

DATE	1/26/12
INVOICE NO.	459467
BILL OF LADING	53361
CUSTOMER NO.	7142
CUSTOMER P.O.	4500085101

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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FORTACERO C/O PAGE & JONES
251-432-1646 RULL 11 TO CGT
52 N JACKSON ST FIN DEST VERACRUZ
MOBILE, AL 36602

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ASTM A992/A992M-06a A572/A572M GR50-07
ASTM A709/A709M-09 GR50 (345)
ASTM A709/A709M-09 GR50S (345S)
ASTM A6/A6M-09

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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				CHARPY IMPACT				CHEMICAL PROPERTIES											
				YIELD TO TENSILE RATIO	YIELD STRENGTH	TENSILE STRENGTH	ELONG	TEMP	IMPACT ENERGY	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE		
					PSI	MPa	PSI	MPa	%													° F	° C
1	W14 - 22.0 40' W360 x 32.9 12.192 M	4	361824	.84	59000	70000	23					.07	.70	.014	.026	.21	.34	.12	.11	.03	.00	.005	.25
				.83	59000	71000	22													.01	.14		
					407	483	23													407	490	22	
2	W14 - 22.0 40' W360 x 32.9 12.192 M	3	364748	.81	56000	69000	24					.07	.70	.015	.030	.23	.32	.15	.11	.04	.00	.005	.25
				.81	55000	68000	24													.01	.14		
					386	476	24													379	469	24	
3	W14 - 22.0 40' W360 x 32.9 12.192 M	20	371195	.77	51000	66000	26					.08	.74	.013	.031	.17	.30	.12	.09	.03	.00	.005	.25
				.80	53000	66000	26													.01	.15		
					352	455	26													365	455	26	
4	W14 - 22.0 40' W360 x 32.9 12.192 M	4	371196	.83	57000	69000	25					.07	.70	.012	.026	.19	.28	.12	.09	.03	.00	.005	.24
				.79	54000	68000	25													.01	.14		
					393	476	25													372	469	25	
5	W14 - 22.0 40' W360 x 32.9 12.192 M	6	372814	.87	68000	78000	21					.07	.75	.012	.032	.20	.28	.11	.07	.03	.00	.007	.25
				.87	69000	79000	20													.01	.14		
					469	538	21													476	545	20	
6	W14 - 22.0 40' W360 x 32.9 12.192 M	2	372816	.85	68000	80000	22					.07	.75	.021	.032	.21	.29	.11	.14	.03	.00	.008	.26
				.87	69000	79000	21													.01	.14		
					469	552	22													476	545	21	
7	W14 - 22.0 40' W360 x 32.9 12.192 M	9	372817	.85	67000	79000	22					.08	.71	.017	.028	.20	.29	.11	.12	.04	.00	.005	.26
				.83	65000	78000	22													.01	.15		
					462	545	22													448	538	22	
8	W14 - 22.0 40' W360 x 32.9 12.192 M	3	372823	.86	56000	65000	22					.07	.70	.013	.032	.19	.31	.12	.10	.03	.00	.005	.25
				.86	59000	69000	21													.01	.14		
					386	448	22													407	476	21	
9	W14 - 22.0 40' W360 x 32.9 12.192 M	23	376884	.79	52000	66000	25					.09	.70	.009	.030	.18	.30	.11	.10	.03	.01	.001	.27
				.77	51000	66000	28													.01	.16		
					359	455	25																
					352	455	28																

Notes: C = $0.29 + Mn + Cu + Ni + Cr + Mo + V + S + B$ in Approx. Units
Carbon Equivalent: $CE = CE(IIW) = C + Mn/6 + (Cr + Mo + V) + Ni + Cu/15$
Corrosion Index: $CI = 26.0(1\%Cu) + 2.88(1\%Ni) + 1.22(1\%Cr) + 1.48(1\%Si) + 17.28(1\%P) + 7.28(1\%Cu)(1\%Ni) + 10(1\%Mn)(1\%P) + 33.35(1\%Cl)$
Material has not been used in the direct manufacturing of this material.

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 Lennell

QUALITY ASSURANCE

CUSTOMER COPY

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

26 Day of 01/12

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2015



