DATE	12/08/11
INVOICE NO.	449714
BILL OF LADING	47390
CUSTOMER NO.	5446
CUSTOMER P.O.	600247

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

45916

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
	112 - 96.0	1	373191	.76	55000	72000	25			.07	1.25	.024	.022	.22	.26	.11	.11	.03	.02	.010	.33
	40'			.77	56000	73000	26											.01	.17		
	W310 x143.0				379	496	25														
	12.192 M				386	503	26														
2	W12 - 96.0	1	373248	.78	57000	73000	25			.07	1.23	.021	.025	.27	.25	.10	.08	.03	.04	.002	.33
	40'			.74	55000	74000	26											.01	.17		
	W310 x143.0				393	503	25														
	12.192 M				379	510	26														
3	W12 - 96.0	2	376352	.79	58000	73000	25			.08	1.27	.010	.015	.26	.33	.11	.10	.03	.03	.011	.35
	40'			.81	59000	73000	26											.01	.18		
	W310 x143.0				400	503	25														
	12.192 M				407	503	26														
4	W12 - 96.0	1	376353	.76	53000	70000	28			.07	1.10	.016	.019	.21	.28	.11	.14	.03	.00	.020	.31
	40'			.77	53000	69000	27											.01	.16		
	W310 x143.0				365	483	28														
	12.192 M				365	476	27														
5	W12 - 96.0	8	376357	.76	53000	70000	27			.07	1.10	.015	.023	.24	.34	.11	.11	.03	.00	.020	.31
	40'			.79	56000	70000	28											.01			
	W310 x143.0				365	483	27														
	12.192 M				386	490	28														
6	W12 - 96.0	20	376361	.76	54000	71000	26			.07	1.10	.013	.027	.24	.33		.09	.03	.00	.019	.30
	0'			.76	53000	70000	25											.01	.16		
	W310 x143.0				372	490	26														
	12.192 M				365	483	25														

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.

Gary Lemmell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS 8 Day of 12/11

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 DE NUESTROS ARCHIVOS.
CERTIFICADO
ATENTAMENTE
LA REMISION NO.
TEL. 58-36-10-00
ventas@ferrebarniedo.com.mx