

DATE	9/19/11
INVOICE NO.	433378
BILL OF LADING	37924
CUSTOMER NO.	5446
CUSTOMER P.O.	600181

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.

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

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

45218

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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						CHEMICAL PROPERTIES												
				YIELD TO TENSILE RATIO	YIELD STRENGTH	TENSILE STRENGTH	ELONG	CHARPY IMPACT		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	
					PSI	MPa		PSI	MPa													%
1	W12 - 58.0 40' W310 x 86.0 12.192 M	23	372148	.75	52000	69000	28				.07	1.00	.011	.027	.28	.26	.11	.09	.03	.00	.014	.28
2	W12 - 58.0 40' W310 x 86.0 12.192 M	45	372151	.74	51000	69000	27				.08	1.01	.013	.029	.27	.28	.11	.09	.03	.00	.013	.30
3	W12 - 58.0 40' W310 x 86.0 12.192 M	4	372154	.77	54000	70000	27				.07	1.02	.016	.031	.22	.28	.11	.11	.03	.00	.013	.30

FERRE BARNIEDO, S.A. DE C.V.
ESTE CERTIFICADO ES COPIA FIEL
DEL ORIGINAL DE NUESTROS ARCHIVOS,
AMPARA LA REMISION No. _____
TEL. 58-36-10-00 ventas@ferrebarniedo.com.mx

Pcm = C + Si + Mn + Cu + Ni + Nb + B ≈ Approx. 0.005
CORROSION EQUIVALENT: CE = CE(HW) = 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 Lemell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS
19 Day of 09/11
Charlene Wallis NOTARY PUBLIC
MY COMMISSION EXPIRES 10/21/2013

