

1. Manufactured and certified by **Mason Manufacturing, LLC., 1645 North Railroad Avenue, Decatur, Illinois, 62526, USA**
(Name and address of Manufacturer)

2. Manufactured for **Advanced Vessel & Alloy, PO Box 1606, Valdosta, Georgia, 31601, USA**
(Name and address of Purchaser)

3. Location of installation **Georgia Pacific Foley Plant, 1 Buckeye Dr., Perry, Florida, 32348, USA**
(Name and address)

4. Type **Vertical** **Heat Exchanger** **22-7809**
(Horizontal, vertical, or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Manufacturer's serial number)

N/A **22-7809 Rev. 1** **3037** **2022**
(CRN) (Drawing number) (National Board number) (Year built)

5. ASME Code, Section VIII, Div. 1 **2021/ NA** **NA** **NA**
[Edition and Addenda, if applicable (date)] (Code Case Number) [Special Service per UG-120(d)]

Items 6-11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multichamber vessels.

6. Shell: (a) Number of course(s) **4** (b) Overall length **19' 8.3125"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)		Circum. Joint (Cat. A, B, & C)		Heat Treatment		
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	40" OD	5'	SA240-UNS S32205	.3125	.0625	1	Spot	85%	7/1	Spot	NA/85%	N/A	N/A
1	40" OD	5'	SA240-UNS S32205	.3125	.0625	1	Spot	85%	1	Spot	85%	N/A	N/A
1	40" OD	5'	SA240-UNS S32205	.3125	.0625	1	Spot	85%	1	Spot	85%	N/A	N/A
1	40" OD	4' 8.3125"	SA240-UNS S32205	.3125	.0625	1	Spot	85%	1/7	Spot	85%/NA	N/A	N/A

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)
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

7. Heads: (a) **N/A** (b) **N/A**
(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
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	

Body Flanges on Heads

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

8. Type of jacket **N/A** Jacket closure **N/A**
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions; if bolted, describe or sketch **N/A**

9. MAWP **150 psi** **15 psi** at max. temp. **175 °F** **175 °F** Min. design metal temp. **-20 °F** at **150 psi**
(Internal) (External) (Internal) (External)

10. Impact test **N/A** at test temperature of **N/A**
[Indicate yes or no and the component(s) impact tested]

11. Hydro., pneu., or comb. test pressure **Hydro at 195 psi** Proof test **N/A**

Items 12 and 13 to be completed for tube sections.

12. Tubesheet **SA240-UNS S32205** **39.375"** **2** **0** **Welded**
[Stationary (material spec. no.)] [Diameter (subject to press.)] (Nominal thickness) (Corr. allow.) Attachment (welded or bolted)

N/A	N/A	N/A	N/A	N/A
[Floating (material spec. no.)]	(Diameter)	(Nominal thickness)	(Corr. allow.)	(Attachment)

13. Tubes **SA-789 UNS S32205** **1** **16 BWG** **801 / 1** **Straight**
(Material spec. no., grade or type) (O. D.) (Nominal thickness) (Number) [Type (Straight or U)]

Manufactured by **Mason Manufacturing, LLC., 1645 North Railroad Avenue, Decatur, Illinois, 62526, USA**Manufacturer's Serial No. **22-7809**CRN **N/A**National Board No. **3037***Items 14-18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.*14. Shell: (a) No. of course(s) **2** (b) Overall length **5' 1.875"**

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B, & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time	
1	40" OD	3' 3.4375"	SA240-UNS S32205	.3125	0	1	Full	100%	1/7	Full	100%	N/A	N/A	
1	40" OD	1' 10.4375"	SA240-UNS S32205	.3125	0	1	Full	100%	7/1	Full	100%	N/A	N/A	

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
2	RFSO	40.125"	45.25"	4	4	SA-105N	Welded	Top/Bottom	80 - 3/4"-10UNC-9" LG	SA-193-B7, SA-194-2H	2.5", .812", .177"	F436 wrought

15. Heads: (a) **SA-240-UNS S32205** (b) **SA-240-UNS S32205**
(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)	TOP	.25	0	4"	2.4	N/A	N/A	N/A	N/A		X	1	Full	100%
(b)	BOTTOM	.25	0	4"	2.4	N/A	N/A	N/A	N/A		X	1	Full	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	
N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

16. MAWP **100 psi** (Internal) **15 psi** (External) at max. temp. **275 °F** (Internal) **275 °F** (External) Min. design metal temp. **-20 °F** at **100 psi**.17. Impact test **N/A** at test temperature of **N/A**.
[Indicate yes or no and the component(s) impact tested]18. Hydro., pneu., or comb. test pressure **Hydro. at 130 psi** Proof test **N/A**

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness	Nom. Corr.	Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange				Nozzle	Flange	
Steam Inlet	1	20	CL150 RFSO	SA240-UNS S32205	SA-105N	.25	0	SA240-UNS S32205	Welded 16.1 (d)	Welded UW-21 (1)	Tube Side
Vent	1	10	CL150 RFSO	SA790-UNS S32205	SA182-F60	.165	0		Welded 16.1 (d)	Welded UW-21 (1)	Tube Side
Water Inlet	1	16	CL150 RFSO	SA790-UNS S32205	SA-105N	.375	.0625	SA240-UNS S32205	Welded 16.1 (d)	Welded UW-21 (1)	Shell Side
Water Outlet	1	16	CL150 RFSO	SA790-UNS S32205	SA-105N	.375	.0625	SA240-UNS S32205	Welded 16.1 (d)	Welded UW-21 (1)	Shell Side
Condensate Outlet	1	6	CL150 RFSO	SA790-UNS S32205	SA182-F60	.280	0		Welded 16.1 (d)	Welded UW-21 (1)	Tube Side
Vent/Drain	2	1	H. Cplg	SA182-F60		3000#	.0625		Welded 16.1 (d)		Shell Side
Vent	1	1	H. Cplg	SA182-F60		3000#	0		Welded 16.1 (d)		Tube Side

20. Supports: Skirt **No** Lugs **2** Legs **0** Others **Chair Supports** Attached **Welded to Shell Side Shell**
(Yes or no) (Number) (Number) (Describe) (Where and how)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report (list the name of part, item number, Manufacturer's name, and identifying number):

N/A

22. Remarks

Length of tubes: 17' 7.9375"**Safety devices designed and installed by others. Not for lethal service. Impact test exempt per UHA-51, UCS-66 (c), and UG-20 (f)**

Form U-5 Attached....

Manufactured by **Mason Manufacturing, LLC., 1645 North Railroad Avenue, Decatur, Illinois, 62526, USA**Manufacturer's Serial No. **22-7809**CRN **N/A**National Board No. **3037****CERTIFICATE OF SHOP COMPLIANCE**

We certify that the statements in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number **25713** Expires **January 10, 2023**

Date 10/04/2022 Name Mason Manufacturing, LLC. Signed 
(Manufacturer) (Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by

Arise, of Brecksville, OH

have inspected the pressure vessel described in this Manufacturer's Data Report on October 4, 2022, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel 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 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 10/04/2022 Signed  Commissions 15293, IL2308, IA1686, MO0517, NE10372
(Authorized Inspector) (National Board Authorized Inspector Commission number)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements made in this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number _____ Expires _____

Date _____ Name _____ Signed _____
(Assembler) (Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and employed by

have compared the statements in this Manufacturer's Data Report with the described pressure vessel and state that parts referred to as data items _____, not included in the certificate of shop inspection, have been inspected by me and to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. The described vessel was inspected and subjected to a pressure test of _____. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel 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 _____ Signed _____ Commissions _____
(Authorized Inspector) (National Board Authorized Inspector Commission number)

FORM U-5 MANUFACTURER'S DATA REPORT SUPPLEMENTARY SHEET

SHELL-AND-TUBE HEAT EXCHANGERS

As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1

1. Manufactured and certified by Mason Manufacturing, LLC., 1645 North Railroad Avenue, Decatur, Illinois, 62526, USA
(Name and address of Manufacturer)2. Manufactured for Advanced Vessel& Alloy, PO Box 1606, Valdosta, Georgia, 31601, USA
(Name and address of Purchaser)3. Location of Installation Georgia Pacific Foley Plant, 1 Buckeye Dr., Perry, Florida, 32348, USA
(Name and address)4. Type Vertical 22-7809 N/A
(Horizontal, vertical, or sphere) (Manufacturer's serial number) (CRN)22-7809 Rev. 1

(drawing number)

3037

(National Board number)

2022

(Year built)

FIXED TUBESHEET HEAT EXCHANGERS

Name of Condition	Design/Operating Pressure Ranges				Design/Operating Metal Temperatures				Allowable Axial Differential Thermal Expansion Range	
	Shell Side		Tube Side		Shell	Channel	Tubes	Tubesheet		
	Min.	Max.	Min.	Max.				Min.	Max.	
Design	-15	150	-15	100	175	275	275	275	0	0
Operating	N/A	N/A	N/A	N/A	110	N/A	141	N/A	0.2	0.532
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A
	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A

Data Report

Item Number

Remarks

N/A

Certificate of Authorization: Type "U" No. 25713 Expires January 10, 2023Date 10/04/2022

Name

Mason Manufacturing, LLC.

(Manufacturer)

Signed



(Representative)

Date 10/04/2022

Signed



(Authorized Inspector)

Commissions

15293, IL2308, IA1686, MO0517, NE10372

(National Board Authorized Inspector Commission number)