DATE	1/26/12
INVOICE NO.	459464
BILL OF LADING	53387
CUSTOMER NO.	5446
CUSTOMER P.O.	600296

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

46245

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
	30 -116.0	2	379418	.78	56000	72000	28			.07	1.01	.014	.026	.25	.29	.13	.13	.04	.00	.019	.30
	40'			.76	55000	72000	28											.01	.16		
	W760 x173.0				386	496	28														
	12.192 M				379	490	29														
2	W30 -124.0	3	379411	.76	54000	71000	28			.08	1.00	.014	.023	.23	.28	.12	.13	.03	.00	.018	.31
	40'			.76	54000	71000												.01	.16		
	W760 x185.0				372	490	28														
	12.192 M				372	490	28														
3	W30 -124.0	2	379414	.81	59000	73000	26			.07	1.02	.011	.028	.27	.29	.12	.11	.03	.00	.019	.30
	40'			.76	54000	71000	28											.01	.16		
	W760 x185.0				407	503	28														
	12.192 M				372	490	28														
4	W30 -124.0	1	379416	.77	55000	71000	28			.08	1.05	.012	.020	.26	.26	.11	.11	.03	.00	.019	.31
	40'			.77	54000	70000	28											.01	.17		
	W760 x185.0				379	490	28														
	12.192 M				372	483	28														
5	W30 -132.0	3	379454	.77	55000	71000	29			.08	1.01	.016	.015	.23	.27	.11	.15	.04	.00	.019	.32
	40'			.76	54000	71000	27											.01	.17		
	W760 x196.0				379	490	29														
	12.192 M				372	490	27														

Pcm = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5 B B=Approx. 0.0005

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

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

Mercury has not been used in the direct manufacturing of this material.

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

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS 26 Day of 01/12

Charlene Wallis NOTARY PUBLIC

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

FERRE BARNIEDO, S.A. DE C.V.
CERTIFICADO ES COPIA DEL ORIGINAL DE NUCOR'S ARCHIVOS
REVISION LA
ventas@ferrebarniedo.com.mx
58.36 10.00