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

CERTIFIED MILL TEST REPORT

MELTED AND MANUFACTURED IN U.S.A

DATE 3/06/08

All shapes produced by Nucor-Yamato Steel are cast and rolled to a fully killed and fine grain practice.

SOLD TO	SHIP TO	INVOICE	CUSTOMER NO.
TUBACERO S.A. DE C.V. BLVD CARLOS SALINAS DE GORTARI KM 8.8 APODACA, N.L. MEXICO 66600	TUBACERO C/O GULF STREAM MARINE PORT OF BROWNSVILLE BROWNSVILLE, TX	212426 BILL OF LADING 897436	0829 CUSTOMER P.O. 4500045761

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

ITEM	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES						CHEMICAL PROPERTIES											
				YIELD TO TENSILE RATIO	YIELD STRENGTH PSI MPa	TENSILE STRENGTH PSI MPa	ELONG % IN	CHARPY IMPACT TEMP F C	CHARPY IMPACT IMPACT ENERGY FT-LBS JOULES	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
																		Sn	Pcm		CI
1	W21 - 50.0	63	315090	.74	55000	74000	23			.08	1.25	.019	.034	.31	.27	.10	.09	.02	.00	.024	.33
	40'			.72	54000	75000	23											.01	.16		
	W530 x 74.0				379	510	23														
	12.192 M				372	517	23														
2	W27 -146.0	28	314693	.74	54000	73000	25			.08	1.23	.015	.025	.22	.26	.10	.09	.03	.00	.014	.33
	40'			.75	53000	71000	26											.01	.16		
	W690 x217.0				372	503	25														
	12.192 M				365	490	26														
3	W27 -146.0	5	314695	.74	54000	73000	25			.08	1.20	.015	.019	.22	.26	.10	.09	.03	.00	.015	.32
	40'			.76	54000	71000	26											.01	.16		
	W690 x217.0				372	503	25														
	12.192 M				372	490	26														
4	W27 -146.0	4	314697	.75	53000	71000	26			.08	1.20	.013	.024	.22	.28	.10	.08	.03	.00	.014	.33
	40'			.76	53000	70000	26											.01	.16		
	W690 x217.0				365	490	26														
	12.192 M				365	483	26														
5	W27 -146.0	8	314699	.79	57000	72000	25			.07	1.21	.015	.024	.26	.27	.11	.08	.03	.00	.016	.32
	40'			.76	55000	72000	26											.01	.15		
	W690 x217.0				393	496	25														
	12.192 M				379	496	26														
6	W27 -161.0	13	314643	.75	55000	73000	26			.08	1.33	.021	.025	.26	.28	.09	.10	.03	.00	.018	.35
	40'			.75	55000	73000	27											.01	.18		
	W690 x240.0				379	503	26														
	12.192 M				379	503	27														
7	W27 -161.0	12	314644	.76	57000	75000	26			.08	1.30	.020	.025	.23	.29	.10	.10	.03	.00	.019	.36
	40'			.75	55000	73000	26											.01	.18		
	W690 x240.0				393	517	26														
	12.192 M				379	503	26														
8	W27 -161.0	17	314646	.74	56000	76000	25			.07	1.33	.022	.021	.30	.29	.09	.13	.03	.00	.019	.35
	40'			.73	55000	75000	25											.01	.17		
	W690 x240.0				386	524	25														
	12.192 M				379	517	25														

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH
Pcm=C+Si / 30+Mn / 20+Cu / 20+Ni / 60+Cr / 20+Mo / 15+V / 10+5B Diagram .0041
CARBON EQUIVALENT CE = C+ Mn/6 + (Cr+Mo+V) / 5 + (Ni+Cu) / 15
Corrosion Index: CI=26.01(%CU)+3.88(%Ni)+1.2(%Cr)+1.49(%Si)+17.28(%P)-7.29(%Cu)(%Ni)-9.10(%Ni)(%P)-33.39(%Cu)²

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 PENNELL
QUALITY ASSURANCE

STATE OF ARKANSAS
COUNTY OF MISSISSIPPI
SWORN TO AND SUBSCRIBED BEFORE ME THIS
_____ Day of _____
NOTARY PUBLIC