DATE	2/25/12
INVOICE NO.	466055
BILL OF LADING	56931
CUSTOMER NO.	5446
CUSTOMER P.O.	600313

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.

SHIP TO

SOLD TO

SPECIFICATIONS

ASTM A992/A992M-11 A572/A572M GR50-07
ASTM A709/A709M-11 GR50 (345)
ASTM A709/A709M-11 GR50S (345S)
ASTM A6/A6M-11

ITEM #	ITEM DESCRIPTION	QTY	HEAT #	MECHANICAL PROPERTIES: YIELD TO TENSILE RATIO	YIELD STRENGTH PSI / MPa	TENSILE STRENGTH PSI / MPa	ELONG % / %	CHARPY IMPACT TEMP °F / °C	IMPACT ENERGY FT-LBS / JOULES	CHEMICAL PROPERTIES: C	Mn	P	S	Si	Cu	Ni	Cr	Mo / Sn	V / Pcm	Cb	CE / Cl
1	W12 -120.0	14	381634	.75	55000	73000	27			.08	1.21	.014	.022	.24	.26	.13	.09	.04	.02	.017	.34
	40'			.77	56000	73000	25											.01	.18		
	W310 x179.0				379	503	27														
	12.192 M				386	503	25														
2	W12 -120.0	14	381635	.78	57000	73000	27			.08	1.23	.011	.021	.26	.28	.11	.09	.03	.02	.018	.35
	40'			.76	55000	72000	27											.01	.18		
	W310 x179.0				393	503	27														
	12.192 M				379	496	27														
3	W12 -120.0	6	381638	.79	56000	71000	27			.07	1.20	.012	.021	.23	.26	.12	.10	.03	.02	.020	.33
	40'			.77	55000	71000	29											.01	.16		
	W310 x179.0				386	490	27														
	12.192 M				379	490	29														
4	W12 -120.0	2	381640	.76	54000	71000	28			.08	1.11	.014	.021	.28	.26	.11	.12	.03	.00	.020	.32
	40'			.77	54000	70000	28											.01	.17		
	W310 x179.0				372	490	28														
	12.192 M				372	483	28														

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

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(%Si)+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.

Gary Lennell

QUALITY ASSURANCE

CUSTOMER COPY

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

27 Day of 02/12

Charlene Wallis NOTARY PUBLIC

MY COMMISSION EXPIRES 10/21/2013

CHARLENE WALLIS MY Comm. Exp. NOTARY PUBLIC 10-21-2013 MISSISSIPPI CO. ARKANSAS

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