

DATE	9/06/11
INVOICE NO.	431880
BILL OF LADING	36802
CUSTOMER NO.	5446
CUSTOMER P.O.	600155

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.

S
H
I
P
T
O

FB C/O JORGE MIGUEL MEDRANO SANCHEZ
HIDALGO 3530 PAT 4100
FINAL: SAN LUIS POTOSI, SLP MX
NUEVO LAREDO, TM 88000

S
P
E
C
I
F
I
C
A
T
I
O
N
S

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

45116

S
O
L
D
I
D
O

FERRE BARNIEDO, SA DE CV
AV REVOLUCION #81 COL SAN CRISTOBAL
ECATEPEC DE MORELOS
EDO, MEXICO CP 55000

ITEM #	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES						CHEMICAL PROPERTIES												
				YIELD TO TENSILE RATIO	YIELD STRENGTH	TENSILE STRENGTH	ELONG	CHARPY IMPACT		C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	
					PSI	PSI		° F	FT-LBS													
					MPa	MPa		° C	JOULES													
1	W4 -146.0 40' W610 x217.0 12.192 M	11	371323	.77	54000	70000	29				.07	1.12	.019	.024	.22	.35	.10	.13	.03	.00	.018	.32
				.79	55000	70000	29												.01	.16		
2	W24 -146.0 40' W610 x217.0 12.192 M	10	371324	.77	55000	71000	28				.07	1.13	.018	.023	.23	.31	.11	.11	.03	.00	.020	.32
				.79	56000	71000	30												.01	.16		
3	W24 -146.0 40' W610 x217.0 12.192 M	1	371325	.75	53000	71000	30				.08	1.11	.014	.027	.26	.35	.11	.10	.03	.00	.019	.33
				.76	55000	72000	29												.01	.17		
4	W24 -146.0 40' W610 x217.0 12.192 M	1	371327	.76	53000	70000	29				.07	1.11	.014	.021	.23	.31	.10	.07	.03	.00	.022	.31
				.79	55000	70000	30												.01	.16		
5	W24 -146.0 40' W610 x217.0 12.192 M	2	371328	.78	54000	69000	29				.08	1.11	.012	.028	.21	.29	.09	.06	.02	.00	.020	.32
				.78	53000	68000	28												.01	.17		
6	W24 -146.0 40' W610 x217.0 12.192 M	3	371330	.76	54000	71000	30				.08	1.11	.018	.026	.23	.27	.12	.12	.04	.00	.019	.33
				.77	54000	70000	30												.01	.17		

Pcm = C + Si + Mn + Cu + Ni + Cr + Mo + V + 5 B B=Approx. 0005
30 20 20 60 20 15 10
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(%S)+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.

Dany Lennell

QUALITY ASSURANCE

CUSTOMER COPY

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

6 Day of 09/11

Charlene Wallis

NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013



