

DATE	9/11/12
INVOICE NO.	506524
BILL OF LADING	81330
CUSTOMER NO.	5446
CUSTOMER P.O.	600475

**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-12

47659

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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					CHARPY IMPACT		CHEMICAL PROPERTIES										
				YIELD STRENGTH TENSILE RATIO	YIELD STRENGTH PSI	TENSILE STRENGTH PSI	ELONG %	TEMP °F	IMPACT ENERGY FT-LBS	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
1	W36 -170.0 40' W920 x253.0 12.192 M	8	391896	.78	57000	73000	28			.07	1.20	.018	.026	.25	.30	.11	.18	.04	.03	.017	.35
2	W36 -170.0 40' W920 x253.0 12.192 M	10	391899	.78	58000	73000	27			.08	1.20	.010	.021	.22	.28	.13	.12	.06	.03	.018	.35
3	W36 -170.0 40' W920 x253.0 12.192 M	3	391900	.79	58000	73000	27			.07	1.10	.011	.024	.24	.27	.15	.16	.05	.00	.020	.32
4	W36 -182.0 40' W920 x271.0 12.192 M	1	391892	.77	58000	75000	26			.08	1.20	.012	.025	.25	.32	.12	.11	.04	.02	.017	.34

ORIGINAL CERTIFICADO BARNIEDO, S.A. COPIA DE ARCHIVOS.  
 REMISION DE NUESTROS ARCHIVOS.  
 ventas@ferrebarniedo.com.mx

$Pcm = C + Si + Mn + Cu + Ni + Cr + Mo + V + S \times 5.8$  (Approx. 0.005)  
 $20 \quad 20 \quad 20 \quad 60 \quad 20 \quad 15 \quad 10$   
 CARBON EQUIVALENT:  $CE = CE(IW) = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$   
 Mercury has not been used in the direct manufacturing of this material.  
 Corrosion Index:  $CI = 26.01(\%Cu) + 3.86(\%Ni) + 1.20(\%Cr) + 1.48(\%S) + 17.28(\%P) + 7.29(\%C) + (\%Ni) - 9.10(\%Mn) + (\%P) - 33.33(\%Cu)$

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  
11 Day of 09/12  
*Charlene Wallis* NOTARY PUBLIC  
MY COMMISSION EXPIRES 10/21/2013

