

**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.

<b>DATE</b>	10/24/11
<b>INVOICE NO.</b>	440122
<b>BILL OF LADING</b>	41690
<b>CUSTOMER NO.</b>	0829
<b>CUSTOMER P.O.</b>	4500083173

SHIPO  
FORTACERO S.A. DE CV  
BLVD CARLOS SALINAS DE GORTARI  
KM 8.8  
APODACA, N.L. MEXICO 66600

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

SOLD  
FORTACERO S.A. DE CV  
BLVD CARLOS SALINAS DE GORTARI  
KM 8.8  
APODACA, N.L. MEXICO 66600

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	PSI		TEMP	IMPACT ENERGY															
					MPa	MPa		° F	FT-LBS															
Sn	Pcm	Cl																						
1	W12 - 26.0 40' W310 x 38.7 12.192 M	5	372592	.80	57000	71000	26				.07	.95	.016	.028	.21	.30	.11	.05	.03	.00	.013	.28		
				.82	58000	71000	24														.01	.15		
					393	490	26																	
2	W12 - 26.0 40' W310 x 38.7 12.192 M	2	372595	.80	56000	70000	24				.07	.93	.015	.028	.22	.29	.11	.05	.03	.00	.013	.28		
				.83	57000	69000	25																	
					386	483	24																	
3	W12 - 26.0 40' W310 x 38.7 12.192 M	14	372597	.79	57000	72000	24				.07	.94	.016	.030	.20	.26	.11	.09	.03	.00	.013	.27		
				.81	55000	68000	25																	
					393	496	24																	
4	W12 - 26.0 40' W310 x 38.7 12.192 M	21	372612	.83	58000	70000	26				.07	.90	.016	.034	.21	.29	.12	.12	.03	.00	.016	.28		
				.84	59000	70000	26																	
					400	483	26																	
					407	483	26																	

Pcm = C + Si + Mn + Cu + Ni + Cr + Mo + V + 5 B B=Approx.0005  
30 20 20 60 20 15 10

CARBON EQUIVALENT: CE = CE(IIW) = 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)<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

24 Day of 10/11

*Charlene Wallis* NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

