DATE	6/30/12
INVOICE NO.	492996
BILL OF LADING	73133
CUSTOMER NO.	0829
CUSTOMER P.O.	4500089753

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 GULF STREAM MARINE
PORT OF BROWNSVILLE

BROWNSVILLE, TX

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

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	W10 - 45.0	1	387638	.73	53000	73000	25			.07	1.10	.016	.026	.27	.27	.11	.08	.04	.00	.015	.30
	40'			.74	54000	73000	26											.01	.16		
	W250 x 67.0				365	503	25														
	12.192 M				372	503	26														
2	W12 - 40.0	18	387632	.78	56000	72000	26			.07	1.10	.019	.027	.27	.26	.12	.09	.04	.00	.014	.31
	50'			.75	55000	73000	25											.01	.16		
	W310 x 60.0				386	496	26														
	15.240 M				379	503	25														
3	W12 - 40.0	13	387633	.77	57000	74000	27			.07	1.10	.021	.028	.28	.27	.12	.11	.04	.00	.015	.31
	50'			.76	56000	74000	26											.01	.16		
	W310 x 60.0				393	510	27														
	15.240 M				386	510	26														
4	W12 - 40.0	4	388192	.79	55000	70000	24			.07	1.02	.013	.025	.27	.28	.10	.06	.03	.00	.016	.29
	50'			.79	55000	70000	25											.01	.15		
	W310 x 60.0				379	483	24														
	15.240 M				379	483	25														
5	W12 - 53.0	11	387642	.76	56000	74000	25			.08	1.10	.016	.026	.30	.28	.12	.07	.04	.00	.019	.31
	40'			.75	55000	73000	25											.01	.17		
	W310 x 79.0				386	510	25														
	12.192 M				379	503	25														
6	W12 - 53.0	2	387643	.75	55000	73000	27			.08	1.12	.020	.030	.29	.24	.11	.13	.03	.01	.016	.32
	40'			.72	52000	72000	26											.01	.17		
	W310 x 79.0				379	503	27														
	12.192 M				359	496	26														
7	W12 - 53.0	39	387644	.75	56000	75000	26			.08	1.12	.017	.024	.30	.27	.11	.11	.04	.00	.021	.33
	40'			.77	56000	73000	24											.01	.17		
	W310 x 79.0				386	517	26														
	12.192 M				386	503	24														
8	W12 - 53.0	6	387645	.77	56000	73000	26			.07	1.14	.018	.029	.27	.27	.13	.12	.04	.00	.019	.32
	40'			.77	56000	73000	27											.01	.16		
	W310 x 79.0				386	503	26														
	12.192 M				386	503	27														
9	W12 - 53.0	1	387647	.75	56000	75000	26			.08	1.11	.023	.030	.27	.26	.10	.15	.04	.00	.022	.33
	40'			.76	56000	74000	25											.01	.17		
	W310 x 79.0				386	517	26														
	12.192 M				386	510	25														

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

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 Lennell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS
2 Day of 07/12

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

CHARLENE WALLIS NOTARY PUBLIC MISSISSIPPI CO. ARKANSAS

DATE	6/30/12
INVOICE NO.	492996
BILL OF LADING	73133
CUSTOMER NO.	0829
CUSTOMER P.O.	4500089753

NUCOR-YAMATO STEEL CO.

P.O. BOX 1228 ■ BLYTHEVILLE,AR 72316

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PORT OF BROWNSVILLE

BROWNSVILLE, TX

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1	W12 - 53.0	8	388197	.74	54000	73000	26			.08	1.10	.013	.030	.29	.32	.10	.07	.03	.00	.016	.31
	40'			.72	52000	72000	25											.01	.17		
	W310 x 79.0				372	503	26														
	12.192 M				359	496	25														
2	W12 - 53.0	11	388198	.75	56000	75000	24			.08	1.10	.014	.027	.32	.29	.10	.07	.03	.00	.016	.31
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	W310 x 79.0				386	517	24														
	12.192 M				372	503	26														

Pcm = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5 B (Ref. Ito, Bessyo, 1968)

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

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Gary Lemmell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS 2 Day of 07/12

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2015

CHARLENE WALLIS MISSISSIPPI CO. ARKANSAS