

Invoice No.	
Bill of Lading	LN#27271
Customer No.	0883
Customer P.O.	A746807NY

NUCOR-YAMATO STEEL CO.
P.O. BOX 1228 BLYTHEVILLE, AR 72318

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

Date: 01/18/2023 12:59 AM

SHIP TO:
SENTRY SUPPLY
1800
HOUSTON TX 77213
USA

SHIP FROM:
NUCOR-YAMATO STEEL CO.
13
USA

ASTM A992/A992M-20 A572/A572M GR50-18
ASTM A709/A709M-18 GR50 (345)
ASTM A709/A709M-18 GR50S (345S)
CSA G40.21-13 50WM (345WM)
ASTM A6/A6M-19

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	Sn	Pcm	Cl		
					KSI	MPa			KSI	MPa	%																Temp	Impact Energy
1	W12X120.0 40 ft 0 in W310X179 (12.19 m)	8	570958	0.80	58	73	28	28							.07	1.12	.014	.016	.23	.28	.18	.16	.05	.01	.021	.33	.01	.16
2	W12X120.0 40 ft 0 in W310X179 (12.19 m)	1	571936	0.81	62	77	26	26							.08	1.36	.017	.023	.24	.29	.14	.14	.04	.06	.001	.38	.01	.19

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH
 $Pcm = C + Si/30 + Mn/20 + Cu/20 + Ni/50 + Cr/20 + Mo/15 + W/10 + B(8 \approx \text{Approx. } .0005)$
 Corrosion Index = $26.01(\%Cu) + 3.88(\%Ni) + 1.2(\%Cr) + 1.49(\%Si) + 17.28(\%P) + 7.29(\%Cu)(\%Ni) + 9.10(\%Ni)(\%P) + 33.39(\%Cu)^2$
 ISO 9001:2015 certified (Registration # 0985-07).
 Meets mechanical lab independence requirements of EN10204 type 3.1.
 The Charpy machine striker geometry used by Nucor-Yamato Steel is the 8 mm (0.315") striker (KV_g) per ASTM A370 Section 22.1.2 and ISO 148-1 Section 7.3

CARBON EQUIVALENT CE = $C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$
 Mercury has not been used in the direct manufacturing of this material
 Boron has not been intentionally added and will not exceed 0.0008%
 This material was produced in accordance with the Nucor-Yamato Steel Quality Manual.

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.

Doug Linnell
Chief Metallurgist

State of Arkansas
County of Mississippi
Sworn to and subscribed before me
on 2023-01-18
My commission expires on 07/17/2023

