DATE	8/15/11
INVOICE NO.	428234
BILL OF LADING	34623
CUSTOMER NO.	5446
CUSTOMER P.O.	600147

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

44971

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
	4 -162.0	1	370514	.77	56000	73000	28					.08	1.36	.022	.024	.28	.30	.10	.11	.03	.05	.002	.38
	40'			.80	59000	74000	27													.02	.19		
	W610 x241.0				386	503	28																
	12.192 M				407	510	27																
2	W24 -162.0	7	370521	.77	55000	71000	28					.07	1.21	.014	.020	.22	.31	.09	.12	.03	.04	.002	.34
	40'			.76	54000	71000	29													.01	.17		
	W610 x241.0				379	490	28																
	12.192 M				372	490	29																
3	W24 -162.0	18	370522	.81	57000	70000	28					.07	1.25	.014	.020	.23	.31	.10	.12	.03	.02	.010	.34
	40'			.80	56000	70000	27													.01	.17		
	W610 x241.0				393	483	28																
	12.192 M				386	483	27																

$Pcm = C + \frac{Si}{30} + \frac{Mn}{20} + \frac{Cu}{20} + \frac{Ni}{60} + \frac{Cr}{20} + \frac{Mo}{15} + \frac{V}{10} + 5B$ B=Appmx.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
15 Day of 08/11
Charlene Wallis NOTARY PUBLIC
MY COMMISSION EXPIRES 10/21/2013

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