

#104497

FORM U-1 MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS

As required by the Provisions of the ASME Code Rules

1. Manufacture: by Camden Copper Works, Camden, New Jersey
(Name and address of Manufacturer)

2. Manufactured for Hercules, Inc., Wilmington, Delaware
(Name and address of Purchaser)

3. Type Vert. Kind Heat Exch Vessel No. 67-3735-2 Natl. Bd. No. 588 Yr. Built 1967
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Mfr. Serial) (State & State No.)

Items 4-9 incl. to be completed for single wall vessels (such as air tanks), jackets of jacketed vessels, or shells of heat exchangers.

4. SHELL: Material SA285C St1 T.S. 55,000 Nominal Thickness 7/16 In. Allowance 1/16 In. Diam. 3 Ft. 0 In. Length 8 Ft. 1/8 PF
(Kind and Spec. No.) (Fig. or P.D. & Spec. Min. T.S.)

5. SEAMS: Long Butt H.T. no X.R. none Sectioned no Efficiency 85 %
(Welded, Brl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Butt H.T. no X.R. none Sectioned no No. of Courses 2

6. HEADS (a) Material T.S. (b) Material T.S.
(Top, bottom, ends) Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) _____
(b) _____

If removable, bolts used _____ Other fastening _____
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

7. STAYBOLTS: _____ If hollow _____ Attachment _____ Pitch _____ X _____ Diam. _____
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (Nominal)

8. JACKET CLOSURE: _____
(Describe all gages & weld, bar, etc. If bar, give dimensions, if hollow, describe or sketch)

9. Constructed for max. allowable working press. 200 psi at max. temp. 600 Min. temp. (when hydrostatic Test 300 psi.
F. less than -20°) 0 % Combination Press

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240 316 S/S Diam. 35-1/2 In. Thickness 1 In. Attachment welded
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

Floating. Material none Diam. _____ In. Thickness _____ In. Attachment _____
(Kind & Spec. No.)

11. TUBES: Material SA240 316 S/S O.D. 1-1/4 In. Thickness 14 Inches or Gage Number 434 Type straight
(Kind and Spec. No.) (Straight or U)

Items 12-15 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL Material SA240 316 S/S T.S. 75,000 Nominal Thickness 1/4 In. Allowance 0 In. Diam. 3 Ft. 0 In. Length 2 Ft. 3/8 In.
(Kind and Spec. No.) (Fig. or P.D. & Spec. Min. T.S.)

13. SEAMS: Long Butt H.T. no X.R. none Sectioned no Efficiency 85 %
(Welded, Brl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth Butt H.T. no X.R. none Sectioned no No. of courses 2

14. HEADS (a) Material SA240 316 S/S T.S. 75,000 (b) Material T.S.
(Top, bottom, ends) Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)

(a) _____
(b) Channel _____
(c) Floating _____

If removable, bolts used (a) St1 SA193B7 125,000 3/4 58 (b) _____
(Material, Spec. No., T.S., Size, Number) (Describe or Attach Sketch)

(c) _____ Other fastening _____
(Describe or Attach Sketch)

15. Constructed for max. allowable working press. Full Vap. psi at max. temp. 500 Min. temp. (when hydrostatic Test 50 psi.
F. less than -20°) 0 % Combination Press

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number elsewhere in system Location _____

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
A	1	20"	L.J.	SA240, 316	1/4"	none	welded
B	1	10"	"	"	"	"	"
C, D	2	6"	S.O.	SA53B, St1	Sch. 80	1/4x2	"
E	1	1"	"	SA312, 316	Sch. 40	none	"
F	1	2"	Pad	SA240, 316	1/8	"	"

1 If postweld heat-treated.

2 List under each other internal or external pressures with coincident temperature when applicable.

FORM U-1 (back)

18. INSPECTION Manholes, No. *None Size Location
 OPENINGS: Handholes, No. None Size Location
 Threaded, No. None Size Location
 19. SUPPORTS: Skirt NO Lugs 4 Legs None Other None Attached to Shull
 (Yes or No) (Number)
 20. REMARKS: *Nozzles C & D are available for internal inspection of the
shull. This vessel is a 1190 sq. ft. reboiler for methanol service.
The shell of this vessel is equipped with an expansion joint designed
and fabricated per code case 1177-B.

(Brief description of purpose of the vessel, as Air Tank, After Cooler, Jacketed Cooker, etc. State contents of each part.)

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 Unfired Pressure Vessels.

Date April 18 19 67 Signed Camden Copper Works By Philip D. Dunne
 (Manufacturer)

Certificate of Authorization Expires 12/31/67

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Camden Copper Works at Camden, New Jersey

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of New Jersey and employed by Hartford Steam Boiler Inc., Hartford, Conn. have inspected the pressure vessel described in this manufacturer's data report on 19 67, and state that to the best of my knowledge and belief, the manufacturer has constructed this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code.

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 April 18 1967

Inspector's Signature [Signature] Commissions NB-2907 State and No. 003

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of 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 that to the best of my knowledge and belief the manufacturer has constructed and assembled this pressure vessel in accordance with the applicable sections of the ASME Boiler and Pressure Vessel Code. 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 19

Inspector's Signature Commissions State and No.