

Invoice No.	200985
Bill of Lading	556736
Customer No.	7212
Customer P.O	4500281025

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

Date 09/18/2022 0:53 AM

ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT Type B(345WT)  
ASTM A6/A6M-19

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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	CI		
					KSI	KSI		%	Temp	Impact Energy																Loc	
					MPa	MPa		%	° F	ft• lbf																	
1	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	1	564705	0.79 0.80	58 59 398 406	73 73 504 505	30 30	40 4	108 146	114 155	127 172	Fla	.07	1.25	.020	.020	.28	.28	.31	.49	.04	.04	.001	.43	.01	.20	6.5

**ELONGATION BASED ON 8.00 INCH GAUGE LENGTH**  
 $Pcm = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5B$  (B=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<sub>2</sub>) 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 Lemell*  
Chief Metallurgist

State of Arkansas  
County of Mississippi  
Sworn to and subscribed before me  
on 2022-09-18  
My commission expires on 07/17/2023



<b>Invoice No.</b>	230591
<b>Bill of Lading</b>	578669
<b>Customer No.</b>	7212
<b>Customer P.O.</b>	4500290762

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

Date 03/11/2023 4:34 AM

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ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
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	KSI		%	Temp	Impact Energy																Loc	
					MPa	MPa		%	° F	ft• lbf																	
1	<del>W21X062.0 40 ft 0 in W530X92 (12.19 m)</del>	<del>6</del>	<del>571596</del>	<del>0.77</del> <del>0.76</del>	<del>59</del> <del>57</del> <del>407</del> <del>390</del>	<del>77</del> <del>74</del> <del>531</del> <del>512</del>	<del>24</del> <del>24</del>	<del>40</del> <del>4</del> <del>4</del> <del>4</del>	<del>113</del> <del>153</del> <del>101</del> <del>137</del>	<del>143</del> <del>194</del> <del>93</del> <del>126</del>	<del>183</del> <del>248</del> <del>121</del> <del>164</del>	<del>Fla</del> <del>Fla</del> <del>Fla</del> <del>Fla</del>	.06	1.09	.013	.018	.31	.28	.32	.46	.04	.06	.002	.40	.01	.18	6.5
2	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	3	564702	0.79 0.78	58 57 403 393	74 74 508 507	28 27	40 4	114 155	128 174	152 206	Fla	.06	1.25	.015	.025	.26	.29	.32	.41	.04	.04	.001	.41	.01	.18	6.4
3	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	4	564705	0.79 0.80	58 59 398 406	73 73 504 505	30 30	40 4 4 4	108 146 96 130	114 155 103 140	127 172 104 141	Fla Fla Fla Fla	.07	1.25	.020	.020	.28	.28	.31	.49	.04	.04	.001	.43	.01	.20	6.5
4	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	3	564709	0.81 0.80	60 60 414 414	74 75 512 520	30 27	40 4	102 138	102 138	101 137	Fla	.08	1.25	.016	.020	.30	.30	.30	.45	.03	.04	.001	.43	.01	.20	6.5

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH  
 $P_{cm} = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5B$  (B=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<sub>g</sub>) per ASTM A370 Section 22.1.2 and ISO 148-1 Section 7.3.

CARBON EQUIVALENT CE=  $C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15$   
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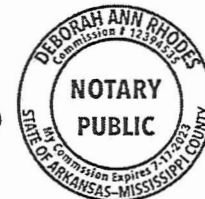
I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by this material manufacturer are in compliance with the requirements of the material specifications, and when designated by the purchaser, meet the applicable specifications.

*Doug Lennell*

Chief Metallurgist

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

on 2023-03-11  
My commission expires on 07/17/2023



Invoice No.	229497
Bill of Lading	577950
Customer No.	7212
Customer P.O.	4500290762

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

Date: 03/05/2023 9:23 AM

ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
ASTM A6/A6M-19

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Item#	Item Description	QTY	Heat#	Mechanical Properties										Chemical Properties														
				Yield to Tensile Ratio	Yield Strength		Tensile Strength	ELONG	Charpy Impact				Loc	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	Sn	Pcm	Cl
					KSI	KSI	KSI		Temp	Impact Energy																		
					MPa	MPa	MPa		° F	ft·lbf	J																	
1	<del>W08X058.0 40 ft 0 in W200X 86 ( 12.19 m)</del>	<del>9</del>	<del>574165</del>	0.72 0.72	55 56 380 389	77 78 531 538	24 24	40 4	48 65	61 83	79 107	Fla	.07	1.11	.012	.018	.32	.32	.33	.46	.07	.06	.002	.42	.01	.19	6.6	
2	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	4	564705	0.79 0.80	58 59 398 406	73 73 504 505	30 30	40 4	96 130	103 140	104 141	Fla Fla	.07	1.25	.020	.020	.28	.28	.31	.49	.04	.04	.001	.43	.01	.20	6.5	
3	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	1	564709	0.81 0.80	60 60 414 414	74 75 512 520	30 27	40 4	102 138	102 138	101 137	Fla	.08	1.25	.016	.020	.30	.30	.30	.45	.03	.04	.001	.43	.01	.20	6.5	
4	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	2	573680	0.78 0.76	58 58 401 398	75 76 514 521	25 25	40 4	59 80	58 79	56 76	Fla	.07	1.26	.020	.023	.27	.32	.30	.56	.04	.04	.001	.45	.01	.20	6.7	

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH  
 $P_{cm} = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + S/5 + B$  (B=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<sub>g</sub>) per ASTM A370 Section 22.1.2 and ISO 148-1 Section 7.3.

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*Doug Lennell*  
Chief Metallurgist

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

on 2023-03-05  
My commission expires on 07/17/2023



Invoice No.	228510
Bill of Lading	577330
Customer No.	7212
Customer P.O.	4500290762

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

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ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
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	
								Temp	Impact Energy																		Loc
									° F	ft· lbf	J																
1	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	2	572432	0.78 0.82	58 60 396 415	73 73 506 506	24 27	40 4	89 121	83 113	69 94	Fla	.07	1.26	.017	.025	.24	.29	.32	.46	.05	.04	.001	.43	.01	.19	6.5
2	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	2	572433	0.81 0.77	60 58 415 399	74 75 513 519	25 26	40 4	65 88	61 83	60 81	Fla	.08	1.28	.013	.023	.28	.31	.30	.46	.05	.04	.001	.44	.01	.20	6.5
3	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	3	572437	0.79 0.79	60 60 416 413	76 76 527 522	23 27	40 4	69 94	66 89	79 107	Fla	.08	1.27	.012	.021	.26	.31	.30	.45	.06	.04	.001	.44	.01	.20	6.4
4	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	2	573679	0.77 0.78	56 56 389 386	73 72 506 496	25 26	40 4	65 88	54 73	75 102	Fla	.07	1.26	.016	.025	.26	.26	.31	.53	.05	.04	.001	.44	.01	.19	6.4

**ELONGATION BASED ON 8.00 INCH GAUGE LENGTH**  
 $P_{cm} = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5B$  (B=Approx .0005)  
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*Doug Lennell*  
Chief Metallurgist

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

on 2023-03-01  
My commission expires on 07/17/2023



Invoice No.	228510
Bill of Lading	577330
Customer No.	7212
Customer P.O.	4500290762

NUCOR-YAMATO STEEL CO.  
P.O. BOX 1228: BLYTHEVILLE, AR 72316

**CERTIFIED MILL TEST REPORT**  
**100% Melted and Manufactured in U.S.A**  
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Date 03/01/2023 4:44 AM

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ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
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	KSI		%	Temp	Impact Energy																Loc	
					MPa	MPa		%	° F	ft·lbf																	
1	W44X290.0 40 ft 0 in W1100X433 ( 12.19 m)	3	573680	0.78 0.76	58 58 401 398	75 76 514 521	25 25	40 4 40 4	67 91 59 80	59 80 58 79	64 87 56 76	Fla Fla	.07	1.26	.020	.023	.27	.32	.30	.56	.04	.04	.001	.45	.01	.20	6.7

ELONGATION BASED ON 8.00 INCH GAUGE LENGTH  
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*Doug Lennell*  
Chief Metallurgist

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

on 2023-03-01 *Deborah Ann Rhodes*  
My commission expires on 07/17/2023



<b>Invoice No.</b>	197748
<b>Bill of Lading</b>	554289
<b>Customer No.</b>	7212
<b>Customer P.O.</b>	4500281025

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

Date 09/03/2022 2:38 AM

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ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
ASTM A6/A6M-19

Item#	Item Description	QTY	Heat#	Mechanical Properties									Chemical Properties														
				Yield to Tensile Ratio	Yield Strength	Tensile Strength	ELONG	Charpy Impact			Loc	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	Sn	Pcm	CI	
								Temp	Impact Energy																		
								° F	ft-lbf	J																	
1	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	1	567033	0.78 0.80	57 59 392 409	73 74 502 509	27 28	40 4	81 110	68 92	77 104	Fla	.06	1.25	.021	.024	.26	.29	.32	.49	.05	.04	.002	.43	.01	.19	6.6
2	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	2	567035	0.77 0.77	56 57 389 390	73 73 504 504	28 30	40 4 40 4	73 99 77 104	71 96 85 115	61 83 80 108	Fla Fla Fla Fla	.06	1.27	.017	.026	.30	.27	.28	.46	.03	.04	.001	.41	.01	.18	6.4
3	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	7	567036	0.78 0.79	59 60 407 411	75 75 519 519	27 26	40 4 40 4 40 4	97 132 92 125 126 108	92 125 93 126 66 89	95 129 92 125 76 103	Fla Fla Fla Fla	.08	1.25	.016	.016	.29	.28	.30	.44	.04	.04	.002	.44	.01	.20	6.4
4	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	4	567038	0.78 0.79	57 58 392 402	73 73 504 506	25 26	40 4 40 4	76 103 70 95	86 117 74 100	78 106 74 100	Fla Fla	.07	1.26	.019	.017	.26	.26	.31	.53	.05	.04	.002	.44	.01	.19	6.4

**ELONGATION BASED ON 8.00 INCH GAUGE LENGTH**  
 $P_{cm} = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5B$  (B=Approx .0005)  
**Corrosion Index**=  $26.01(\%Cu) + 3.88(\%Ni) + 1.2(\%Cr) + 1.49(\%Si) + 17.28(\%P) - 7.29(\%Cu)(\%Ni) - 9.10(\%Ni)(\%P) - 33.39(\%Cu)^2$   
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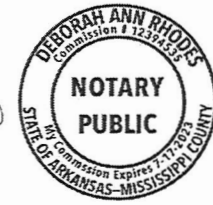
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*Doug Lennell*  
Chief Metallurgist

State of Arkansas  
County of Mississippi  
Sworn to and subscribed before me  
on 2022-09-03  
My commission expires on 07/17/2023

*Deborah Ann Rhodes*



Invoice No.	197749
Bill of Lading	554290
Customer No.	7212
Customer P.O.	4500281025

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

Date 09/03/2022 3:35 AM

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ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
ASTM A6/A6M-19

Item#	Item Description	QTY	Heat#	Mechanical Properties										Chemical Properties														
				Yield to Tensile Ratio	Yield Strength	Tensile Strength	ELONG	Charpy Impact			Loc	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Cb	CE	Sn	Pcm	Cl		
					KSI	KSI		%	Temp	Impact Energy																	Temp	Impact Energy
					MPa	MPa		%	° F	ft· lbf																	° C	J
1	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	2	567030	0.82 0.79	60 58 414 399	74 74 508 507	28 29	40 4 40 4	102 139 74 100	105 142 99 134	71 96 91 123	Fla Fla Fla Fla	.06	1.25	.015	.015	.25	.31	.33	.47	.05	.04	.002	.42	.01	.18	6.5	
2	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	3	567031	0.79 0.79	57 57 394 393	72 72 498 500	28 29	40 4 40 4	95 129 80 108	88 119 87 118	98 133 86 117	Fla Fla Fla Fla	.06	1.25	.014	.019	.25	.28	.29	.42	.04	.04	.002	.41	.01	.18	6.3	
3	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	3	567033	0.78 0.80	57 59 392 409	73 74 502 509	27 28	40 4 40 4	81 110 84 114	68 92 91 123	77 104 88 119	Fla Fla Fla Fla	.06	1.25	.021	.024	.26	.29	.32	.49	.05	.04	.002	.43	.01	.19	6.6	
4	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	5	567035	0.77 0.77	56 57 389 390	73 73 504 504	28 30	40 4 40 4	73 99 77 104	71 96 85 115	61 83 80 108	Fla Fla Fla Fla	.06	1.27	.017	.026	.30	.27	.28	.46	.03	.04	.001	.41	.01	.18	6.4	

**ELONGATION BASED ON 8.00 INCH GAUGE LENGTH**  
 $P_{cm} = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + 5B$  (B=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<sub>2</sub>) 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.

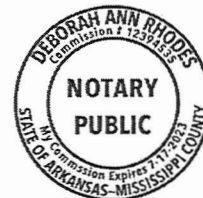
I hereby certify that the contents of this report are accurate and correct. All test results and operations performed by this material manufacturer are in compliance with the requirements of the material specifications, and when designated by the purchaser, meet the applicable specifications.

*Doug Lemell*

Chief Metallurgist

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

on 2022-09-03  
My commission expires on 07/17/2023





Invoice No.	197749
Bill of Lading	554290
Customer No.	7212
Customer P.O.	4500281025

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

Date 09/03/2022 3:35 AM

ASTM A588/A588M-19 GRADE B  
ASTM A709/A709M-18 GR50WT TypeB(345WT)  
ASTM A6/A6M-19

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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	KSI		%	Temp	Impact Energy	Loc																
					MPa	MPa		%	° F	ft· lbf																	
1	W44X290.0 40 ft 0 in W1100X433 (12.19 m)	1	567036	0.78 0.79	59 60 407 411	75 75 519 519	27 26	40 4	80 108	66 89	76 103	Fla	.08	1.25	.016	.016	.29	.28	.30	.44	.04	.04	.002	.44	.01	.20	6.4

**ELONGATION BASED ON 8.00 INCH GAUGE LENGTH**  
Pcm= C+Si/30+Mn/20+Cu/20+Ni/60+Cr/20+Mo/15+V/10+5B(B=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  
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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 Lennell*  
Chief Metallurgist

State of Arkansas  
County of Mississippi  
Sworn to and subscribed before me  
on 2022-09-03  
My commission expires on 07/17/2023

*Deborah Ann Rhodes*

