LF000103

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.

NUCOR-YAMATO STEEL CO.

P.O. BOX 1228 ● BLYTHEVILLE,AR 72316

DATE	7/25/11
INVOICE NO.	424185
BILL OF LADING	32384
CUSTOMER NO.	0829
CUSTOMER P.O.	4500079731

SHIP TO
FORTACERO C/O GULF STREAM MARINE
PORT OF BROWNSVILLE

BROWNSVILLE, TX

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 TO
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: YIELD TO TENSILE RATIO	YIELD STRENGTH PSI / MPa	TENSILE STRENGTH PSI / MPa	ELONG % / %	CHARPY IMPACT TEMP °F / °C	IMPACT ENERGY FT-LBS / JOULES			CHEMICAL PROPERTIES: C	Mn	P	S	Si	Cu	Ni	Cr	Mo / Sn	V / Pcm	Cb	CE / CI
1	W10 - 33.0	9	369427	.80	57000	71000	24					.07	1.00	.014	.025	.23	.30	.09	.09	.03	.00	.016	.29
	40'			.77	54000	70000	23													.01	.15		
	W250 x 49.1				393	490	24																
	12.192 M				372	483	23																
2	W10 - 33.0	28	369429	.81	56000	69000	24					.07	1.00	.018	.034	.23	.32	.12	.08	.03	.00	.018	.29
	40'			.78	54000	69000	24													.01	.15		
	W250 x 49.1				386	476	24																
	12.192 M				372	476	24																
3	W10 - 33.0	6	369434	.77	54000	70000	24					.07	1.00	.012	.026	.24	.29	.11	.08	.03	.00	.014	.29
	40'			.79	55000	70000	25													.01	.15		
	W250 x 49.1				372	483	24																
	12.192 M				379	483	25																
4	W10 - 33.0	7	369437	.77	54000	70000	25					.08	1.01	.009	.020	.22	.30	.11	.06	.03	.00	.016	.30
	40'			.77	53000	69000	25													.01	.16		
	W250 x 49.1				372	483	25																
	12.192 M				365	476	25																
5	W10 - 39.0	11	366421	.76	53000	70000	24					.07	.91	.016	.031	.25	.32	.12	.14	.03	.00	.016	.28
	40'			.75	52000	69000	24													.01	.15		
	W250 x 58.0				365	483	24																
	12.192 M				359	476	24																
6	W10 - 39.0	1	366425	.76	54000	71000	24					.07	.92	.019	.034	.26	.31	.12	.14	.03	.01	.017	.29
	40'			.76	53000	70000	24													.01	.15		
	W250 x 58.0				372	490	24																
	12.192 M				365	483	24																
7	W10 - 39.0	15	369437	.78	52000	67000	26					.08	1.01	.009	.020	.22	.30	.11	.06	.03	.00	.016	.
	40'			.79	53000	67000	27													.01	.16		
	W250 x 58.0				359	462	26																
	12.192 M				365	462	27																
8	W10 - 39.0	45	369442	.77	54000	70000	25					.07	1.00	.013	.025	.23	.30	.11	.08	.03	.00	.015	.
	40'			.77	53000	69000	25													.01	.15		
	W250 x 58.0				372	483	25																
	12.192 M				365	476	25																
9	W10 - 39.0	83	369445	.78	54000	69000	24					.08	1.01	.014	.024	.23	.30	.10	.10	.03	.00	.014	.31
	40'			.75	51000	68000	26													.01	.16		
	W250 x 58.0				372	476	24																
	12.192 M				352	469	26																

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

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: $CI = 26.01(\%Cu) + 3.88(\%Ni) + 1.20(\%Cr) + 1.49(\%Si) + 17.28(\%P) - 7.29(\%Cu)(\%Ni) - 9.10(\%Ni)(\%P) - 33.39(\%Cu)^2$

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.

Gary Lemmell

QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS
25 Day of 07/11

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

CHARLENE WALLIS
MY Comm. Exp. 10-21-2013
NOTARY PUBLIC
MISSISSIPPI CO. ARKANSAS