

DATE	7/16/12
INVOICE NO.	495160
BILL OF LADING	74390
CUSTOMER NO.	5446
CUSTOMER P.O.	600410

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

47199

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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	HEA #	MECHANICAL PROPERTIES					CHEMICAL PROPERTIES												
				YIELD TO TENSILE RATIO	TENSILE STRENGTH	ELONG	CHARPY IMPACT		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	
							TEMP	IMPACT ENERGY													Sn
1	W36 -170.0 40' W920 x253.0 12.192 M	5	388908	.77	57000	25				.07	1.20	.012	.021	.27	.26	.12	.10	.04	.02	.020	.33
2	W36 -170.0 40' W920 x253.0 12.192 M	5	388910	.75	53000	27			.08	1.19	.017	.016	.27	.27	.11	.13	.04	.01	.019	.35	
3	W36 -170.0 40' W920 x253.0 12.192 M	14	388914	.76	54000	28			.08	1.19	.017	.019	.26	.30	.12	.11	.04	.01	.018	.32	

ORIGINAL DE LA REMISION DE NUESTROS ARCHIVOS,  
 FERRE BARNIEDO, S.A. DE C.V.  
 ventas@ferrebarniedo.com.mx

$P_{min} = C + \frac{Si}{30} + \frac{Mn}{20} + \frac{Cu}{20} + \frac{Ni}{20} + \frac{Cr}{20} + \frac{Mo}{20} + \frac{V}{15} + 5B$  Approx. 0.005  
 CARBON EQUIVALENT: CE = C + (Mn/6) + (Cr+Mo+V)/5 + (Ni+Cu)/15  
 Corrosion Index: CI = 26.01(%Cu) + 3.88(%Ni) + 1.20(%Cr) + 1.48(%S) + 17.28(%P) + 7.29(%Cu) + 8.10(%Ni) + 3.39(%Cu)<sup>2</sup>

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

16 Day of 07/12

*Charlene Wallis* NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

