

NUCOR-YAMATO STEEL CO.

P O BOX 1228
BLYTHEVILLE AR 72316

DATE
5/01/04

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.

SOLD TO

SHIP TO

MANUFACTURAS METALICAS AJAX
C/O GULFSIDE WAREHOUSE
400 S. PORT RD PORT OF BROWNSVILLE
BROWNSVILLE TX 78520-0000

MANUFACTURAS METALICAS AJAX S.A.
C/O VILLASANA & CO INC
4703 WAREHOUSE LANE IND PARK
LAREDO, TX 78040

INVOICE 857458	CUSTOMER NO. 7262
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BILL OF LADING 675764	CUSTOMER P.O. YAMATO 90
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SPECIFICATIONS GRADE: ASTM A992-U2 ASTM A572GR50-U1 ASTM A6/A6M-U2B
ASTM A709/A709M-01b GR50 (345)

ASTM A709/A709M-01b GR50s (345s)

25742

ITEM	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES								CHEMICAL PROPERTIES														
				YIELD TO TENSILE RATIO	YIELD STRENGTH F _y MPa	TENSILE STRENGTH F _t MPa	ELONGATION %	CHAMFY IMPACT		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE					
								TEMP F	IMPACT ENERGY FT-LBS JOULER																	
1	W18 - 97.0 40' W460 x144.0 12.192 M	1	234354	.77	58000	75000	28					.091	.30	.021	.020	.27	.35	.09	.13	.02	.04	.001	.38			
				.78	59000	76000	26																			
					400	517	28																.01	.20		
2	W24 - 94.0 40' W610 x140.0 12.192 M	2	232052	.79	55000	70000	27					.061	.31	.014	.020	.23	.28	.10	.12	.02	.04	.002	.35			
				.76	54000	71000	27																			
					379	483	27																.01	.16		
3	W24 - 94.0 40' W610 x140.0 12.192 M	1	233373	.77	57000	74000	23					.071	.30	.014	.020	.27	.31	.10	.09	.02	.04	.002	.35			
				.77	56000	73000	22																			
					393	510	23																.01	.17		
					386	503	22																			

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH
 $P_{cm} = C + \frac{Si}{30} + \frac{Mn}{20} + \frac{Cu}{20} + \frac{Ni}{60} + \frac{Cr}{20} + \frac{Mo}{15} + \frac{V}{10} + \frac{5B}{100}$
 CARBON EQUIVALENT CE = $C + \frac{Mn}{6} + \frac{Cr+Mo+V}{8} + \frac{(Ni+Cu)}{15}$

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, and when designated by the purchaser, meet the applicable specifications.

GARY PENNELL
QUALITY ASSURANCE

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