

DATE	12/28/12
INVOICE NO.	525802
BILL OF LADING	92967
CUSTOMER NO.	5446
CUSTOMER P.O.	600572

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.

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

S P E C I F I C A T I O N S
ASTM A992/A992M-11 A572/A572M GR50-07
ASTM A709/A709M-11 GR50 (345)
ASTM A709/A709M-11 GR50S (345S)
ASTM A6/A6M-12

48503

S O L D T O
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 PSI MPa	TENSILE STRENGTH PSI MPa	ELONGATION %	CHABRY IMPACT TEMP °C	IMPACT ENERGY FT-LBS JOULES	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
3	-118.0 40' W840 x176.0 12.192 M	1	396848	.80	55000	69000	27			.08	1.00	.014	.023	.24	.29	.12	.11	.03	.00	.021	.31
2	W840 x176.0 12.192 M	4	396849	.78	54000	69000	27			1.00	.013	.022	.23	.28	.12	.11	.04	.00	.020	.30	
3	W840 x176.0 12.192 M	3	396852	.81	55000	68000	28			.07	1.00	.016	.023	.23	.28	.12	.11	.03	.00	.020	.30
4	W840 x176.0 12.192 M	9	396856	.77	54000	70000	28			.07	1.00	.016	.023	.26	.27	.11	.11	.04	.00	.020	.30

ALL INFORMATION IS ORIGINAL DE BARNIEDO, S.A. COPIA DE ARCHIVOS.
 LA REMISION DE NUESTROS ARCHIVOS.
 ventas@ferrebarniedo.com.mx

FORMULA: $CE = \frac{C}{100} + \frac{Mn}{6} + \frac{Cr}{5} + \frac{Mo}{15} + \frac{Ni}{15} + \frac{Cu}{15} + \frac{V}{10} + \frac{Sb}{10} + \frac{Bi}{10}$ APPROX. 0.005
 CARBON EQUIVALENT: $CE = \frac{C}{100} + \frac{Mn}{6} + \frac{Cr}{5} + \frac{Mo}{15} + \frac{Ni}{15} + \frac{Cu}{15}$
 CORROSION INDEX: $CI = 26.01(\%Cu) + 3.68(\%Ni) + 1.20(\%Cr) + 1.48(\%S) + 17.28(\%P) + 7.22(\%Cu)(\%Ni) + 8.10(\%Ni)(\%P) + 33.39(\%Cu)^2$
 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.

Gay Lennell
QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS

28 Day of 12/12

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2015

