LF 000149 - 2011

CERTIFIED MILL TEST REPORT

DATE	4/15/11
INVOICE NO.	403715
BILL OF LADING	19973
CUSTOMER NO.	0829
CUSTOMER P.O.	4500076465

NUCOR-YAMATO STEEL CO.

P.O. BOX 1228 • BLYTHEVILLE,AR 72316

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.

SHIP TO:
FORTACER 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	CHARPY IMPACT ENERGY FT-LBS / JOULES	CHEMICAL PROPERTIES: C	Mn	P	S	Si	Cu	Ni	Cr	Mo / Sn	V / Pcm	Cb	CE / CI
1	W18 - 97.0	11	364161	.77	55000	71000	26			.07	1.20	.023	.024	.24	.34	.11	.12	.03	.04	.002	.34
	40'			.78	57000	73000	27											.01	.17		
	W460 x144.0				379	490	26														
	12.192 M				393	503	27														
2	W18 - 97.0	9	364163	.77	56000	73000	25			.08	1.24	.015	.025	.25	.33	.12	.14	.04	.04	.002	.36
	40'			.78	57000	73000	26											.01	.19		
	W460 x144.0				386	503	25														
	12.192 M				393	503	26														
3	W18 -106.0	4	360117	.76	55000	72000	28			.07	1.11	.016	.022	.25	.28	.12	.14	.04	.00	.018	.33
	40'			.77	54000	70000	28											.01	.16		
	W460 x158.0				379	496	28														
	12.192 M				372	483	28														
4	W18 -106.0	11	360119	.76	54000	71000	29			.07	1.10	.016	.023	.23	.29	.14	.15	.03	.00	.019	.32
	40'			.76	54000	71000	29											.01	.16		
	W460 x158.0				372	490	29														
	12.192 M				372	490	29														
5	W21 -101.0	18	363592	.78	56000	72000	25			.08	1.10	.014	.023	.23	.30	.10	.11	.03	.00	.019	.32
	40'			.79	58000	73000	26											.01	.17		
	W530 x150.0				386	496	25														
	12.192 M				400	503	26														
6	W21 -101.0	3	363594	.78	56000	72000	27			.08	1.10	.018	.022	.21	.31	.10	.11	.03	.00	.019	.32
	40'			.79	58000	73000	27											.01	.17		
	W530 x150.0				386	496	27														
	12.192 M				400	503	27														
7	W21 -101.0	4	363768	.82	61000	74000	26			.07	1.07	.016	.018	.25	.31	.12	.16	.04	.00	.019	.31
	40'			.78	58000	74000	28											.02	.16		
	W530 x150.0				421	510	26														
	12.192 M				400	510	28														
8	W21 -101.0	14	363770	.81	58000	72000	26			.08	.90	.017	.025	.23	.31	.15	.13	.04	.00	.015	.29
	40'			.79	56000	71000	29											.02	.16		
	W530 x150.0				400	496	26														
	12.192 M				386	490	29														
9	W21 -101.0	6	363772	.80	59000	74000	28			.08	1.00	.018	.025	.24	.31	.15	.17	.04	.00	.021	.32
	40'			.80	60000	75000	26											.02	.17		
	W530 x150.0				407	510	28														
	12.192 M				414	517	26														

Note: $C_E = Mn/30 + Cr/20 + Mo/20 + V/10 + Cu/20 + Ni/60$ Approx. min. 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: $CI = 26.01(\%Cu) - 2.88(\%Ni) - 3.20(\%Cr) + 1.48(\%Si) + 17.28(\%P) + 7.29(\%Cu)(\%Ni) - 9.10(\%Ni)(\%P) - 33.39(\%Cu)^2$

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

15 Day of 04/11

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2018

CHARLENE WALLIS MY Comm. Exp. NOTARY PUBLIC 10-21-2018 MISSISSIPPI CO. ARKANSAS