DATE	6/13/11
INVOICE NO.	415283
BILL OF LADING	27054
CUSTOMER NO.	5446
CUSTOMER P.O.	600086

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
FB C/O JORGE MIGUEL MEDRANO SANCHEZ
HIDALGO 3530 PAT 4100
FINAL: SAN LUIS POTOSI, SLP MX
NUEVO LAREDO, TM 88000

SPECIFICATIONS
ASTM A992/A992M-06a A572/A572M GR50-07
ASTM A709/A709M-09 GR50 (345)
ASTM A709/A709M-09 GR50S (345S)
ASTM A6/A6M-09

44446

SOLD TO
FERRE BARNIEDO, SA DE CV
AV REVOLUCION #81 COL SAN CRISTOBAL
ECATEPEC DE MORELOS
EDO, MEXICO CP 55000

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
	24 -162.0	6	366709	.76	55000	72000	27					.08	1.30	.014	.025	.20	.28	.11	.11	.04	.03	.009	.37
	40'			.75	52000	69000	28													.01	.18		
	W610 x241.0				379	496	27																
	12.192 M				359	476	28																
2	W24 -162.0	18	366711	.77	53000	69000	29					.07	1.10	.013	.024	.24	.28	.11	.10	.03	.00	.018	.31
	40'			.74	52000	70000	28													.01	.16		
	W610 x241.0				365	476	29																
	12.192 M				359	483	28																
3	W24 -162.0	1	366717	.76	53000	70000	30					.08	1.10	.012	.021	.25	.29	.10	.08	.03	.00	.019	.31
	40'			.77	54000	70000	29													.01	.17		
	W610 x241.0				365	483	30																
	12.192 M				372	483	29																
4	W24 -162.0	1	366719	.76	53000	70000	29					.08	1.10	.013	.021	.27	.27	.10	.08	.03	.00	.019	.30
	40'			.75	52000	69000	30													.01	.17		
	W610 x241.0				365	483	29																
	12.192 M				359	476	30																

$Pcm = C + \frac{Si}{30} + \frac{Mn}{20} + \frac{Cu}{20} + \frac{Ni}{60} + \frac{Cr}{20} + \frac{Mo}{15} + \frac{V}{10} + 5B$ B=Approx..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 13 Day of 06/11

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

CHARLENE WALLIS
MY Comm. Exp. 10-21-2013
NOTARY PUBLIC
MISSISSIPPI CO. ARKANSAS