS
ASTM A992/A992M-11 A572/A572M GR50-07
ASTM A709/A709M-11 GR50 (345)
ASTM A709/A709M-11 GR50S (345S)
ASTM A6/A6M-12

SOLD TO
FORTACERO S.A. DE CV
BLVD CARLOS SALINAS DE GORTARI
KM 8.8
APODACA, N.L. MEXICO 66600

ITEM #	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES: YIELD TO TENSILE RATIO	YIELD STRENGTH PSI / MPa	TENSILE STRENGTH PSI / MPa	ELONG % / %	CHARPY IMPACT TEMP °F / °C	IMPACT ENERGY FT-LBS / JOULES			CHEMICAL PROPERTIES: C	Mn	P	S	Si	Cu	Ni	Cr	Mo / Sn	V / Pcm	Cb	CE / CI
1	W14 -145.0	2	376974	.80	59000	74000	27					.07	1.35	.016	.020	.25	.27	.10	.12	.03	.05	.002	.36
	40'			.80	59000	74000	27													.01	.18		
	W360 x216.0				407	510	27																
	12.192 M				407	510	27																
2	W14 -145.0	2	378203	.78	59000	76000	26					.08	1.37	.015	.025	.28	.31	.10	.08	.03	.05	.002	.37
	40'			.78	59000	76000	26													.01	.19		
	W360 x216.0				407	524	26																
	12.192 M				407	524	26																
3	W14 -145.0	1	393879	.77	56000	73000	28					.07	1.21	.009	.018	.25	.30	.12	.09	.03	.02	.019	.33
	40'			.77	57000	74000	27													.01	.17		
	W360 x216.0				386	503	28																
	12.192 M				393	510	27																
4	W14 -145.0	1	412738	.77	57000	74000	28					.07	1.21	.019	.027	.28	.25	.12	.13	.05	.03	.020	.34
	40'			.78	57000	73000	28													.01	.17		
	W360 x216.0				393	510	28																
	12.192 M				393	503	28																
5	W14 -145.0	15	414050	.78	56000	72000	27					.07	1.20	.012	.026	.23	.24	.11	.08	.04	.02	.019	.32
	40'			.79	57000	72000	27													.01	.16		
	W360 x216.0				386	496	27																
	12.192 M				393	496	27																
6	W14 -145.0	4	414051	.79	56000	71000	28					.07	1.20	.016	.028	.22	.24	.11	.12	.05	.02	.019	.33
	40'			.79	57000	72000	26													.01	.17		
	W360 x216.0				386	490	28																
	12.192 M				393	496	26																

Pcm = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5 B ; B=A/pcm x .0005

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

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

Corrosion Index: CI=26.01(%Cu)+3.88(%Ni)+1.20(%Cr)+1.49(%Si)+17.28(%P)-7.29(%Cu)(%Ni)-9.10(%Ni)(%P)-33.39(%Cu)^2

ELONGATION BASED ON 8.00 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 listed in the Specifications Block above.

Gary Lemmell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS 26 Day of 11/13

Deborah Ann Rhodes NOTARY PUBLIC

MY COMMISSION EXPIRES 07/17/2023

DEBORAH ANN RHODES Commission # 12371412 NOTARY PUBLIC My Commission Expires 7-17-2023 STATE OF ARKANSAS-MISSISSIPPI COUNTY