

## FORM U-1A MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS (Alternative Form for Single Chamber, Completely Shop- or Field Fabricated Vessels Only) As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by KW International, LLC.  
 200 Texas Avenue Columbus, Texas 78934  
(Name and address of Manufacturer)

2. Manufactured for Next Era  
(Name and address of Purchaser)

3. Location of installation Unknown  
(Name and address)

4. Type: Horizontal 109132 --- SEPHZ0240, Rev.1 5310 2023  
(Horizontal or vertical, tank) (Manufacturer's serial number) (CRN) (Drawing number) (National Board number) (Year Built)

5. ASME Code, Section VIII, Division 1 2021 --- ---  
[Edition and Addenda, if applicable (date)] (Code Case numbers) [Special service per UG-120(d)]

6. Shell \*SA-516-70 .75" .125" 48" OD 10'-0"  
(Material spec. number, grade) (Nominal thickness) (Corr. Allow.) (Inner diameter) (Length overall)

### Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting				
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material	

7. Seams Type 1 Full 100% --- --- Type 1 Full 100% 1  
[Long. (welded, dbl, sngl, lap, butt)] [R.T. (spot or full)] (Eff., %) (H.T. temp.) (Time, hr) [Grth. (welded, dbl, sngl, lap, butt)] [R.T. (spot or full)] (Eff., %) (No. of courses)

8. Heads: (a) SA-516-70N (b) SA-516-70N  
(Material spec. number, grade or type) (H.T.-time and temp) (Material spec. number, grade or type) (H.T.-time and temp)

	Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemispherical Radius	Flat Diameter	Side to Pressure		Category A		
		Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)	Left Head	.950"	.125"	---	---	2:1	---	---	---	X	S	None	100%	
(b)	Right Head	.950"	.125"	---	---	2:1	---	---	---	X	S	None	100%	

### Body Flanges on Heads

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting				
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material	
(a)													
(b)													

9. MAWP 500 --- 200 --- °F  
(Internal) (External) (Internal) (External)

Min. design metal temp. -20 °F at 500 PSI. Hydro., pneu. or comb. test pressure 650 PSI

Proof Test ---

10. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Service	1	18"	RFLWN	SA-105N	---	300#	.125"	---	Welded	---	Shell
Service	1	6"	RFLWN	SA-105N	---	600#	.125"	---	Welded	---	Left Hd
Service	1	6"	RFLWN	SA-105N	---	300#	.125"	---	Welded	---	Shell
Service	4	4"	RFLWN	SA-105N	---	300#	.125"	---	Welded	---	Shell
Service	3	2"	RFLWN	SA-105N	---	300#	.125"	---	Welded	---	Shell
Service	6	2"	CPLG	SA-105	---	6000#	.125"	---	Welded	---	Shell
Service	1	1"	CPLG	SA-105	---	6000#	.125"	---	Welded	---	Shell
Service	5	3/4"	CPLG	SA-105	---	6000#	.125"	---	Welded	---	Shell
Service	1	1/2"	CPLG	SA-105	---	6000#	.125"	---	Welded	---	Shell

11. Supports: Skirt No Lugs --- Legs --- Others --- Saddles --- Attached --- Welded to Shell ---  
(Yes or No) (Number) (Number) (Describe) (Where and how)

12. Remarks: Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report: \*Shell S/N: 14509-1-2, Absolute Metal Products, LLC., Cert. No. 52,928.  
(Name of part, item number, Manufacturer's name and identifying stamp)

Impact Testing Exempt per UCS-66.

PAUT C2-Full



ASME



5310

CERTIFIED BY



Setting the New STANDARD

KW INTERNATIONAL  
www.kwintl.com

FOR SERVICE AND PARTS:  
1-844-594-8324

U

RT1

M.A.W.P.

500

PSI

AT

200

°F

M.D.M.T.

-20

°F

AT

500

PSI

TEST PRESSURE

650

PSI

YEAR BUILT

2023

ORDER NO.

16992

TAG NO.

SERIAL NO.

10932

DWG. NO.

SEPH70240

REV.

18 O.D. X 10'-0" HZ. 3PH. SEPARATOR

C.A. 1/8"

**FORM U-2A MANUFACTURER'S PARTIAL DATA REPORT (ALTERNATIVE FORM)**  
**A Part of a Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer**  
**As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1**

1. Manufactured and certified by Absolute Metal Products, LLC  
7208 Gessner Road, Houston, Texas 77040 USA  
 2. Manufactured for KW International, 200 Texas Ave., Columbus, TX 79834 USA  
 3. Location of installation Unknown  
 4. Type Shell 14509-1 1 thru 14509-1-9  
2023

5. ASME Code, Section VIII, Div 1 2021  
 6. Shell (a) Number of course(s) 1 (b) Overall length 120"

Course(s) No.	Course(s)		Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
	Diameter	Length	Spec./Grade or Type	None	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time	
1	48"OD	120"	SAS16-70AR	3/4"	-	1	Full							

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting				
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material	

7. Heads: (a)   (b)  

Location (Top, Bottom, Ends)	Thickness		Radius		Elliptical Ratio	Conical Apex Angle	Hemis. Radius	Flat Diameter	Side to Pressure		Category A		
	Min.	Corr.	Crown	Knuckle					Convex	Concave	Type	Full, Spot, None	Eff.
(a)													
(b)													

Location	Type	ID	OD	Flange thk	Min Hub Thk	Material	How Attached	Bolting				
								Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material	
(a)												
(b)												

8. MAWP   at max. temp.   Min design metal temp.   at  

9. Impact Test NO at test temperature of  

10. Hydro., pneu., or comb. Test pressure NONE Proof test  

11. Nozzles, inspection, and safety valve openings

Purpose (Inlet, Outlet, Drain, Etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	

12. Identification of Part(s)

Name of Part	Quantity	Line No.	Mfr's. Identification No.	Mfr's. Drawing No.	CRN	National Board No.	Year Built

13. Supports: Skirt No Lugs   Legs   Other   Attached  

14. Remarks: No design functions performed by Absolute Metal Products LLC

FORM U-2A

Manufactured by Absolute Metal Products, LLC

Manufacturer's Serial No. 14509-1-1 thru 14509-1-9 CRN \_\_\_\_\_ National Board No. \_\_\_\_\_

CERTIFICATE OF SHOP/FIELD COMPLIANCE

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this pressure vessel part conform to the ASME BOILER AND PRESSURE VESSEL CODE Section VIII, Division 1.

U or PRT Certificate of Authorization No. 52,928 Expires 4/1/2025

Date 19 March 2023 Name Absolute Metal Products, LLC Signed [Signature]  
(Manufacturer) (Inspector)

CERTIFICATE OF SHOP/FIELD INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by Authorized Inspection Associates, LLC of Houston, TX

have inspected the pressure vessel part described in this Manufacturer's Data Report on 3/17/2023 and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel part in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By Signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel part described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her employer shall be liable in any manner for any personal injury or property damage or a loss of any kind arising from or connected with this inspection.

Date 3/17/2023 Signed [Signature] Commissions NB15475BR  
(Inspector) (Commission No.)

MAILING ADDRESS  
 P.O. Box 1690  
 Gray, LA 70359  
 Locations Nationwide  
 please visit  
 www.nvintl.com



2449 West Park Ave. Gray,  
 Louisiana 70359  
 Office (985)876-5559  
 Fax (985)876-9355  
 Report No: RG 297-6472

Done Right!  
 DAILY RADIOGRAPHY WORK REPORT

Client: ABSOLUTE METAL PRODUCTS, LLC	Job Location: Houston, TX	Inspection Date: Mar 01, 2023
Billing Address: 7208 GESSNER ROAD HOUSTON TX 77040	NVI Project #: 002314	Ref: N/A
	AFE# or P.O. #: AMP700JF	Project: KWI
	NVI Procedure: NVI-ASME RT-01 Rev 5 (In Radiography RF-ASME Sec. V)	Acceptance Code: ASME Sec VIII Div 1
	Customer Job No: 14509	

Discontinuities found: None

Please indicate repair with client required nomenclature or with "Repair" in Remarks

✓ = Accept X = Reject

Report Description: Gamma Radiography of 75" x 48" OD x 120" Cylinder (Long Seam)

Weld No	Area	Pipe Size	Recommendations			Weld No.	Area	Pipe Size	Recommendations		
			✓	Discont	WS				Remarks	✓	Discont
1	1-2	75" x 48" OD x 120"	✓		?	26					
2	3-4		✓			27					
3	5-6		✓			28					
4	7-8		✓			29					
5	9-10		✓			30					
6	11-12		✓			31					
7	13-14		✓			32					
8	15-16		✓			33					
9	17-18		✓			34					
10	19-20		✓			35					
11			✓			36					
12			✓			37					
13			✓			38					
14			✓			39					
15			✓			40					
16			✓			41					
17			✓			42					
18			✓			43					
19			✓			44					
20			✓			45					
21			✓			46					
22			✓			47					
23			✓			48					
24			✓			49					
25			✓			50					

Technique: DWE/SWV	DWE/DWV	SWV/SWV ✓	Panoramic	SOD: 19 125	OED: 875
Exposure Method: IR-192	Curis: 89.0	big: 806	Focal Size: 125	Welds Inspected: 1	Exposures per weld: 10
Estimated Cost: 0.00	Point Sticks: 0.0	Chemical Change: No	Rig Number: 628	Camera Number: D11374	
Film Delivered To Client	Film in Cassette: 7.0	Film Storage Box: 0.0			
Manufacturer: AGFA	Film Quantity: 10.0	Film Type: D5	Film Size: 4.5 X 17		
Parameter Type: ASTM (SE) E-747 B PACK	Required Wire: B8 .016	Achieved Wire: B6 .016			
Level II Technician: Chaco James	Assistant: Daniel Moreno	Assistant:			
Hours Worked: 0.0	Travel Time: 0.0	Mileage: 0.0	Per Diem: No	ATV: No	
Generator: No	Darkroom: Yes				
Comments: 10 Shots @ 4.5" x 17"					
Client Representative: Johnny Fortenberry QC Manager	Client Email: jfortenberry@absolutemetalsusa.com	Client Phone Number: 2818988471			

Client Signature: *Johnny Fortenberry*  
 QC  
*Bojaros*

Checked by QC Dept.  
 3-14-23  
 NAK



**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 2/14/2023

Bulletin	Order Item	Heat	PO No.	Shipping Mode	Order Dimensions	Slab Origin	TC No.
T132501	JSW21964-02	S32159	15932	TRUCK	0.75x120.5x450		T132501-2159-1

Plates Certified for the Following grades	Specifications	Marking Instructions
ASME-SA516-70 2021 EDITION AR		Stencil in 2 location(s) X Loc. 18 Y Loc. 30. CUST. MADEINUSA PN PO. DIM GRADE, FREIGHT ORDER ITEM PLATEID SHIPWEEK SLABID
Hot Rolled Carbon Steel Plates Plates Manufactured in the USA		TRANSMODE Stamp in 2 location(s) X Loc. 18 Y Loc. 12: Slab ID; Slab ID; Slab ID

Sold To: ABSOLUTE METAL PRODUCTS LLC 7208 GESSNER ROAD HOUSTON, TX 77040  
 Ship To: ABSOLUTE METAL PRODUCTS LLC 7208 GESSNER ROAD HOUSTON, TX 77040

Test	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N	V	B	Ti	Nb	Ca	CE
LADLE	0.19	1.12	0.014	0.008	0.19	0.020	0.010	0.020	0.000	0.002	0.030	0.0060	0.004	0.0003	0.002	0.002	0.0000	0.32

Carbon Equivalent CE = C + Mn/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15  
 PCM = C + S/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/16 + B  
 AWS = C + (Mn+Si)/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15

Plate Tested	Smpl. Loc.	Slab Identity	Gauge Tested	Test Cond	Test Dir.	Yield Point (KSI)	Ten. Stgth. (KSI)	Elong in 2"	YS/UTS Ratio	Yield Strength Determined At
1284838	A	03A	0.7500	AR	T	44	78	34.0%	0.57	0.2%

HARDNESS							Hardness Spec.
Plate	Loc.	Hardness Scale	Test1	Test2	Test3	Avg	Batch
1284838	A	ROCKWELL C	6	4	6	5	NACE MR0175

Plates Certified For The Above Tests

Material	Thick(IN)	Width(IN)	Len(IN)	Wgt(LB)
1284838A	0.7500	120.500	450.00	11533.658

Checked by QC Dept.  
3-14-23  
MK

Formed in accordance with UG-79, UG 80, UCS-79. No heat treat

*Handwritten:* S32159-03A  
April W

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.



KW INTERNATIONAL LLC  
PO BOX 19829  
HOUSTON, TX 77224

Reference Customer P/O: PO31405 TAG: HDELP0531  
Trinity Sales Order: 859645

GENTLEMEN:

Attached are copies of mill test reports for the following material provided on referenced purchase order. We certify the following:

22-SA516-70 ELLIP-2:1 HEAD 48.00 OD 1.00 NOM 0.950 MIN WITH 2.0" SF.

CODE	QTY	THICKNESS	PRODUCER	MELT	SLAB	GRADE
TABK	3	1.00	JSW STEEL	S28400	08C1	SA516-70
TABI	1	1.00	JSW STEEL	S27993	01A	SA516-70
TABL	1	1.00	JSW STEEL	S27992	09B	SA516-70
TCCG	1	1.00	CLEVELAND CLIFFS	821X04120	X067373	SA516-70
TCCH	4	1.00	CLEVELAND CLIFFS	821X04120	X067374	SA516-70
TCCA	3	1.00	CLEVELAND CLIFFS	821X00720	X067363	SA516-70
TCDA	3	1.00	CLEVELAND CLIFFS	821X00740	X067316	SA516-70
TCCB	3	1.00	CLEVELAND CLIFFS	821X00720	X067364	SA516-70
TCEC	2	1.00	CLEVELAND CLIFFS	821X05220	X068690	SA516-70
TBAR	1	1.00	JSW STEEL	S30770	03A	SA516-70

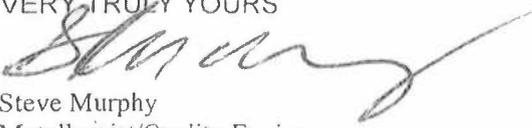
TRINITY HEADS, INC certifies that heads manufactured from material represented by this report were normalized during forming at 1650F (+/-25F) for 30 minutes and air cooled.

The items listed above were formed in strict accordance with all applicable requirements of the ASME Boiler and Pressure Vessel Code Section VIII, Div. 1. All heads comply with UG-79 and UG-81.

Attached mill test reports are in compliance to ASME Code Section II current edition.

If you have further questions, please contact your customer service representative in Navasota, TX at 1-800-392-3594.

VERY TRULY YOURS

  
Steve Murphy  
Metallurgist/Quality Engineer

Checked by QC Dept.

APR 20 2023

ad



Cleveland-Cliffs Burns Harbor LLC

QUALITY ASSURANCE

REPORT OF TEST AND ANALYSIS

SHIPMENT NO  
803-87340

DATE SHIPPED  
07-31-22

CAR OR VEHICLE NO

LMIC 200026 | PAGE 2

TRINITY IND INC HEAD DIV  
11765 HWY 6  
PO BOX  
NAVASOTA TX 77868

TRINITY IND INC  
11765 HWY 6 S  
NAVASOTA TX 77868

NO	SERIAL NUMBER	PAT NO	HEAT NUMBER	NO PCS	SIZE AND QUANTITY				YIELD POINT	TENSILE STRENGTH	AF FRAC ELONG	RED
					THICKNESS	WIDTH OR DIA.	LENGTH	WEIGHT				

QUALITY STEEL MELTED & MANUFACTURED IN THE U. S. A.

PLATES - ASME SA516 21ED Grade 70; PVQ  
Killed Fine Grain Practice; MOD C  
0.20 Max, C U 0.25 Max, SN 0.025  
Max; Plate: AS-ROLLED; Test: NORM  
1625/1675F FOR 30MIN /IN  
30MINS/MIN; FIRST TST AS  
ROLLED-ADD'L TENSION PER TST PC  
HEAT TREATMENT

NO WELD REPAIR WAS PERFORMED ON BELOW PLATE(S)

CO# 404872 GH 822-1608C

X067363	821X00720	1	1	122.5	245	8512	49100	76900	8	34
							51400	77200	8	30

(M55)MFST REF#:HP1537

X067316	821X00740	2	1	122.5	245	17024	48300	74600	8	27
							49200	74500	8	29

(M55)MFST REF#:HP1537

TCCA  
TCCA

Q-QUENCH TEMPERATURE

T-TEMPERATURE

N-NORMALIZE TEMPERATURE

HEAT NUMBER IS USED AS CERTIFICATE NUMBER; ORIGIN/EXPORT COUNTRY IS USA.  
PLEASE DIRECT IMPORT QUESTIONS TO NICOLE.MINOR@CLEVELANDCLIFFS.COM,  
14661 ROTUNDA DRIVE, DEARBORN MI 48120; TEL +1(313)317-0946

SERIAL NUMBER	PAT NO	HEAT NUMBER	HARD BHN	BEND	THICKNESS INCHES	TYPE	SIZE	DIR	TEST TEMP F	CHARPY IMPACT								
										ENERGY F'T LBS			SHEAR(%)			LAT EXP MIL		
										1	2	3	1	2	3	1	2	3

HT.# 006  
MTR APPROVED  
DATE 07/15/2022  
ISP  
QUALITY CONTROL DEPT.

HEAT NUMBER	CHEMICAL ANALYSIS															MQUAID GRAIN SIZE
	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	V	Ti	Al	B	Cb	N	
821X00720	.18	1.13	.017	.004	.331	.019	.02	.13	.038	.002	.002	.034	.0002	.002	.005	.001
821X00740	.18	1.22	.012	.008	.361	.023	.01	.13	.039	.002	.002	.036	.0002	.002	.004	.004

Checked by QC Dept.

41-20-2023

I certify that the above results are a true and correct copy of actual results contained in records maintained by Cleveland-Cliffs Burns Harbor LLC and are in full compliance with the requirements of the specification cited above. This test report cannot be altered and must be transmitted intact with any subsequent third party test reports, if required.

SUPV QUALITY ASSURANCE

FARID HASSANI PER MWT

Form PLATSTRF



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

TBRH  
METALLURGICAL TEST REPORT

MET - 04 Rev. No.: 3 Rev. Date: 02/27/2018

11/18/2021

Bulletin	Order Item	Heat	PO No.	Shipping Mode	Order Dimensions	Slab Origin	TC No.
T100575	JSW17685-02	S30770	404674-00	TRUCK	1x122.5x245	JSW USA	T100575-0770-1

TEST RESULTS IN BOTH A AND IN CONDITION

MELTED AND MANUFACTURED IN THE USA.  
Part No.: HP1537

Plates Certified for the Following grades	Specifications	Marking Instructions
ASME SA516-70 2019 EDITION TN	TEST NORMALIZED AT 1650 °F FOR 30 MINS	Stencil in 2 location(s); X Loc. 18 Y Loc. 30; CUST; MADE IN USA PN PO; DIM GRADE; FREIGHT ORDER ITEM PLATE ID SHIPWEEK SLAB ID; TRANSMODE Stamp in 2 location(s); X Loc. 18 Y Loc. 12; Slab ID; Slab ID
Hot Rolled Carbon Steel Plates Plates Manufactured in the USA		
Sold To: TRINITY HEADS INC. MAIL STOP 7225 DALLAS, TX 75256	Complies with ASME SA516 2019	
Ship To: TRINITY HEADS INC. PLOT 36 11765 HWY 6 SOUTH NAVASOTA, TX 77866		

Test	C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Sn	Al	N	V	B	Ti	Nb	Ca	CE
LADLE	0.19	1.13	0.008	0.001	0.19	0.061	0.031	0.035	0.002	0.004	0.025	0.0075	0.005	0.0004	0.002	0.002	0.0018	0.39

Carbon Equivalent CE = C + Mn/5 + (Cr + Mo + V)/5 + (Ni + Cu)/15  
 PCM = C + Si/30 + Mn/20 + Cu/20 + Ni/60 + Cr/20 + Mo/15 + V/10 + Sb  
 AWS = C + (Mn+Si)/6 + (Cr + Mo + V)/5 + (Ni + Cu)/15

Plate Tested	Smpl. Loc.	Slab Identity	Gauge Tested	Test Cond	Test Dir.	Yield Point (KSI)	Ten. Stgth. (KSI)	Elong in 2"	YS/UTS Ratio	Yield Strength Determined At
1222914		03A	1.0000	AR	T	59	80	29.0%	0.74	0.2%
1222914		03A	1.0000	TH	T	46	79	30.0%	0.59	0.2%

Plates Certified For The Above Tests

Material	Thick(IN)	Width(IN)	Len(IN)	Wgt(LB)
1222914A	1.0000	122.500	245.00	8511.545
1222914B	1.0000	122.500	245.00	8511.545

Checked by QC Dept.

20 2023

MT.# S30770  
 MTR. APPROVED 7/30/2023  
 DATE  
 ISP  
 QUALITY CONTROL DEPT.

DIN EN 10214 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. Does not contain Hg. No intentional addition of Pb, Se or S

April W

April Watkins 8323835325 april.watkins@jswsteel.us

CUSTOMER: Trinity/Nextera DATE: 6/29/23

S/O #: 16992 S/N #: 109132

DESCRIPTION OF VESSEL: 48" OD x 10' H 3 Ph Sep'r. RT-1 Internal Coating

NOZZLE	HEAT	WELD	WELDER
Shell	S32159	SN.14509-1-2	AMP
Ref. Hd.	TBAR	RS#1	Z,F
Left Hd.	TCCA	RS#2	Z,F
N1 6" 600# RFLWN	C09-KD		N
N2 6" 300# RFLWN	43329A		Z
N3 4" 300# RFLWN	WW044		P
N4 4" 300# RFLWN	21115A		0
N5A,B,C 2" 300# RFLWN	32711A		P
N6A,B 4" 300# RFLWN	21115A		P
C1 2" 6M CPLG	D628		Z
C2 2" 6M CPLG	D628		Z
C3 2" 6M CPLG	D628		Z
C4A,B 2" 6M CPLG	4T9P		U
C5 2" 6M CPLG	D628		P
C6 1" 6M CPLG	41K		P
C7A,B .75" 6M CPLG	A4M		P
C8A,B .75" 6M CPLG	A4M		Z,0
C9 .75" 6M CPLG	A4M		P
C10 .5" 6M CPLG	D613		P
M1 18" 300# RFLWN	GG341		B
M1 18" 300# RF Bld.	83717/1		-----

# Ameriforge

An AFG Holdings Company

## Material Test Report

Heat Code: CO9-KD

Forged Vessel Connections (FVC)

13770 Industrial Rd. Houston, TX 77015

Sales: (713) 393-4200

PART# FLGRF079I-EXXONAML

ISO 9001:2015 Certified

MSI SUPPLY INC	00012105	PO: 00312-073882	Sales Order: 193228	Line: 1
PO BOX 7463		Item Code: LWN060600140A002A1	Qty Shipped: 4	
Houston, TX 77248		Item Desc: 6 X 600 X 14 LWN RF SA105N		
Mill Heat: Y9309				
Spec: ASTM A350 (18)/ASME SA350 (21) - LF2 CL1 & ASTM A105/A105M (21)/ASME SA105/SA105M (21)				

Element	(%wt)	Ladle	Product	EPCRA	CAS#	Element	(%wt)	Ladle	Product	EPCRA	CAS#
C	Carbon	0.16				Mo	Molybdenum	0.03			
Mn	Manganese	1.15		Y	7439-96-5	V	Vanadium	0.02			
P	Phosphorous	0.014				Cb	Columbium	0.014			
S	Sulphur	0.010				B	Boron	0.0002			
Si	Silicon	0.26				Ti	Titanium	0.001		Y	7440-02-0
Cu	Copper	0.18		Y	7440-50-8	Al	Aluminum	0.012			
Ni	Nickel	0.08		Y	7440-02-0	C.E.		0.39			
Cr	Chromium	0.07		Y	7440-47-3						

Mechanical Testing			Heat Treat		
Test Lab	Goolsby Testing Inc 22-3104		Norm. Temp. (F)		1675
Test Bar Size	5X5X12'		Norm. (Hrs)		5.75
HBW	143 - 149		Norm. Cooling Type		AIR
Elg (%)	35.2				
RA (%)	64.2				
Tensile Specimen Size (in)	.498		Country of Melt		USA
Tensile (ksi)	77.3		Country of Finish Machining		USA
Yield (ksi)	55.1		Country of Forging		USA
Gauge Length (in)	2		Vacuum Degassed		YES
Charpy Orientation	LONGITUDINAL		Gr.Sz		12
Charpy Temp(F)	-50				
Charpy Specimen Size (mm)	10X10				
Charpy (ft lbs)	31 - 28 - 64				
Avg Energy 3 Specimens (ft)	41				
Min Energy 1 Specimens (ft)	28				
% Shear	10 - 10 - 10				
Lat. Exp. (in)	.027 - .027 - .053				

Checked by QC Dept.  
MAY 22 2023  


ie recording of false, fictitious, or fraudulent statement or entries on this document may be punishable as a felony under federal statute.

EPCRA Supplier Notification: This product may contain one or more toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986) and 40 C.F.R. Part 372. Potentially reportable chemicals are indicated with a checkmark in the "EPCRA" column and a Chemical Abstract Services (CAS) registry number is provided for each such chemical in addition to the percent by weight of the chemical present in this product. It is your responsibility alone to determine whether your facility is required to submit a Toxic Release Inventory Report under EPCRA Section 313.

Certification No.: 1630713  
 Certification Date: 4/11/2023  
 Issued By: Shaloron Dunn

# Material Test Report

Heat Code: CO9-KD

Forged Vessel Connections (FVC)

13770 Industrial Rd. Houston, TX 77015

ISO 9001:2015 Certified

Sales: (713) 393-4200

MSI SUPPLY INC	00012105	PO: 00312-073882	Sales Order: 193228	Line: 1
PO BOX 7463		Item Code: LWN060600140A002A1	Qty Shipped: 4	
Houston, TX 77248		Item Desc: 6 X 600 X 14 LWN RF SA105N		
		Mill Heat: Y9309		
Spec: ASTM A350 (18)/ASME SA350 (21) - LF2 CL1 & ASTM A105/A105M (21)/ASME SA105/SA105M (21)				

Material is Fully Killed; Fine Grain Practice in accordance with SA-29 Paragraph 5.1.

Product compliant with NACE MR0175/ISO 15156-2:2015, Annex A (A.2.1.2, A2.1.3).

Product compliant with NACE MR0103/ISO 17945:2015, Section 13.1.1 and 13.1.3.

We hereby certify that the material represented by this document has been tested and is in conformance with the Purchase Order and Specification Requirements.

- \* No Weld repair performed.
  - \* Ladle Chemical Analysis results are reported from the raw material suppliers MTR.
  - \* Tensile taken from a round specimen. Measurement of elongation after fracture.
  - \* Yield strength was determined using the .2% offset method, unless specified.
  - \* All material supplied under this order is certified to be free of mercury contamination and no mercury bearing equipment was used in manufacturing, fabrication or testing.
  - \* When reported on MTR: Tensile Testing Per ASTM E8; Brinell Hardness Per ASTM E10; Charpy Testing Per ASTM E23
  - \* AF Global manufactures materials according to a certified Quality Management System conforming to ISO 9001:2015 and PED certified to 2014/68/EU, Annex 1, Section 4.3.
- Unless otherwise noted on PO, Dimensions of all standard pipe flanges and flange fittings (NPS 1/2 to NPS 24) per ASME B16.5-2020, large diameter steel flanges (NPS 26 to 60) per ASME B16.47-2020, Orifice flanges per ASME B16.36-2020.
- \* AFGlobal uses the latest edition of ASTM E29 (Standard practice for using significant digits in test data to determine conformance with specifications), to claim conformance or nonconformance to a specification. When a accept/reject determination is required AFGlobal uses a test uncertainty ratio (TUR) of 1:1 or higher as acceptable.
  - \* DNV PED Certificate No 10000425664-PA-ACCREDIA-USA Valid thru December 03, 2023.

Checked by QC Dept.

MAY 22 2023



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EPCRA Supplier Notification: This product may contain one or more toxic chemicals subject to the reporting requirements of Section 313 of the Emergency Planning and Community Right-to-Know Act (Title III of the Superfund Amendments and Reauthorization Act of 1986) and 40 C.F.R. Part 372. Potentially reportable chemicals are indicated with a checkmark in the "EPCRA" column and a Chemical Abstract Services (CAS) registry number is provided for each such chemical in addition to the percent by weight of the chemical present in this product. It is your responsibility alone to determine whether your facility is required to submit a Toxic Release Inventory Report under EPCRA Section 313.

Certification No.: 1630713  
Certification Date: 4/11/2023  
Issued By: Shaloron Dunn

  
Dusty Bannon - Quality Analyst

with the requirements of EN10204 3.1 / ISO 10474 3.1.b



SAFETY DATA SHEET  
 HAZARD IDENTIFICATION  
 PHYSICAL AND CHEMICAL PROPERTIES  
 TOXICOLOGICAL INFORMATION  
 ECOTOXICOLOGICAL INFORMATION  
 REGULATORY INFORMATION  
 OTHER INFORMATION

PAGE 1 OF 1  
 REPORT# 23-043812  
 DATE: 04/21/2023  
 TIME: 11:47:15 AM

CUSTOMER ORDER# 1000100000  
 SOLD / SHIPPED TO: WINNSUPPLY

Item	Quantity	Description
1	11	6" X 300 X 12" LG RF LWN

Heat Number: 43329A

Material Type: SA105N/SA350LF2CL1

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

C	.18
Mn	1.28
P	.013
S	.004
Si	.24
Cr	.03
Mo	.01
V	.00
Cu	.02
Ni	.01
Cb(Nb)	.00

Yield PSI	48,900
Tensile PSI	75,600
Elongation %	33.0
Reduction of Area %	68.7
Hardness	156/156 HBW
CVN -50 °F	FT LBS 68/72/69
	% Shear 50/50/50
	MLE .061/.066/.062

Sn	
As	
Sb	
Ti	.00
Al	.03
B	.0003
C E	0.40

MADE TO FINE GRAIN PRACTICE

Heat Treatment           **NORMALIZED**  
 Temperature               1706 °F  
 Time at Temperature       3 HRS  
 Cooling Media               AIR

Flange dimensions and bolt hole patterns comply with ASME B16.5, B16.47, MSS SP-44. Hub profile for reinforcing nozzles per ASME Section VIII Div. 1 Appendix 2 (Figure 2-4). NO MERCURY, OR RADIOACTIVE SUBSTANCES CAME IN CONTACT WITH THIS MATERIAL DURING MANUFACTURING. NO WELDING PERFORMED. We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Prepared by: 

Name: Cynthia Madrid           Title: QA Representative

Checked by QC Dept.

APR 24 2023





ALL DIMENSIONS UNLESS OTHERWISE SPECIFIED  
 SOLD / SHIPPED TO: WINNSUPPLY

Item	Quantity	Description
18	17	4" X 300 X 12" LG RF LWN

Heat Number: WW044  
 Material Type: SA105N/SA350LF2CL1

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

C	.19
Mn	1.03
P	.007
S	.005
Si	.22
Cr	.13
Mo	.04
V	.02
Cu	.20
Ni	.10
Cb(Nb)	.00
N	.009
Sn	.009
As	.004
Sb	.003
Ti	.00
Al	.02
B	.0002
C E	0.42

Yield PSI	53,500
Tensile PSI	73,500
Elongation %	34.1
Reduction of Area %	71.1
Hardness	153/153 HBW
CVN -50 °F	FT LBS 57/190/59
	% Shear 50/100/50
	MLE .052/.079/.054

**MADE TO FINE GRAIN PRACTICE**

Heat Treatment: **NORMALIZED**  
 Temperature: 1650 °F  
 Time at Temperature: 4-1/2 HRS  
 Cooling Media: AIR

Flange dimensions and bolt hole patterns comply with ASME B16.5, B16.47, MSS SP-44. Hub profile for reinforcing nozzles per ASME Section VIII Div. 1 Appendix 2 (Figure 2-4). NO MERCURY, OR RADIOACTIVE SUBSTANCES CAME IN CONTACT WITH THIS MATERIAL DURING MANUFACTURING. NO WELDING PERFORMED. We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Prepared by:   
 Name: Cynthia Madrid Title: QA Representative

Checked by QC Dept.  


CUSTOMER ORDER # PO29594  
SOLD / SHIPPED TO: KW INTERNATIONAL

IAW EN10204 TYPE 3.1

Item Quantity Description  
1 2 2" X 300 X 7" LG RF LWN

TAG: PO29594  
TAG: FLGRF0709

Heat Number: 32711A Steel Origin (melt): JAPAN  
Material Type: SA105N/SA350LF2CL1

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

C .19  
Mn 1.26  
P .008  
S .003  
Si .25  
Cr .03  
Mo .01  
V .00  
Cu .02  
Ni .02  
Cb(Nb) .00

Yield PSI 47,100  
Tensile PSI 72,400  
Elongation % 33.2  
Reduction of Area % 72.6  
Hardness 150/150 HBW  
CVN -50 °F FT LBS 70/73/98  
% Shear 80/80/80  
MLE .064/.068/.085

Sn  
As  
Sb  
Ti .00  
Al .03  
B .0002  
C E 0.41

MADE TO FINE GRAIN PRACTICE

Heat Treatment NORMALIZED  
Temperature 1706 °F  
Time at Temperature 5 HRS  
Cooling Media AIR

We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Prepared by: Cynthia Madrid

Name: Cynthia Madrid Title: QA Representative

Checked by QC Dept.  
9-26-22  
AK



# CERTIFIED MILL TEST REPORT

KWI# F11NP0167



LOG NO. F00000000175755 Page 1 of 8

BONNEY FORGE CORPORATION  
P.O. BOX 330 • 14496 CROGHAN PIKE • MOUNT UNION, PA 17066-0330  
(814) 542-2545 • (800) 345-7546 • FAX (814) 542-4906  
www.bonneyforge.com

CUSTOMER: WIN SUPPLY EAST HOUSTON #312

DATE 11/07/2022

CUSTOMER ORDER NO.: 00312-067578

BONNEY ORDER NO. B000317625

SHIP TO: WIN SUPPLY EAST HOUSTON #312  
1357 SHEFFIELD BLVD  
HOUSTON TX 77015  
United States

ITEM	QUANTITY	LOT NO.	GRADE OR SPECIFICATION NO. CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS.
1	100	D628	2 6M A105 COUP TOE 6" LG SA/A105 Al 0.032 C 0.190 Cb 0.004 Co 0.006 Cr 0.110 Cu 0.190 Mn 1.050 Mo 0.040 Ni 0.070 P 0.005 S 0.018 Si 0.230 V 0.035 CE(Long Formula) = 0.42 T/S(PSI) 81,600 Y/S(PSI) 55,680 EL(%) 29.70 RA(%) 63.00 Brinell Hardness 169 BHN 164 BHN
2	700	D577	2 3000 A105 COUP T SA/A105 Al 0.022 C 0.200 Co 0.003 Cr 0.130 Cu 0.040 Mn 1.040 Mo 0.003 Nb 0.012 Ni 0.020 P 0.006 S 0.018 Si 0.230 V 0.004 CE(Long Formula) = 0.40 T/S(PSI) 74,400 Y/S(PSI) 42,900 EL(%) 33.00 RA(%) 59.60 Brinell Hardness 143 BHN 142 BHN
3	250	D579	1 6000 A105 COUP T SA/A105 Al 0.018 C 0.200 Co 0.002 Cr 0.110 Cu 0.030 Mn 1.030 Mo 0.010 Nb 0.011 Ni 0.010 P 0.004 S 0.016 Si 0.210 V 0.003 CE(Long Formula) = 0.40 T/S(PSI) 76,300 Y/S(PSI) 46,500 EL(%) 33.00 RA(%) 61.60 Brinell Hardness 144 BHN 147 BHN
4	500	D464	1/4 3M/6M A105 HXPL T SA/A105 C 0.150 Cr 0.070 Cu 0.100 Mn 0.650 Mo 0.010 Ni 0.040 P 0.005 S 0.008 Si 0.210 V 0.001 CE(Long Formula) = 0.28 T/S(PSI) 0 Y/S(PSI) 0 EL(%) 0.00 RA(%) 0.00 Brinell Hardness 150 BHN 162 BHN

Checked by QC Dept.  
Date 4-13-23  
By MK

We certify that the data on this sheet is a true copy taken from our records of material furnished us by the production mill, or as obtained by additional laboratory checks.

by Paige Smith  
Paige Smith  
Quality Assurance Representative

12Jul12 8: 6

T E S T C E R T I F I C A T E

No: 1 106969

KREHER STEEL COMPANY, LLC.  
1550 NORTH 25TH AVENUE  
MELROSE PARK, IL 60160  
Tel: 708-345-8180 Fax: 708-345-8293

P/O No 2726  
Rel  
S/O No 1 235478-001  
B/L No 1 191952-002 Shp 12Jul12  
Inv No Inv

12-30-14

Sold To: ( 7811)  
PRODUCTION MANUFACTURING CO., INC.  
5909 EAST 13TH STREET  
TULSA OK 74112

Ship To: ( 1)  
PRODUCTION MANUFACTURING CO., INC.  
5909 EAST 13TH STREET  
TULSA OK 74112

Tel: 918-836-3585 Fax: 918-835-9681

CERTIFICATE of ANALYSIS and TESTS

Cert. No: 1 106969  
12Jul12

Part No  
TURN & POLISH ROUNDS A105  
2.2500 X 16'R/L

0

ASTM A105-05  
ASME SA105  
HEAT NUMBER 121546  
Cu .15 , V .035 AND Cb/Nb .003  
LOT NUMBER 50267 WEIGHT 6504  
TENSILE 80300  
YIELD 52800  
ELONGATION 24 %  
REDUCTION OF AREA 47 %  
HARDNESS 156 -156 AT SURFACE  
MADE IN THE USA

2 1/4" Ø SA105  
41K

Heat Number  
121546

\*\*\* Chemical Analysis \*\*\*  
C=0.2000 Mn=0.8800 P=0.0050 S=0.0290 Si=0.2400 Cu=0.1500  
Ni=0.0600 Cr=0.1030 Mo=0.0210 Al=0.0020 Cb=0.0030 V=0.0350  
Sn=<.009> B=<.0004> Ti=<.0004> N=<.0089> Ca=<.0007>

I hereby certify that this data is correct as  
contained in the records of this company.  
I hereby certify that no mercury came in contact  
with or no weld repair was done to this product  
while in our possession.

*[Signature]*

PRODUCTION MFG, TULSA, OKLA  
CUSTOMER IPS  
P.O.# HP286260X  
ITEM 1" 6000" X 3" ToE Coupling  
HEAT CODE 41K

Checked by QC Dept.

JAN 15 2018

*[Signature]*



400 McMunn St.  
South Lyon, MI 48178

TEST REPORT



Date : 07/23/2022

Page : 1

Job : MJ00010548

Order : MS00015235

Truck# : MT07604

Heat : A222984

Pick# : 62541

Ship# : *A4M*

Ship To :		Sold To :	
<i>1 3/4" x .425 SA105 SA105N LF2</i>		<i>8/3/22</i>	
P.O. No : 12102	Cust Item :	Shape : Round Round	Wt/ft : 6.014
OD Size : 1.750 IN	ID Size :	Wall Size : 0.425 IN (Average)	Grade : 7400-2
Surface : OIL		Anneal : Normalized	

Specifications : ASME-SA105-21-000,ASME-SA350-21-LF2 (Class 1),ASTM-A105-18,ASTM-A519--17,EN-EN 10204 3.1-2004,NACE-MR0103-2015,NACE-MR0175-2015

OIL. PRODUCE TO ASTM A105 & ASTM A519. CHEMISTRY & PHYSICALS TO SA-350/LF2, ASTM A105 & ASME SA-105/SA-105N. CERT TO NACE MR0-175, MR0-103 & EN10204 3.1.B. REPORT CE = %C + (%MN)/6 + (%CU + %ND)/15 + (%CR + %V + %MO)/5 < .45 AIM 0.020 MAX S. MARK W/MST, SIZE, GRADE, CUST NAME, PO#, SPEC & HEAT#. T/R TO INCLUDE COMPLETE CHEMISTRY, PHYSICALS, ROA, HBW, GRAIN SIZE & MFG IN USA. CHARPY @ -50 DEG-F. ROUTING-CALL TERRY DE PRIEST @ 918-836-3585 W/ READY.

Heat	Furnace	Melted Source	Feet	Weight (lbs)
A222984	EAF	USA,SDI - PITTSBORO, IN	4275	25710

Chemistry Analysis - L (Ladle) - P1/22(Product Analysis) - %																			ppm				
C	Mn	P	S	Si	Cu	Ni	Cr	Mo	Al	V	Sn	Nb	SB	As	Ti	Zr	N	Ca	CO	W	B	H2	CE
L	0.18	1.08	0.009	0.003	0.200	0.280	0.07	0.14	0.02	0.026	0.004	0.008	0.000	0.003	0.004	0.000	0.000	0.013	0.001	0.005	0.000	0.00	0.42

Grain Size: 8 CASTING METHOD: Bloom

Tensile Properties - PSI							Hardness	
Tensile	Yield	%Elong		ROA %		HBw Mid		
84593	73119	39.0	71.9	149.0	163.0			

Tensile: 5/8" strip longitudinal

Charpy									
Temp	Size	Impact Longitudinal	Avg -L	Lat Exp	% Shear	Impact Transverse	Avg-T	Lat Exp	% Shear
-50 F	7.500	96 FP	102						
	MM	115 FT							
		96 FP							

Additional Testing						
Hydro(Tested 100% Length)	Ultrasonic %	Eddy Current	Flatten	Flare	Bend	Expansion
PASS						

Heat Cycle							
Normalized		Temper		Final Anneal		Stress Relieved	
Temperature	Time	Temperature	Time	Temperature	Time	Temperature	Time
1700 F	20.00 Min						

*FITNP 0143*

Checked by QC D  
11-14-22  
*AK*



400 McMunn St.  
South Lyon, MI 48178

TEST REPORT



Date : 07/23/2022

Page : 2

Job : MJ00010548

Truck# : MT07604

Heat : A222984

Order : MS00015235

Pick# : 62541

Ship# :

Lot Details			
Bundle	Footage	Pcs	Length
ms0001523501001	600	40	Cut 15' -
ms0001523501002	720	48	Cut 15' -
ms0001523501003	720	48	Cut 15' -
ms0001523501004	720	48	Cut 15' -
ms0001523501005	720	48	Cut 15' -
ms0001523501006	795	53	Cut 15' -

- Material has not been exposed to metallic mercury, lead or asbestos so as to cause contamination. Material is free from radioactive contamination. Cold Drawn Seamless. No weld repair. 100% Manufactured USA.
- Michigan Seamless Tube LLC, South Lyon MI is a division of Specialty Steel Works, Inc.
- Certificate of Conformance Statement: This certificate asserts that the tubing listed above has been manufactured, inspected and approved in accordance with all specifications, requirements and the customer's purchase order.

*Jacob Gorkowski*  
Jacob Gorkowski  
Quality Assurance Manager

CUSTOMER \_\_\_\_\_  
P.O.# \_\_\_\_\_  
ITEM \_\_\_\_\_  
HEAT CODE A4M

Checked by QC  
11-14-22  
*AA*

FITNPO143



TEXAS PMW, LLC  
315 NORTH WYVADE (DRAVE) HOUSTON TX 77020  
(713) 470-7800 - FAX: (713) 470-7820



PENNSYLVANIA MACHINE WORKS, LLC  
201 BETHEL AVENUE ASTON PA 19014  
(610) 497-3100 - FAX: (610) 497-3325



US DROP FORGE CO.  
P.O. BOX 131 - ROUTE 55  
1386 AUGER ROAD WOODWICH TOWNSHIP, N.J. 08055  
(609) 467-0800 FAX: (609) 467-4585

**CERTIFIED MATERIAL TEST REPORT**

MSI SUPPLY, INC.  
PO BOX 7463  
HOUSTON, TX 77018

P.O. 00312076376  
ORDER # 03 431790  
6/07/23

**2X6LG 6MTD HFCP A105 QTY: 6**

HEAT CODE: 4T9P MATERIAL: A105  
ASTM SPEC: A105 SPEC. YEAR: 21 SPEC. REV:  
UNS NUMBER: K03504

**CHEMICAL ANALYSIS (%)**

C	MN	P	S	SI	NI	CR	MO	CU	TI	AL
.190	1.080	.007	.010	.220	.020	.120	.006	.050	.002	.035
N	PB	CO	SB	V	CB	SN	B	AS	CA	
.002	<.001	.003	<.001	.004	.010	.002	<.001	.002	.001	

**PHYSICAL ANALYSIS**

YS (PSI)	TS (PSI)	%EL 4D	%RA	HARDNESS (HB)	HARDNESS2 (HB)	C.E=
43700	76500	35.000	62.900	153	154	.40

HARDNESS 1 NACE MR0103 & MR0175

Country of Origin: Canada. Country of Origin is Country of Melt.  
Manufactured to: ASME B16.11 - 2016

ASTM A105-05  
ASME SECTION II SA105 2021 EDITION  
MATERIAL IS CAPABLE OF PASSING A HYDROSTATIC TEST COMPATIBLE WITH THE RATING OF THE FINISHED FITTING  
CERTIFICATE F/A/W EN 10204:2004 TYPE 3.1 AND ISO10474:2013 TYPE 3.1  
ANSI/NACE MR0103/ISO17943:2015 SECTION 5.2  
ANSI/NACE MR0175/ISO15156-2:2015 SECTIONS A.2.1.2 AND A.2.1.3  
ASME SECTION II SA105 2019 ED  
MATERIAL IS FULLY KILLED  
DURING MANUFACTURE AND PROCESSING, THIS PRODUCT DID NOT COME IN DIRECT CONTACT WITH POLYCHLORINATED BIPHENYLS (PCB'S),  
MERCURY OR ANY OF ITS COMPOUNDS NOR WITH ANY MERCURY CONTAINING DEVICE THAT EMPLOYED A SINGLE BOUNDARY OF CONTAINMENT.  
NO WELD REPAIRED MATERIAL - MADE IN THE U.S.A.  
AS OF THE ORIGINAL MFR PRINT DATE, ARTICLES AS SUPPLIED BY PENN MACHINE HAVE NO INTENDED SUBSTANCE RELEASE, NOR CONTAIN  
ANY SIGNIFICANT AMOUNT (DO NOT EXCEED 0.1 WT%) OF CHEMICAL COMPOUNDS ON THE EU CANDIDATE LIST OF SVHC (ARTICLE 59(10))  
PER ECHA GUIDELINE RIP 3.8, AND THUS THERE IS NO OBLIGATION TO REGISTER THEM UNDER REACH.  
THE PRODUCTS SUPPLIED ARE IN COMPLIANCE WITH THE REQUIREMENTS OF THE ORDER, AND IN WHICH PMW SUPPLIES TEST RESULTS.

Checked by QC Dept

JUN 22 2023

WE HEREBY CERTIFY THAT THE REPORTED FIGURES ARE CORRECT AS CONTAINED IN THE RECORDS OF THE CORPORATION.

*Michael Barron*  
(IS ELECTRONIC SIGNATURE)  
MICHAEL BARRON  
QA Manager



MANUFACTURERS OF **Penn FORGED** PIPE FITTINGS  
QUALITY • SERVICE • PARTNERSHIP  
www.pennusa.com



# MILL TEST REPORTS

Bonney Forge  
14496 Croghan Pike  
Mt. Union, PA 17066

## CERTIFIED MILL TEST REPORT

MSI SUPPLY 5/23/2023

LOT NO.  
D613

### CHEMICAL ANALYSIS, PHYSICAL PROPERTIES, REMARKS

1/2" X 4" 6M A105 TOE Coupling SW/T

C	0.190	MN	0.990	P	0.008	S	0.022	SI	0.240
NI	0.050	CR	0.120	MO	0.020	CU	0.110	CO	0.010
V	0.002	AL	0.023	Nb	0.002				
CE(LONG FORMULA) = 0.394									
T/S(PSI) 72400 Y/S(PSI) 44800 EL(%) 32.000 RA(%) 67.000									
BRINELL HARDNESS 149, 149									

[Click here for Original Steel Mill Certification](#)

1. CERTIFYING ASTM A105-21 / ASME SA105-21 EDITION.
2. THE MATERIAL SUPPLIED MEETS THE REQUIREMENTS OF NACE MR0175/ISO 15156-2.
3. THE MATERIAL SUPPLIED WAS INSPECTED AND MANUFACTURED IN ACCORDANCE WITH EN DIN 10204:2004 EDITION TYPE 3.1 INSPECTION DOCUMENT.
4. THE ELONGATION TEST RESULTS ARE OBTAINED USING STANDARD ROUND SPECIMEN, 2 INCH OR 50 MM GAGE LENGTH.

THIS DOCUMENT HAS BEEN ELECTRONICALLY SUBMITTED.

Cancel	Logout
--------	--------

Checked by QC Dept.

5/23/2023

CUSTOMER ORDER # PO30842  
SOLD / SHIPPED TO: KW INTERNATIONAL

**Item Quantity Description**

3 6 18" X 300 X 17" LG RF LWN

TAG: PO30842  
TAG: FLGRF3226  
PART HBW: 149

Heat Number: **GG341**

Steel Origin (melt): **ITALY**

Material Type: **SA105N**

CHEMICAL ANALYSIS

PHYSICAL PROPERTIES

C .17  
Mn 1.18  
P .008  
S .003  
Si .25  
Cr .07  
Mo .02  
V .00  
Cu .20  
Ni .09  
Cb(Nb) .00  
N .007  
Sn .009

Yield PSI 43,396  
Tensile PSI 71,988  
Elongation % 37.4  
Reduction of Area % 72  
Hardness 1478/151 HBW

Ti .00  
Al .03  
B .0004  
C E 0.40

**MADE TO FINE GRAIN PRACTICE**

Heat Treatment **NORMALIZED**  
Temperature **1650 °F**  
Time at Temperature **2.5 HRS**  
Cooling Media **AIR**

Flange dimensions and bolt hole patterns comply with ASME B16.5, B16.47, MSS SP-44. Hub profile for reinforcing nozzles per ASME Section VIII Div. 1 Appendix 2 (Figure 2-4). NO MERCURY, OR RADIOACTIVE SUBSTANCES CAME IN CONTACT WITH THIS MATERIAL DURING MANUFACTURING. NO WELDING PERFORMED. We hereby certify that all test results and process information contained herein are correct and true as contained in the records of the company.

Prepared by: 

Name: Cynthia Madrid

Title: QA Representative

Checked by QC Dept.

MAY 1 8 2023





**Flanschenwerk Bebitz**  
 Flanschenwerk Bebitz GmbH · Lebendorfer Str. 1 · 06420 Könnern OT Bebitz · GERMANY  
 Tel. +49 34691 40 0 - Fax +49 3469140 329 - Email: flanges@bebitz.de (A01)



Abnahmeprüfzeugnis 3.1 / Inspection certificate 3.1 / Certificat de reception 3.1  
 nach (A02) / acc. DIN EN 10204 : 2005 Nr. (A03) / No.22-03656 Datum (Z02) / Date 26.09.2022

Zeichen des Herstellers (A04)  
 Manufacturer's brand



Stempel des Abnehmers (Z03)  
 Stamp of the testing engineer



Überprüft als Hersteller nach AD-Merkblatt W0 / TRD100 und VdTÜV Werkstoffblätter 350/3, 354, 399 / Approved as manufacturer according AD-Merkblatt W0 / TRD100 and VdTÜV Material Sheets 350/3, 354, 399  
 Zertifiziert nach DGR 2014/68/EU durch TÜV NORD Systems GmbH Co. KG, notifizierte Stelle 0045 / Certified according to PED 2014/68/EU, certifying body TÜV NORD GmbH Co. KG, notified body no. 0045

Besteller  
 (A06)  
 Customer

Bestell-Nr (A07) / Order-No. 317265  
 Auftrag (A08) / Order 20002217  
 Lieferschein / Delivery No. 30008314  
 Position (B07.1) / Item 20

Stck (B08) Bezeichnung (B01; B09 - B11)  
 Quantity Product

Schmelze/Prüflos (B07)  
 Heat no./Test no.

38 18 inch Blind Flange 300 lbs raised face  
 Customer ID: 18-----FN503CAA

83717/1

Material A 105N - ASTM A105M-21 / ASME SA-105M

(B02; B05) normalized 900 °C, air cooled - manufactured from fully killed steel and to fine grain practice

Anford. ASME B16.5-2017

(B03) NACE MR0175-2015/MR0103-2015 - DIN EN ISO 15156-2:2015 Annex A/DIN EN ISO 17945:2015

Require- 2019 ASME Boiler & Pressure Vessel Code - Section II Part A; ASTM A961-20 / ASME SA-961  
 ments

Schmelzenanalyse (C71 - C92) / Ladle analysis

Erschmelzung (C70) / Melting process E+VD

C	Si	Mn	P	S	Cr	Ni	Ti	Mo	Nb	V	N	Cu	Al	CEV
0,190	0,19	1,10	0,007	0,003	0,13	0,07	0,002	0,04	0,002	0,003	0,004	0,14	0,023	0,42

$$CEV = C + \frac{Mn}{6} + \frac{V + Mo + Cr}{5} + \frac{Ni + Cu}{15} \quad PREN = Cr + 3,3 \times Mo + 16 \times N$$

Mechanische Prüfungen / Mechanical tests

Probenlage (C02): T / Position of Specimen: T Zugversuch / Tensile Test - ASTM A 370					KBV / Impact test DIN EN ISO 148-1 ASTM A370 (V-Kerb / V-notch)				Härte (C32) Hardness ISO 6506-1		
Temp (C03) ° C	Streckgrenze (C11) / Yield 0,2% 1,0% MPa (N/mm <sup>2</sup> ) MPa (N/mm <sup>2</sup> )		Zugfestigkeit (C12) Tensile MPa (N/mm <sup>2</sup> )	Dehnung (C13) Elongation %	Einschnürr. Red. of area %	Temp. (C03) ° C	Einzelwerte (C42) Single values J			MW (C43) Average J	HBW 2,5/187,5
20	min 250 max		485	22,0 5d <sub>0</sub> 4d <sub>0</sub>	30	20					137 187
20	317		489	30,1 37,6	72	-29	135	149	157	147,0	148 146

Country of Melting: Germany - Country of Origin: Germany

Checked by QC Dept.

MAY 18 2023

*[Signature]*

Am Material wurden keine Reparaturschweißungen vorgenommen. / No welding repair on the material.  
 Material ist nicht radioaktiv oder mit Quecksilber kontaminiert. / Material is free from radioactive or mercury contamination.  
 Sicht- und Maßprüfungen ohne Beanstandungen. (D01) / Visual and dimensional examinations without objections.  
 Die Anforderungen der Bestellung sind erfüllt. / The product meets the requirements of the order specifications.  
 Die Angaben in Klammern entsprechen den Vorgaben der DIN EN 10168 / Data in parentheses refer to DIN EN 10168.  
 APZ ist mit EDV erstellt und ohne Unterschrift gültig. / MTR was electronically generated and is valid without a signature.

R. Sparing

Abnahmebeauftragter des Herstellers (Z02) / Inspection Representative of the Manufacturer



ACUREN

RADIOGRAPHIC EXAMINATION REPORT

Acuren Inspection, Inc.
6818 Bourgeois Road
Houston, Texas 77066
Phone: 281.228.0000

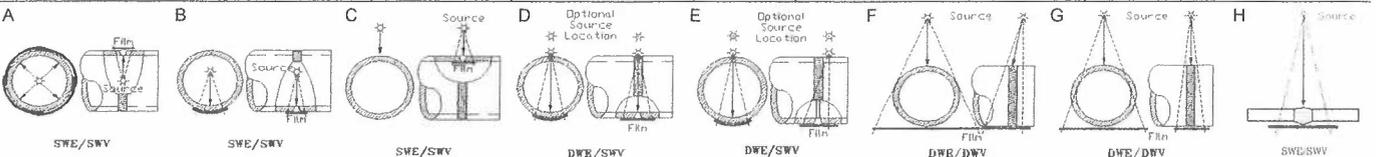
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Page 1 of 1

CUSTOMER: KW International
ACUREN SERVICE CALL #: 407\_J074182
DATE: 06/27/2023
LOCATION/ADDRESS: Columbus Texas
CUSTOMER CONTACT: John Delacerda
PART # / DRAWING #: 109132
CUSTOMER PO #: N/A
CUSTOMER WO #: N/A
ITEM DESCRIPTION: 48" X 1.75" Vessel
STAGE OF MANUFACTURE: Final
SURFACE CONDITION: As Welded

Table with columns: NDE PROCEDURE, REV., SPECIFICATION/CODE, REV./EDITION, ACCEPTANCE PROCEDURE / STANDARD, PARTS INSPECTED, ACCEPTED, REJECTED. Rows include Material and Thickness, Diameter, Rein. Thickness, Distance, Exposure Time, etc.



SOURCE: Ir Co Se X-Ray
KV: 51.7
ma:
DENSITOMETER MODEL #: X-RITE 300
DENSITOMETER SERIAL #: 0028682
CAL. DUE DATE: 11/30/2023

Table with columns: Weld/Component, View, Technique, Density (IQI/Base, Weld), Accept/Reject, List Indications, Welder ID - Other ID, Remarks. Row 1: RS1, 1-2, A, 2.8, 2.6, Accept, Z/F.

Additional Pages:
Comments:
Per Diem:
Assistant Tech Name (Print): RANDY A. LUJAN
# of Film & Size: (12) 4.5 X 17" AGFA D5
Total # of Welds: 1
No. on Job: 2
Travel if Applicable:
Hours Worked:
Total Hours: 3

CLIENT REPRESENTATIVE: JOHN DELACERDA
ACUREN INSPECTOR: RANDY LUJAN
Date: 06/27/2023
Signature: [Handwritten Signature]

The Client Representative who receives this report is responsible for verifying that the acceptance standard listed in the report is correct and promptly notifying Acuren of any issues with this report and/or the work summarized herein.



# Phased Array Inspection Report

Service #: SC-J072555  
 Location: Houston  
 P.O.#: NA  
 Job Lead: Brandon Suttle

## KWI @ Fabrication Shop

<b>Customer / Site</b> KWI Fabrication Shop Columbus, Tx	<b>Inspection Date</b> 6/26/2023 <b>Project Name</b> N/A <b>Work Order</b> NA <b>Job Number</b> Job 109132	<b>Work Procedure</b> AUT-04 (Phased Array) <b>Acceptance Criteria</b> ASME Sect VIII Div 2
---	---	--

### Work Description

Phased Array inspection was performed on 100% of the welds listed.

### Examination Parameters (See focal law details on next page for additional information)

Testing Instrument		Probe 1	Probe 2	Probe 3	Probe 4
<b>Manufacturer</b>	Olympus	<b>Make</b>	Olympus	Olympus	
<b>Model</b>	OmniScan X3	<b>Model</b>	5L16-A10	5L16-A10	
<b>S/N</b>	QC-0082203	<b>Frequency</b>	5 MHz	5 MHz	
<b>Cal. Date</b>	05/04/23	<b>Cable Type</b>	Fixed	Fixed	
<b>Module Model</b>	32/128PR	<b>Cable Length</b>	2.5 M	2.5 M	
<b>Module S/N</b>	QC-0082203	<b>S/N</b>	U1035	T2698	
<b>Cal. Due Date</b>	05/04/24	<b>Wedge Material</b>	Rexolite	Rexolite	
<b>Software Version</b>	MXU 5.12.1	<b>Wedge Model</b>	SA10-N55S	SA10-N55S	
<b>Encoder Information</b>		<b>Wedge Diameter</b>	0.5"	0.5"	
<b>Calibration (steps/in)</b>	1039.7	<b>Reference Db</b>	28.8	28.3	
<b>Scan Resolution (in)</b>	0.04	<b>Scanning Db</b>	31.8	31.3	
<b>Scan Speed (in/sec)</b>	5	<b>Sweep Angles</b>	40-70	40-70	
<b>Last Cal. Date</b>	06/26/23	<b>Cal In time</b>	7:00 AM	7:00 AM	
<b>Calibration verified</b>	YES	<b>Cal Out time</b>	2:00 PM	2:00 PM	
<b>Time Verified</b>	10:00 AM	<b>Calibration Blocks Used</b>			
<b>Scanners Used</b>		<b>Type</b>	<b>O.D.</b>	<b>W.T.</b>	<b>Material</b>
U-SCAN		NAVSHIP	NA	3"	Carbon Steel
		Custom	NA	1.5	Carbon Steel
		Custom	NA	0.75	Carbon Steel
		<b>Reflector</b>	<b>Size</b>	<b>Depth</b>	<b>Serial Number</b>
		SDH	.047"	Various	53141
		SDH	0.125	Various	S356-2
		SDH	0.09	Various	S356-1
		<b>Lamination Scan performed</b>		v	
		<b>Transverse Scan performed</b>		v	45° 60° 70°

Examination Results		Part information		Associated Scan Plans	
<b>Total welds scanned</b>	1	<b>Material</b>	Carbon Steel		
<b>Total welds accepted</b>	1	<b>Configuration(s)</b>	Vessel Girth Seam		
<b>Total welds rejected</b>	0				
<b>Total inches scanned</b>	152.00"				

<b>Technician (Print)</b> Brandon Suttle <b>Technician (Signature)</b> <i>Brandon Suttle</i> <b>Other Qualifications</b> <input type="checkbox"/> QUTE <input checked="" type="checkbox"/> QUPA <input type="checkbox"/> QUSE <input type="checkbox"/> PCN <input type="checkbox"/> Other: _____	Level <input type="checkbox"/> I <input checked="" type="checkbox"/> II <input type="checkbox"/> III	<b>Level III Review</b> (Print) (Sign) Date: _____	<b>Customer Approval</b> (Print) (Sign) Date: _____
--	---	---	--

This report is not to be construed as a guaranty or warranty of the condition of the materials tested. Acuren is not liable for any misinterpretation of results or conditions, or for any claims or losses attributable to performance of a test. These services are rendered without any warranty. Any liability is limited to the amount paid for the services at issue. All orders are subject to Acuren Standard Terms and Conditions of Sale, which are available upon request. By signing above you agree with the interpretation of the test results and the manner at which it was performed.



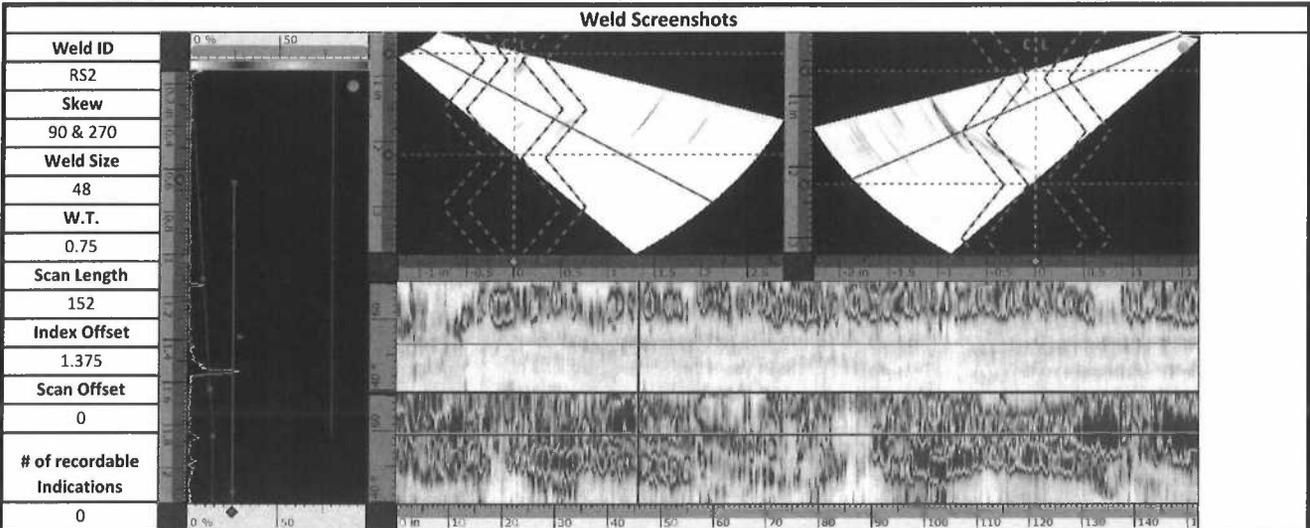


**Weld Screenshots**

Service #:	SC-J072555
Location:	Houston
P.O.#	NA
Job Lead:	Brandon Suttle

**KWI @ Fabrication Shop**

<b>Customer / Site</b> KWI Fabrication Shop Columbus, Tx	<b>Inspection Date</b> 6/26/2023 <b>Project Name</b> N/A <b>Work Order</b> NA <b>Job Number</b> Job 109132	<b>Work Procedure</b> AUT-04 (Phased Array) <b>Acceptance Criteria</b> ASME Sect VIII Div 2
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**Comments**

<b>Weld ID</b>	
<b>Skew</b>	
<b>Weld Size</b>	
<b>W.T.</b>	
<b>Scan Length</b>	
<b>Index Offset</b>	
<b>Scan Offset</b>	
<b># of recordable Indications</b>	

**Comments**

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KWI SALES PARTS DEPT. AD	DOCUMENT TITLE: <b>HYDROSTATIC PRESURE TEST RECORD</b>	Document No.: KWI-FM-009 Original Issue Date: 29-JUL-14 Form Revision: 0 Form Rev. Date: 29-JUL-14 Form App'd: AVD Page 1 of 1
	DOCUMENT TYPE: <b>QUALITY RECORD</b>	

SALES ORDER NUMBER: <b>16992</b>	CUSTOMER: <b>Next ERA Energy</b>
JOB/SERIAL NUMBER: <b>109132</b>	CODE/SPECIFICATION: <b>ASME SEC. VIII; ASME B31.3</b>
NB NUMBER (IF APPLICABLE): <b>5310</b>	PROCEDURE/REV.: <b>KWI-PR-001, REV.0</b>
MATERIAL DESCRIPTION: <b>PRESSURE VESSEL, PIPE, ETC.</b>	DRAWING NUMBER: <b>SEPH20240</b>

EQUIPMENT		
PRESSURE GAUGE		
MANUFACTURER: <b>Maxisafe</b>	MODEL NUMBER: <b>Maxisafe</b>	SERIAL NUMBER: <b>1500-1</b>
CALIBRATION DATE: <b>7-14-23</b>	NOTES: <b>N/A</b>	
CHART RECORDER		
MANUFACTURER: <b>Crystalyx</b>	MODEL NUMBER: <b>5KPSXP21</b>	SERIAL NUMBER: <b>919206</b>
CALIBRATION DATE: <b>1-6-24</b>	NOTES: <b>N/A</b>	

TEST DATA	
TEST PRESSURE: <b>668#</b>	TESTING MEDIUM: <b>MUNICIPAL WATER</b>
TEST DURATION: <b>1 hour</b>	CORROSION INHIBITOR: <b>NONE</b>

INSPECTION RESULTS		
PIECE NUMBER/SERIAL NO.	ACCEPT/REJECT	COMMENTS
<b>RPO 109132</b>	<b>✓</b>	

	<b>7/5/23</b>
KWI TEST TECHNICIAN SIGNATURE	DATE OF TEST
	<b>7-5-23</b>
WITNESS SIGNATURE	DATE OF TEST

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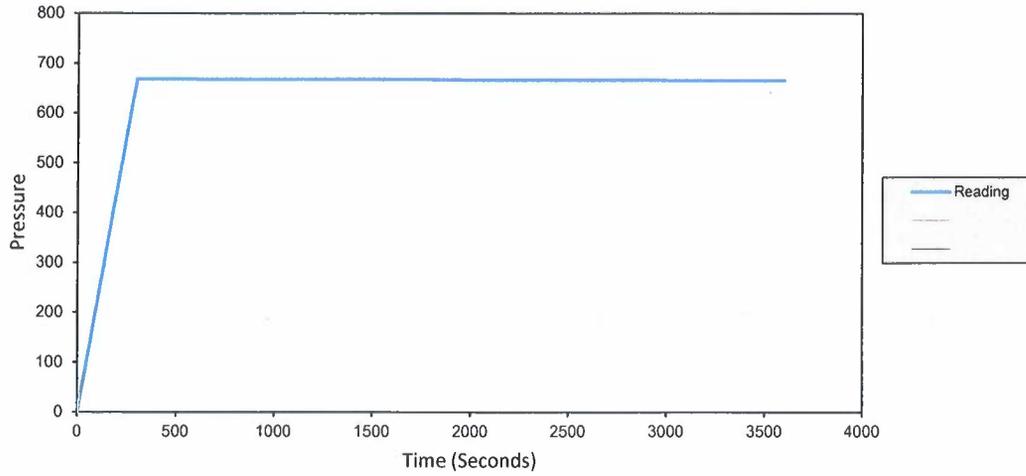
# Data Collection Report

RPO109132 48 OD 500# HZ. 3-PH SEPARATOR

Gauge Information	
Serial Number	919206
Model	15KPSIXP2I
Message Store	-----
Units	PSI

Run Info	
Start Time	7/5/23 6:20:34 AM
Stop Time	7/5/23 7:25:32 AM
Logging Interval	300

### Pressure



	QUALITY FORM		SECTION NO.	
	<b>FABRICATION TRAVELER</b>		KWI-FM-212	
			REVISION	2
			DATE	AUG 2022
		PAGE	1 of 3	

PROJECT INFORMATION			
DATE: 4/20/2023	SALES ORDER: 16992	CUSTOMER: NEXT ERA ENERGY RESOURCES LLC	
JOB/SERIAL NUMBER(S): 109132	DRAWING NO: SEPHZ0240 Rev.1	NB #: 5310	
PROJECT DESCRIPTION: 48" OD x 10'-0" 500# HZ. 3-PHASE SEPARATOR			RT-1

DESIGN REQUIREMENTS			
DESIGN PRESS. INT: 500	EXT:	DESIGN TEMP: 200	
CALCULATIONS, WPS & PQR REVIEWED BY:	AI:	DATE: 28 APR 23	
	QC:	DATE: 4-25-23	

OUTSIDE APPROVAL INSPECTIONS			
ITP REQUIRED: YES <input type="checkbox"/> NO <input type="checkbox"/>	IF YES, CLIENT INSPECTION REUIRED? YES <input type="checkbox"/> NO <input type="checkbox"/>		
NDE REQUIRED: YES <input type="checkbox"/> NO <input type="checkbox"/>	IF YES, NDE IS A HOLD POINT		

FABRICATION							
	SHOP	DATE	QC	DATE	AI		
					HOLD	CHK	DATE
<b>MATERIAL INSPECTION / PROFILER</b>							
a. Check Thickness and Surface	ML	6-8					
b. Examine MTR's and Compare to Heat No.							ATM 11 JUL 23
c. Record Mill Stamp and Transfers	ML	6-8					
<b>FABRICATION INSPECTION</b>							
a. Verify Nozzle Thick and Flange Ratings							
b. Shell Layout	# ML	6-8	+				
c. Head Layout	# PS	6/16/23	+	KS	6/16/23		
d. Nozzle Fit up Shell	# AH	6-14	+				
e. Nozzle Fit up Head	# PS	6/16/23	+	JS	6/16/23		
f. Check Internals	# A.H.	6-19-23	+	JS	6/19/23 *		ATM 7/5
<b>CUTTING, FITTING, AND ALIGNMENT</b>							
a. Girths Seams	#		+				
b. Head Seams	# AH	6/20/23	+	JD	6-21-23		
<b>NONDESTRUCTIVE EXAMINATIONS &amp; TESTING</b>							
a. Radiography.							
a. Long Seams.							

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	QUALITY FORM		SECTION NO.	
	<b>FABRICATION TRAVELER</b>		<b>KWI-FM-212</b>	
			REVISION	2
			DATE	AUG 2022
			PAGE	2 of 3

b. Round Seams.	<i>BTM Sm</i>		<i>Acum</i>	<i>6-27</i>		<i>AM 11/5/23</i>
c. Nozzles.						
b. Ultrasonic Test.						
c. Penetrant Test.						
d. Oil Bucket / Weir Test.			+			
<b>FINAL INSPECTION</b>						*
a. Final Dimension	# M.S	06-29-23		<i>JS 6/29</i>		
b. Check Fillet Weld Sizes.	# M.S	06-29-23	+			
c. Out of Roundness.	# M.S	06-29-23	+			
d. Weld Appearance and Reinforcement.	# M.S	06-29-23	+			<i>AM 7/5</i>
e. Name Plate Attached.	#		+			<i>J J</i>
f. Check Stamping on Nameplate.						

QUALITY TESTING AND CHECKS							
	SHOP	DATE	QC	DATE	AI		
					HOLD	CHK	DATE
<b>POST WELD HEAT TREATMENT</b>							
a. Chart reviewed			+				
<b>HYDROSTATIC TESTING</b>							
a. Pressure Test Report				<i>J 7-5-23</i>			<i>AM 7/5/23</i>
b. Gauge S/N: <i>1500-1</i>				<i>J</i>			
c. Code Stamp.			+	<i>J</i>			<i>AM 11/5/23</i>
<b>DATA REPORT SIGNED</b>							
a. Verified				<i>J 7-5-23</i>			
<b>SANDBLAST</b>							
a. Inspection			+				
<b>PAINT</b>							
a. Inspection			+				

<b>QC FINAL APPROVAL:</b>	<b>DATE:</b>
---------------------------	--------------

QC Final Approval Required before Shipping or moving to Assembly

#-KWI Shop Hold Point

+ - KWI QC Hold Point

\*-AI Hold Point

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QUALITY FORM

SECTION NO.

FABRICATION TRAVELER

KWI-FM-212

REVISION 2

DATE AUG 2022

PAGE 3 of 3

COMMENTS / NOTES:

- C8B, C4B, C7B, C4A, C2, C3, C7A, C1, C8A  
N2, C6, C10, C5, N6A, N6B JA 6-14-23  
- fit check ref. side head + opposite head.  
✓ JA 6-21-23  
- M1 fit check OK JA 6-24-23  
Btm Final Add weld to N3 + NY JG 6-29

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Setting the New STANDARD

**KW International, LLC**  
**SHOP REPORT**

CUSTOMER: NEXT ERA/TRINITY SHOP ORDER: 16922

SERIAL NO.: 109132 NATIONAL BOARD NO.: 5310

DESCRIPTION: 48" OD X 10'- 0" 500# HZ. 3-PHASE SEPARATOR.

DRAWING NO.: SEPHZ0240, REV. 1 VESSEL: 1 OF 1

TYPE OF TEST: HYDROSTATIC TEST PRESSURE: 650

REF END

TCCA

AMP  
Sn. 14509-1-2  
Ht. R 32159

TBAR

SIGNED: 

TITLE: QUALITY CONTROL

COMPANY: KW International LLC

DATE TESTED: 7-5-77

GAUGE: 1500-1