

Certificate of Mill Test Results
 HOU-000000-000
 Pg 1/1

PO/Rel

PART NO.

Attr:



12400 Highway 43 North, Axla, Alabama 36505, US

Test Certificate

WARNING: This product can expose you to chemicals including nickel and nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P660Warnings.ca.gov.

Form TC1: Revision 5: Date 22 Aug 2022

Customer P.O.No.: HOU-10940 Mill Order No. 41-710313-15 Shipping Manifest: AT38D146
 Product Description: ASTM A36(10)A708(2)13S/ASME SA36(2) Ship Date: 22 May 23 Cert No: 081113504
 AASHTO M270(20)36 AASHTO M270(20)36 Cert Date: 22 May 23 (Page 1 of 1)

Size: 1.250 X 120.0 X 480.0 (IN)

Tensiles:

Charpy Impact Tests

Heat Id	Piece Id	Test Loc	YS (KSI)	UTS (KSI)	%RA	Elong % 2in	Elong % 8in	Tst Dir	Hardness	Abs. Energy(FTLB)			% Shear			Tst Dir	Tst Temp	Tst Skz	BDWTT Tmp %Shr
										1	2	3	Avg	1	2				
W3E640	C37	L 47	70				25	T											

Chemical Analysis											
C	Mn	P	S	SE	Total	Al	Cu	Ni	Cr	Mo	N
.18	.63	.010	.001	.25	.025	.024	.32	.17	.13	.03	

KILLED STEEL
 MERCURY IS NOT A METALLURGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 KILLED STEEL, PRODUCED TO A FINE GRAIN PRACTICE
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED, POURED, AND ROLLED IN THE USA
 PRODUCTS SHIPPED: C37 PCS: 2, LBS: 40838
 W3E640

WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION

Jason Thomas
 Director Technical Services

Certificate of Mill Test Results
 HOU-000000-000
 Pg 1/1

PO/Ref SSW137545

PART NO.

Attn:

JSW
 JSW Steel (USA) INC.
 5200 East McKinney Road,
 BAYTOWN, TX 77523

METALLURGICAL TEST REPORT

Document MET - 04 Rev. No.: 4 Rev. Date: 08/16/22
 MTR Rev. 0 2/27/2023

Bulletin	Order Item	Heat	PO No.	Shipping Mode	Order Dimensions	Sub Origin	ITC No.
T133686	JSW22245-04	S31604	HOU-10857	TRUCK	0.625x120x480	INDIA	T133686-1600-1

Plates Certified for the Following grades ASTM-A36, ASTM-A709-50, ASME-SA36 AR Hot Rolled Carbon Steel Plates Plates Manufactured in the USA	Marking Instructions Stencil in T location(s); X Loc. 18 Y Loc. 30; CUST: MADENUSAPN PO; DIM GRADE: FREIGHT ORDERITEM PLATEID SHIPWEEK SLABID TRANSADDE Stamp in 1 location(s); X Loc. 18 Y Loc. 12; Slab ID; Slab D; Slab ID
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Test	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N	V	B	Ti	Mb	Ca	CE
LADLE	0.09	0.55	0.012	0.003	0.21	0.007	0.007	0.228	0.001	0.001	0.039	0.0025	0.001	0.0002	0.002	0.001	0.0001	0.24

Carbon Equivalent CE = C + Mn/8 + (Cr + Mo + V)/5 + (Ni + Cu)/15
 PCA = C + Si/30 + Mn/20 + Cu/20 + Nb/10 + Cr/20 + Mo/15 + V/10 + 0.8
 AWS = C + (Mn+Si)/8 + (Cr + Mo + V)/5 + (Ni + Cu)/16

Plate Tested	1288288	1288288	A	01C	W/C
Group Tested	0.625x	AR	T	AR	T
Test Cond	AR	T	AR	T	
Temp. (KSI)	62	61	41.0%	42.0%	0.62
Elong. in 2" Ratio	0.62	0.62	0.2%	0.2%	
Yield Strength Determined At					

Please Certified For The Above Tests

Material	Thickness (in)	Width (in)	Length (in)	Weight (lb)
1288288	0.6250	120.000	480.00	10209.600

Material	Thickness (in)	Width (in)	Length (in)	Weight (lb)

DIN EN 10204 2004 3.1 This is to certify that the product described herein was manufactured, sampled, and tested in accordance with the specifications and requirements in such specifications. Fine Grain, Si-Al Fully Killed Steel. We certify that delivery of this product with the requirement of the specification and purchase order received from customer. DRC Conflict Free. No intentional addition of Pb, Se, S, Hg or B. JSW Steel USA, Inc is an ISO 9001:2015 certified facility.



Jacqueline Tamayo

Jacqueline Tamayo 281-383-5326 jacq.tamayo@jswsteel.us
 Page 1 of 1

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PART NO.

Attr:



12400 Highway 43 North, Axis, Alabama 36505, US

Test Certificate

WARNING: This product can expose you to chemicals including nickel and nickel compounds, which are known to the State of California to cause cancer. For more information go to www.P66946.htm.

Form TC1: Revision S, Date 22 Aug 2022

Customer P.O. No.: HOU-10582 Mill Order No. 41-713275-12 Shipping Manifest: AR333329
 Product Description: ABS (2023) GRA I GR B Ship Date: 06 Jul 23 Cert No.: 081123285
 ASTM A36(18)A709(21)36ASME S436(21) Cert Date: 06 Jul 23 (Page 1 of 1)
 0.80-1.20% MIN, 0.10% MAX S

Size: 0.875 X 120.0 X 480.0 (IN)

Heat Id	Piece Id	Tested Thickness		Yst Loc	YS (KSI)	UTS (KSI)	%RA	Elong %		Tst Dir	Hardness	Charpy Impact Tests			BDWTT Temp %Shr
		0.315 (DISCRT)	0.374 (DISCRT)					2ln	8ln			Abs. Energy (FTLB)	% 8 Inear	1	
W3F586	D78	0.315 (DISCRT)	0.374 (DISCRT)	L 48	71	71		28	T						
W3F588	D81	0.315 (DISCRT)	0.374 (DISCRT)	L 48	71	71		27	T						

Chemical Analysis

C	Mn	P	S	Si	Total Sulfur	Cu	Ni	Cr	Mo	Co	V	Ti	Cav
.16	.84	.012	.002	.26	.028	.29	.16	.14	.04	.004	.003	.013	.33

KILLED STEEL
 MERCURY IS NOT A METALLOGICAL COMPONENT OF THE STEEL AND NO MERCURY WAS INTENTIONALLY ADDED DURING THE MANUFACTURE OF THIS PRODUCT.
 WE HEREBY CERTIFY THAT MATERIAL DESCRIBED HEREIN HAS BEEN MADE BY SSAB AMERICAS BY THE ELECTRIC FURNACE / STRAND CAST PROCESS AND TESTED IN ACCORDANCE WITH THE REQUIREMENTS OF THE AMERICAN BUREAU OF SHIPPING RULES WITH SATISFACTORY RESULTS.
 CEV = C + MN/6
 KILLED STEEL, PRODUCED TO A FINE GRAIN PRACTICE
 MTR EN 10204:2004 INSPECTION CERTIFICATE 3.1 COMPLIANT
 100% MELTED, POURED, AND ROLLED IN THE USA
 NO WELD REPAIR HAS BEEN PERFORMED ON THIS MATERIAL.
 PRODUCTS SHIPPED: D82 ECES: 3, LBS: 42879
 W3F586



7/15/2023
 15:04:52
 30 JULY 2023

WE HEREBY CERTIFY THAT THIS MATERIAL WAS TESTED IN ACCORDANCE WITH, AND MEETS THE REQUIREMENTS OF, THE APPROPRIATE SPECIFICATION

JASON THOMAS
 Director Technical Services

Cust Part #:

Certificate of Mill Test Results
 HOU-000000-000
 Pg 1/1

PO/Rel

PART NO.

Attn:



12400 Highway 43 North, Axle, Alabama 38605, US

Test Certificate

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Form TC-1; Revision 5; Date 22 Aug 2022

Customer P.O. No.: HOU-10840
 Order No. 41-710313-15
 Shipping Manifest: AY360148
 Ship Date: 22 May 23
 Cert No: 081119504
 Cert Date: 22 May 23 (Page 1 of 1)

Product Description: ASTM A36(19)A709(C1)36WASME 9A36(2-1)
 AASK1TO M27(02986

Size: 1.250 X 120.0 X 480.0 (IN)

Tensiles:

Charpy Impact Tests

Heat Id	Pieces Id	Test Loc	Y8 (KSI)	UTS (KSI)	%RA	Elong %	Zn 8in	Tet Dir	Hardness	Abs. Energy (FTLB)			% Shear			Tst Dir	Tst Temp	Tst Sls	BDWTT Temp %Sht
										1	2	3	1	2	3				
W3E640	C37	L 47	70					26	T										

Chemical Analysis															
Heat Id	C	Mn	P	S	Si	Total Se/AI	Ca	Mg	Cr	Mo	Cb	V	Ni	B	N
W3E640	.18	.83	.010	.001	.25	.025	.024	.52	.17	.13	.03	.002	.012	.0001	.0069

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 Jason Thomas
 Director Technical Services