

JOB # **98135** FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS  
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

# 93065

PO#

- 1 Manufactured and certified by **Industrial Alloy Fabricators, Inc. 2345 Quince St. Forest Grove, OR 97116**  
(name and address of manufacturer)
- 2 Manufactured for **Swenson Process Equip. Inc., 15700 Lathrop Ave., Harvey, IL 60426-5198**  
(name and address of purchaser)
- 3 Location of Installation **Unknown**  
(name and address)
- 4 Type **Horizontal** **Heat Exchanger** **98135** **NA** **98135** **2149** **1998**  
(horiz. vert., or sphere) (Tank, separator, jacket vessel, heat exch., etc) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l Bd. No.) (Year built)
- 5 ASME Code, Section VIII, Div. 1 **1995 EDITION, 1996 ADDENDA** **NA** **NA**  
Edition and Addenda (date) Code Case No. 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 multi-chamber vessels.

- 6 Shell (a) No. of course(s): **3** (b) Overall length (ft & in.): **19' 11.625"**

Course(s)			Material	Thickness		Long Joint (Cat A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No	Diameter, in.	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
2	58" O.D.	8' 0"	SA516-70	.50"	.0625"	1	Spot	85%	1	Spot	85%	NA	NA
1	58" O.D.	3' 11.625"	SA516-70	.50"	.0625"	1	Spot	85%	1	Spot	85%	NA	NA

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

If removable, bolts used (describe other fastening)

NA

(Mat'l Spec. No., Grade, Size, No.)

- 8 Type of jacket **NA** Jacket closure **NA**  
(Describe as ogee & weld, bar, etc.)
- If bar, give dimensions **NA** If bolted, describe or sketch.
- 9 MAWP **166** **-15** psi at max temp **500** **300** deg F Min. design metal temp. **-20** deg F at **166/-15** psi  
(internal) (external) (internal) (external)

- 10 Impact test **Exempt per UCS-66 & UHA-51**

(Indicate yes or no and the component(s) impact tested)

- 11 Hydro, Pneu, or comb. test press. Hydro @ **255** Proof test **NA**

Items 12 and 13 to be completed for tube sections.

- 12 Tubesheet **SA240-316L** **67"** **1.50"** **.0625"** **Welded**  
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)
- NA** **NA** **NA** **NA**  
Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment
- 13 Tubes **SA249-316L** **1.5"** **.0580"** **674** **Straight**  
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

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): **4** (b) Overall length (ft & in.): **6' 5"**

Course(s)			Material	Thickness		Long Joint (Cat A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No	Diameter, in	Length (ft & in.)	Spec./Grade or Type	Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	58" O.D.	3' 10"	SA240-316L	.25"	.0625"	1	Spot	85%	1	Spot	85%	NA	NA
1	58" O.D.	1' 6"	SA240-316L	.25"	.0625"	1	Spot	85%	1	Spot	85%	NA	NA
2	58" O.D.	0' 6.5"	SA240-316L	.25"	.0625"	1	Spot	85%	1	Spot	85%	NA	NA

15 Heads (a)	(b)										(c)			
	SA240-316L										SA240-316L			
Location (Top Bottom Ends)	Thickness		Radius		Elliptical		Conical		Heml.		Flat		Side to Pressure	
	Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.	Category A
(a) End	.25"	.0625"	100%	4%	NA	NA	NA	NA	YES	YES	NA	None	NA	NA
(b) End	.25"	.0625"	100%	4%	NA	NA	NA	NA	YES	YES	NA	None	NA	NA

If removable, bolts used (describe other fastening)

**SA325, 5/8" Qty. 112. SA194-2H, 5/8", Qty. 112**

(Mat'l Spec. No., Grade, Size, No.)

## FORM U-1 (back)

Nat'l Bd. #

16. MAWP **52** **-15** psi at max. temp. **400** **200** deg F Min. design metal temp. **-20** deg F at **52/-15** psi.  
 (internal) (external) (internal) (external)

17. Impact test **Exempt per UCS-66 & UHA-51**

(Indicate yes or no and the component(s) Impact tested)

18. Hydro, Pneu, or comb. test press.

**102**

Proof test

**NA**

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain,)	No.	Diameter or Size	Flange Type	Material	Nozzle	Flange	Nozzle Thk. Nom.	Corr.	Reinf. Material	How Attached Nozzle	Flange	Location (Insp. Open.)
In/Out	1	14" O.D.	LJ	SA516-70	SA516-70	SA516-70	.375"	.0625	SA516-70	Weld	Loose	NA
In/Out	1	16" O.D.	LJ	SA516-70	SA516-70	SA516-70	.50"	.0625	SA516-70	Weld	Loose	NA
In/Out	2	28" O.D.	LJ	SA240-316L	SA516-70	SA516-70	.3125	.0625	SA240-316L	Weld	Loose	NA

20. Supports. Skirt **No** Lugs **NA** Logs **NA** Others **Saddles** Attached **Shell, Weld**  
 (Yes or No) (No.) (No.) (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, mfg's name and identifying number)

**NA**

22. Remarks: **Pressure relief devices to be provided by others per UG-125.**  
**Inspection openings per UG-46(a).**

### CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements made in this report are correct and that all details of design, material, construction, and workmanship of this vessel conform to the ASME Code for Pressure Vessels, Section VIII, Division 1.

U Certificate of Authorization No. **12,619** Expires **April 30**, 19 **99**

Date **3-26-98** Name **Industrial Alloy Fabricators, Inc.** Signed **Michael L. Sutzinger**  
 (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 the State or Province of **OR** and employed by **THE BUILDING CODES DIVISION** of **OREGON** have inspected

the pressure vessel described in this Manufacturer's Data Report on **3-26-98**, 19 **98**, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the inspector nor his 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 **3-26-98** Signed **Wayne B. Beden** Commissions **113,11458 "B" OR 11488**  
 (Authorized Inspector) (Nat'l Board incl. endorsement, State, Province and No.)

### CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1.

U Certificate of Authorization No. **NA** Expires \_\_\_\_\_, 19 \_\_\_\_\_

Date \_\_\_\_\_ Name **NA** 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 the State or Province of \_\_\_\_\_ and employed by \_\_\_\_\_ of \_\_\_\_\_ 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 ASME Code, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of \_\_\_\_\_ psi. By signing this certificate neither the Inspector nor his employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his 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) (Nat'l Board incl. endorsement, State, Province and No.)