

S.H.E. Order #  
98-519

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

Item no.  
E-1793

1. Manufactured and certified by Southern Heat Exchanger Corporation 6100 Old Montgomery Highway Tuscaloosa, Al 35405  
(Name and address of Manufacturer)

2. Manufactured for McNeil Specialty Products McIntosh, AL  
(Name and address of Purchaser)

3. Location of installation McNeil Specialty Products McIntosh, AL  
(Name & address)

4. Type Horizontal Heat exchanger 98-519 None SB-3821-2 10207 1999  
(Horiz,vert,sphere) (Tank,separator,jkt. vessel,heat exh,etc.) (mfg. ser. no.) (CRN) (Dwg. No.) (Natl. Bd. No.) (Yr. built)

5. ASME Code, Section VIII, Div. 1 1995 A97 None  
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): 2 (b) Overall length (ft & in): 15'-0"

(OD) Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A,B,&C)			Heat Treat.	
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	27.25"	10'-0"	SA-240-316L	.250"	0	1	spot	85%	1	spot	-	-	
1	27.25"	2'-6.75"	"	"	0	1	"	"	1	"			

7. Heads: (a) SA-240-316L (27"x18" ecc. reducer) (b) SA-240-316L

(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp												(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp		
Location		Thickness		Radius		Elliptical	Conical	Hemisph.	Flat	Side to Pressure		Category A		
Top, Bottom, Ends		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a)	End	.250"	0				30°					X		
(b)	End	.187"	0			2:1					X			

If removable, bolts used (describe other fastening) welded

(Mat'l. Spec. No., Grade, size, no.)

8. Type of jacket None

Jacket closure

(Describe as ogee & weld, bar, etc.)

If bar, give dimensions None

If bolted, describe or sketch.

9. MAWP 108 FV psi at max. temp. 350 ° F. Min. design metal temp. 20 ° F. at 108/FV psi  
(internal) (external) (internal) (external)

10. Impact test UHA-51

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

11. Hydro., pneu., or comb. test press. 165 psig hydro Proof test

Items 12 and 13 to be completed for tube sections

12. Tubesheet: SA-240-316L 22.125" 1.0625" 0 bolted  
Stationary (Mat'l. Spec. No.) Dia., in. (subject to pressure) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

13. Tubes SA-249-316L 3/4" 18 BWG 109 U  
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): 1 (b) Overall length (ft & in): 1'-9"

(OD) Course(s)			Material	Thickness		Long Joint (Cat. A)			Circum. Joint (Cat. A,B.&C)			Heat Treat.	
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	17.75"	1'-8"	SA-240-316L	.250"	0	1	spot	85%	-	-	-	-	

15. Heads: (a) SA-516-70 (b) SA-240-316L (liner for (a))

(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp												(Mat'l Spec. No., Grade or Type) H.T. - Time & Temp		
Location		Thickness		Radius		Elliptical	Conical	Hemisph.	Flat	Side to Pressure		Category A		
Top, Bottom, Ends		Min.	Corr.	Crown	Knuckle	Ratio	Apex Angle	Radius	Diameter	Convex	Concave	Type	Full, Spot, None	Eff.
(a)	End	1.31"	0						22.125"					
(b)	End	.250"	0						19.125"					

If removable, bolts used (describe other fastening)

SA-193 B7 (20) 3/4"-10.

(Mat'l. Spec. No., Grade, size, no.)

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16. MAWP 105 FV psi at max. temp. 350 350 ° F. Min. design metal temp. 20 ° F. at 105/FV psi  
(internal) (external) (internal) (external)

17. Impact test UHA-51, UG-20(f)

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

18. Hydro., pneu., or comb. test press. 160 psig hydro Proof test

19. Nozzles, inspection, and safety valve openings:

(UW-16.1)

Purpose (inlet, Outlet, Drain, etc.)	No.	Diameter or size	Flange Type	Material		Nozzle Thk.		Reinforcement Material	How Attached		Location (Insp. Opn.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
In	1	4"	150#	SA-312-316L	SA-182F316L	.237"	0	SA-240-316L	e	RFSO	
Out	1	2"	"	"	"	.218"	0	SA-240-316L	e	RFSO	
In	1	2"	"	"	"	.218"	0	SA-240-316L	e	RFSO	
level-temp	4-1	2"	"	"	"	.218"	0	Inherent	e	RFSO	
drain	1	2"	"	"	"	.218"	0	SA-240-316L	e	RFSO	
Out	1	4"	"	"	"	.237"	0	SA-240-316L	e	RFSO	
relief	1	3"	"	"	"	.216"	0	SA-240-316L	e	RFSO	

20. Supports: Skirt no Lugs 2 Legs 2 Others Attached shell, welded  
(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)

22. Remarks:

### 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. 7037 Expires 11/29

Date 06/30/99 Name Southern Heat Exchanger Corporation

(Manufacturer)

Signed

(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 GA and employed by Commercial Union Insurance Company of Boston, Ma have inspected the pressure vessel described in this Manufacturer's Data Report on 06/30 19 99 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 06/30/99

Signed

(Authorized Inspector)

Commissions NB 11599A GA 419

(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.                      Expires                     , 19             

Date                     

Name                     

(Assembler)

Signed                     

(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.

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                     

(Authorized Inspector)

Commissions                     

(Nat'l Board incl. endorsement, State, Province and No.)