DATE	2/01/13
INVOICE NO.	533282
BILL OF LADING	97396
CUSTOMER NO.	5446
CUSTOMER P.O.	600605

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

48644

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	C	Mn	P	S	Si	Cu	Ni	Cr	Mo / Sn	V / Pcm	Cb	CE / CI
	24 -162.0	3	398999	.75	54000	72000	28			.08	1.30	.017	.025	.22	.31	.09	.11	.03	.04	.002	.37
	0'			.75	54000	72000	28											.01	.18		
	W610 x241.0				372	496	28														
	12.192 M				372	496	28														
2	W24 -162.0	6	399000	.75	55000	73000	27			.08	1.38	.018	.024	.24	.26	.09	.11	.02	.05	.002	.37
	40'			.76	56000	74000	27											.01	.19		
	W610 x241.0				379	503	27														
	12.192 M				386	510	27														
3	W24 -162.0	4	399041	.76	55000	72000	27			.07	1.22	.016	.026	.25	.25	.11	.11	.03	.03	.018	.32
	40'			.76	54000	71000	27											.01	.17		
	W610 x241.0				379	496	27														
	12.192 M				372	490	27														
4	W24 -162.0	5	399043	.74	51000	69000	28			.07	1.20	.017	.028	.22	.29	.11	.13	.03	.02	.018	.34
	40'			.74	50000	68000	27											.01	.17		
	W610 x241.0				352	476	28														
	12.192 M				345	469	27														
5	W24 -162.0	4	399045	.73	58000	79000	25			.08	1.36	.022	.028	.22	.25	.12	.17	.03	.02	.016	.37
	40'			.75	57000	76000	26											.01	.19		
	W610 x241.0				400	545	25														
	12.192 M				393	524	26														

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

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS 1 Day of 02/13

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

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

FERRE BARNIEDO, S.A. DE C.V.
ESTE ES COPIA FIEL DEL ORIGINAL
CERTIFICADO DE NUESTROS ARCHIVOS,
AMPARA LA REMISION No.
TEL. 58 80 10 00
ventas@ferrebarniedo.com.mx