

LF000117 (Aceros de grado)

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.

DATE	7/02/11
INVOICE NO.	420066
BILL OF LADING	29819
CUSTOMER NO.	4829
CUSTOMER P.O.	4500078551

NUCOR-YAMATO STEEL CO.
P.O. BOX 1228 • BLYTHEVILLE, AR 72316

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ACEROS DE GRADO C/O GULF STREAM MAR
PORT OF BROWNSVILLE
BROWNSVILLE, TX

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ASTM A992/A992M-06a A572/A572M GR50-01
ASTM A709/A709M-09 GR50 (345)
ASTM A709/A709M-09 GR50S (345S)
ASTM A6/A6M-09

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ACEROS DE GRADO, SA DE CV
AV FELIX U GOMEZ 2628 NTE COL MODER
RFO AGROB1124/V9
MONTERREY, NL CP 64530

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 53.0 40' W310 x 79.0 12.192 M	2	368065	.76	54000	71000	26			.08	1.01	.019	.027	.26	.33	.12	.17	.04	.00	.014	.32
				.74	52000	70000	26											.01	.17		
2	W12 53.0 40' W310 x 79.0 12.192 M	28	368067	.73	51000	70000	26			.07	1.00	.019	.026	.27	.34	.12	.19	.04	.00	.014	.32
				.73	52000	71000	25											.01	.16		

Formula: $C = \frac{Wt\% C}{100} + \frac{Wt\% Mn}{16} + \frac{Wt\% Ni}{16} + \frac{Wt\% Cu}{16} + \frac{Wt\% Nb}{5} + \frac{Wt\% V}{5} + \frac{Wt\% Ti}{5} + \frac{Wt\% Al}{5} + \frac{Wt\% Si}{24} + \frac{Wt\% B}{12}$
 Carbon Equivalent: $CE(CEq) = C + Mn/6 + (Ni + Mo + V)/5 + (Cr + Cu)/15$
 Corrosion Index: $CI = 0.0001C + 0.0001Mn + 0.0001Ni + 0.0001Cu + 0.0001Nb + 0.0001V + 0.0001Ti + 0.0001Al + 0.0001Si + 0.0001B$

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.

Doug Linnell

QUALITY ASSURANCE
CUSTOMER COPY

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

5 Day of 07/11

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2012

