

CERTIFIED MILL TEST REPORT

,

Quality Steel 100% EAF Melted and Manufactured in the US

ISO 9001:2015 and ABS Certified CMTR complies with EN 10204 3.1.

GENERAL INFORMATION SPECIF												SHIPME		AILS	E	OL # 000074	5601 - 104	40.00 lbs		
Heat N	Product Size lumber ition(s)	Wide Flange Beam W12X87 W310X129 A219971		*(A AST AAST AASH ASS ASSDI-MULTI me	ndards 92/A992M 6/A6M - 2 2/A572M - 9/A709M - 70M/M27(40.21-13 6/A36M - equirement 1TO M270-{	- 20 A992 / A992 I A572 gr50/gr 21 A572 gr50/gr 21 A709 gr50/gr 0 - 20 M270 gr345/g 50WM/345V)/gr345)/gr345 15/gr50 15WM 36M 50, A529-50,	Bundle / ASN # 023205590		Length 60' 0"		Cust PO 4500540490	Job/Ref		Part/Ref		
CHEN			SIS (weigh			_	_		_						_		_			
 .08	<u>Mn</u> 1.32	P .010	S .019	Si .23	<u>Cu</u> .25	<u>Ni</u> .11	<u>Cr</u> .16	<u>Mo</u> .04	<u>Sn</u> .012	V .044	Nb/Cb <.001	AI .003	N .0111	B .0004	*CE .37		* CE3 .33	* 5.39	Analysis Type Heat	
				.23	.25	. ! !	.10										.55	5.59	Tieat	
Test 1 2 3 4	Strength Strength tt ksi / MPa ksi / 57 / 395 73 /		Tensile Stren ksi / M 73 / 5 75 / 5	gth <u>1Pa</u> 505 515	fy / fu ratio % Elong. {8" gage} .78 27 .78 26			Test 1 2 3 4 5 6 7	Temp F / C	b Abs	orbed Energ	gy ft-lbf <u>Specimen</u>	/ J <u>2 Spe</u>	ecimen 3	_Av	e of order) erage	<u>Minimum</u>			
Notes: CE1 {IIW}												9(Si)+17.29(P)-7 0) +(Mo/4) + (V/1		9.10(Ni)(P)-33.	39(Cu²)					
I hereby certify that the material described herein has been made to the applicable specification by the electric arc furnace/continuous cast process and tested in ac with the requirements of American Bureau of Shipping Rules with satisfactory res											ABS (ABS CERTIFICATION								
I hereby certify that the content of this report are accurate and correct. All operations performed by this material manufacturer are in compliance with requirements of the material specifications and applicable purchaser design Signed: Valoree Varick										s.	State of Indiana, County of Whitley Sworn to and subscribed before me									
Signe Form F-610		_{ev 8} Qua	ality Manage M A6 - 14.6	er 5: A sig	nature is no	t requir	ad on the t	test report	; however	r, the docu	ument shall o		Notary Pu	anization s	ubmittir	ng the report.	ommissio	n expire Page 1 c		

Customer No. 1377							YAMATO STEEL COMPANY 28; Blytheville AR 72316							CERTIFIED MILL TEST REPORT 100% Melted and Manufactured in the U.S.A. All Shapes produced by Nucor-Yamato Steel are cast and rolled to a fully killed and fine grain practice														
															Date				2023-02-05 10:49 AM									
															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													
		Mechanical Properti									al Properties							Chemical Properties										
	14	Item Description	OTV	llast	Yield to	Yield Strength	Tensile Strength	ELONG		°F Ft•Lbf		rgy Loc	С	Mn	Р	S	Si	Cu	Ni	Cr	Мо	v	Cb	CE	Sn	Pcm	СІ	
	Item	Item Description	QTY	Heat	Tensile Ratio	KSI MPA	KSI MPA	%																				
-	1	W12X087.0 60 ft 0 in W310X129 (18 m)	3	571993	0.79 0.79	56 55 385 381	71 70 490 485	27 28					.07	1.00	.017	.017	.20	.29	.22	.16	.05	.00	.018	.31	.01	.16		

 ELONGATION BASED ON 8.00 INCH GAUGE LENGTH
 CARBIG

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

 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
 Boron I

 ISO 9001-2015 certified (Registration # 0985-07).
 This max

 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 (Ky) 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.

Daug hennell

Gary Pennell Chief Metallurgist

State of Arkansas County of Mississippi Sworn to and subscribed before me

Dielisiah An Kodes On 2023-02-05 My commission expires on 07/17/2023

