

DATE	12/12/11
INVOICE NO.	450187
BILL OF LADING	47808
CUSTOMER NO.	5446
CUSTOMER P.O.	600247

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
 22318

S O L D T 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 STRENGTH TENSILE RATIO	TENSILE STRENGTH RATIO	ELONG	CHARPY IMPACT TEMP	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE
1	W21 -101.0 40'	8	376465	.75	57000	76000	27	.08	1.11	.015	.025	.24	.30	.10	.09	.03	.00	.020	.32
	W530 x150.0 12.192 M			.79	60000	80000	26									.01	.17		
2	W21 -101.0 40'	7	376466	.78	59000	75000	27	.08	1.11	.014	.027	.24	.33	.11	.15	.03	.00	.019	.34
	W530 x150.0 12.192 M			.80	59000	74000	26									.01	.17		
3	W21 -101.0 40'	1	376468	.78	57000	73000	26	.07	1.10	.017	.022	.23	.31	.13	.12	.03	.00	.021	.31
	W530 x150.0 12.192 M			.77	56000	73000	26									.01	.16		
4	W21 -101.0 40'	5	376469	.78	56000	72000	26	.08	1.10	.016	.028	.21	.31	.12	.12	.03	.00	.018	.32
	W530 x150.0 12.192 M			.78	57000	73000	26									.01	.17		
5	W21 -101.0 40'	8	376473	.78	56000	72000	26	.06	1.10	.023	.025	.26	.28	.11	.13	.03	.00	.018	.32
	W530 x150.0 12.192 M			.77	55000	71000	26									.01	.17		
6	W21 -101.0 40'	11	376474	.79	59000	75000	26	.08	1.11	.022	.025	.25	.29	.15	.03	.00	.019	.34	
	W530 x150.0 12.192 M			.77	58000	75000	26									.01	.17		

ORIGINAL CERTIFICADO DE NUESTROS ES
 REMISION DE NUESTROS ARCHIVOS
 ventas@ferrebarniedo.com.mx
 S.A. DE C.V.

Carbon Equivalent: CE = CEI(W) = C + Mn/6 + (Cr+Mo+V)/5 + (Ni+Cu)/15
 Corrosion Index: CI = 20(C) + 30(Cu) + 1.25(S) + 1.48(Ni) + 17.28(P) + 7.29(Cr) + 9.10(Mn) + 22.38(Si) + 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.

Gay Lonnell

QUALITY ASSURANCE

CUSTOMER COPY

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

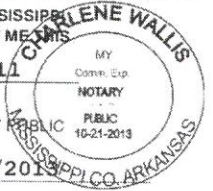
12 Day at 12/11

Charlene Wallis

NOTARY PUBLIC

MY COMMISSION EXPIRES

10/21/2013



DATE	4/08/11
INVOICE NO.	402567
BILL OF LADING	19415
CUSTOMER NO.	5446
CUSTOMER P.O.	600047

NUCOR-YAMATO STEEL CO.

P.O. BOX 1228 • BLYTHEVILLE, AR 72316

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HIDALGO 3530 PAT 4100
FINAL: SAN LUIS POTOSI, SLP MX
NUEVO LAREDO, TM 88000

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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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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	%	TEMP	IMPACT ENERGY												
1	-101.0 40' W530 x150.0 12.192 M	7	363783	.77	53000	69000	29			.07	.94	.012	.027	.23	.28	.11	.16	.04	.00	.020	.30
2	-101.0 40' W530 x150.0 12.192 M	29	363788	.77	53000	69000	29			.07	.90	.015	.028	.24	.28	.11	.14	.03	.00	.016	.28
3	-101.0 40' W530 x150.0 12.192 M	6	363787	.79	55000	70000	29			.07	.91	.014	.023	.24	.30	.11	.16	.04	.00	.016	.29

ESTE ES EL ORIGINAL CERTIFICADO DE BARNIEDO, S.A. DE C.V.
 AMPARA LA REMISION DE NUESTROS ARCHIVOS.
 ventas@ferrebarniedo.com.mx

Pcm = C + Si + Mn + Cu + Ni + Cr + Mo + V + 5 B B=Approx. .0005
 30 20 20 80 20 15 10
 CARBON EQUIVALENT: CE = CE(IITW) = 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=28.01(%Cu)+3.88(%Ni)+1.20(%Cr)+1.49(%S)+17.28(%P)+7.29(%Cu)(%Ni)-8.10(%Ni)(%P)-53.38(%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.

Day Lennell

 QUALITY ASSURANCE

CUSTOMER COPY

STATE OF ARKANSAS COUNTY OF MISSISSIPPI
 SWORN TO AND SUBSCRIBED BEFORE ME THIS
 8 Day of 04/11
 Charlene Wallis NOTARY PUBLIC
 MY COMMISSION EXPIRES 10/21/2013

