

FORM U-1 MANUFACTURERS' DATA REPORT FOR PRESSURE VESSELS

As required by the Provisions of the ASME Code Rules, Section VIII, Division I

1. Manufactured by **JOSEPH OAT & SONS, INC.** **CAMDEN, N.J.** #104077
(Name and address of Manufacturer)

2. Manufactured for **HERCULES INC.** **HANOVER PLANT** **NORTH CAROLINA**
(Name and address of Purchaser)

3. Type **Vert.** Kind **Heat Exch.** Vessel No. **(2057)** (Mfrs. Serial) (State & State No.) Natl. Bd. No. **527** Yr. Built **1972**
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.)

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 **SA285GRC** T.S. **55000** Nominal Thickness **7/16** Corrosion Allowance **1/16** In. Diam. **3** Ft. **8-7/8** In. Length **20** Ft. **0** In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

5. SEAMS: Long **DBW** H.T. **No** R.T. **Spot** Sectioned **No** Efficiency **85** %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth **DBW** H.T. **No** R.T. **Spot** Sectioned **No** No. of Courses **2**

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

(a) **(b)**

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

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

8. JACKET CLOSURE: **(Describe as ogee & weld, bar, etc. If bar, give dimensions, if bolted, describe or sketch)**

9. Constructed for max. allowable working press. **150** psi at max. temp. **375** °F. Min. temp. (when less than -20°) **Hydrostatic** Test Press **225** psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material **SA240T304** Diam. **44** In. Thickness **1/4** In. Attachment **Welded**
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)

Floating. Material **SA249** Diam. In. Thickness In. Attachment

11. TUBES: Material **T316** O.D. **3/4** In. Thickness **16** For Gage Number **1485** Type **Straight**
(Kind & 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 **SA240T316** T.S. **75000** Nominal Thickness **1/4** In. Corrosion Allowance **0** In. Diam. **3** Ft. **8-7/8** In. Length **2** Ft. **1** In.
(Kind and Spec. No.) (Fig. or F.B. & Spec. Min. T.S.)

13. SEAMS: Long **DBW** H.T. **No** R.T. **Spot** Sectioned **No** Efficiency **85** %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)

Girth **DBW** H.T. **No** R.T. **Spot** Sectioned **No** No. of courses **2**

14. HEADS (a) Material **SA515GR70** T.S. **55000** (b) Material **Same** T.S. (c) Material **T.S.**
W/SA240T316 Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure
(a) Top, bottom, ends **1-1/4** (b) Channel (c) Floating

If removable, bolts used (a) **SA193 B7 96- 3/4" - 10 UNC** (b) **(Material, Spec. No., T.S., Size, Number)** Other fastening **(Describe or Attach Sketch)**

15. Constructed for max. allowable working press. **30** psi at max. temp. **400** °F. Min. temp. (when less than -20°) **Hydrostatic** Test Press **46** psi.

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number **Size** Location **In Piping**

17. NOZZLES

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
A	1	24"	PLT	SA240T316	3/8"	None	Welded
B	1	12"	PIPE	SA106GRB	SCH40	SA285GRC	"
C	1	3"	"	"	SCH80	None	"
D	1	3"	"	SA312T316	SCH40	"	"
E	1	12"	PLT	SA240T316	3/8"	"	"
F-G	2	1"	PIPE	SA312T316	SCH40	"	"
H-J	2	1 1/2"	"	SA106-GRB	SCH80	"	"

¹ If postweld heat-treated.

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

P.O. 026-19516-FCD (MEOH Purge Evap. Reboiler) Eq. E-422-3 Proj. 026019

FORM U-1 (back) MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS

HERCULES INC.

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18. INSPECTION Manholes, No. _____ Size _____ Location _____
OPENINGS: Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____
19. SUPPORTS: Skirt NO Lugs 4 Legs _____ Other _____ Attached _____
(Yes or No) (Number) (Describe) (Where & How)
20. REMARKS: Vessel is a purge evaporator reboiler constructed to Oat Dwg 5161
Rev. 3 & the 1968 ASME Code Section VIII & TEMA C

(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 Pressure Vessels, Section VIII, Division I.

Date 2/28 19 72 Signed JOSEPH OAT & SONS, INC. By *Joseph Oat*

(Manufacturer)

Certificate of Authorization Expires

#184

12/31/73

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY JOSEPH OAT & SONS, INC. at CAMDEN, N.J.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State or Province PA and employed by TRAVELERS INDEMNITY CO. of PHILADELPHIA, PA. have inspected the pressure vessel described in this manufacturer's data report on 3/17 1972, 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 3/17 19 72

Anthony L. Speck
Inspector's Signature

Commissions

NB 6458

Nat'l Board, State, or Province and No.

T-560 - 25 - 72

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 or Province _____ 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
Inspector's Signature

Commissions

Nat'l Board, State, or Province and No.

