

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

As required by the Provisions of the ASME Code Rules

M &amp; L JOB #16371-10

1. Manufactured by MANNING & LEWIS ENG. CO., 675 RAHWAY AVE., UNION, N. J.  
(Name and address of manufacturer)
2. Manufactured for HERCULES INC. WILMINGTON, N.C.  
(Name and address of Purchaser)
3. Type HOR Kind H.E. Vessel No. (4840) (Mfrs. Serial) (State & State No.)  
(Horiz. or Vert.) (Tank, Jacketed, Heat Exch.) (Nat'l. Bd. No. 2566 Yr. Built 1967)

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 SA285-C T.S. 55000 Nominal Thickness 5/16 In. Corrosion Allowance 1/16 In. Diam. 2 Ft. 4 In. Length 11 Ft. 5/8 In.  
(Kind and Spec. No.) (Plg. or F.B. & Spec. Min. T.S.)
5. SEAMS: Long DEL. BUTT H.T. NO X.R. NO Sectioned NO Efficiency 70 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)  
Girth DEL. BUTT H.T. NO X.R. NO Sectioned NO No. of Courses 4
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)

If riveted describe seams fully on reverse side of form

7. STAYBOLTS: \_\_\_\_\_ If hollow \_\_\_\_\_ Attachment \_\_\_\_\_ Pitch X Diam. \_\_\_\_\_  
(Material) (Size of Hole) (Threaded, Welded) (Horiz.) (Vert.) (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.<sup>1</sup> 150 psi. at max. temp. 375 °F. Min. temp. (when less than -20°) - °F. Hydrostatic } Test  
Pneumatic or } Press. 375 psi.  
Combination }

Items 10 and 11 to be completed for tube sections

10. TUBE SHEETS: Stationary. Material SA240-TP304 Diam. 29.56 In. Thickness 1.075 In. Attachment W  
(Kind & Spec. No.) (Subject to Pressure) sure (Welded, Bolted)
- Floating. Material \_\_\_\_\_ Diam. \_\_\_\_\_ In. Thickness \_\_\_\_\_ In. Attachment \_\_\_\_\_  
(Kind & Spec. No.)
11. TUBES: Material SA240-TP304 O.D. 3/4 In. Thickness 16 Inches or Gage Number 668 Type 8  
(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 SA240-304 T.S. 75000 Nominal Thickness 23 In. Corrosion Allowance 0 In. Diam. 2 Ft. 4 In. Length 1 Ft. 4 In.  
(Kind and Spec. No.) (Plg. or F.B. & Spec. Min. T.S.)
13. SEAMS: Long DEL. BUTT H.T. NO X.R. SPOT Sectioned NO Efficiency 85 %  
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)  
Girth DEL. BUTT H.T. NO X.R. NO Sectioned NO No. of courses 1
14. HEADS: (a) Material SA240-304 T.S. 75000 (b) Material SA240 T.S. 75000 (c) 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) 375 26 1.382 \_\_\_\_\_  
(b) Channel 375 26 1.382 \_\_\_\_\_  
(c) Floating \_\_\_\_\_

If riveted describe seams fully on reverse side of form

CONCAVE

- If removable, bolts used (a) SA193-B7; 125000; 3/4; 36 (b) SA193-B7; 125000; 3/4; 36  
(Material, Spec. No., T.S., Size, Number)
- (c) \_\_\_\_\_ Other fastening \_\_\_\_\_  
(Describe or Attach Sketch)

15. Constructed for max. allowable working press.<sup>1</sup> 150 psi. at max. temp. 375 °F. Min. temp. (when less than -20°) - °F. Hydrostatic } Test  
Pneumatic or } Press. 334 psi.  
Combination }

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_
17. NOZZLES:
- | Purpose (Inlet, Outlet, Drain) | Number   | Diam. or Size | Type      | Material         | Thickness   | Reinforcement Material | How Attached  |
|--------------------------------|----------|---------------|-----------|------------------|-------------|------------------------|---------------|
| <u>IN-OUT</u>                  | <u>2</u> | <u>6</u>      | <u>SO</u> | <u>SA312-304</u> | <u>280</u>  |                        | <u>WELDED</u> |
| <u>OUT</u>                     | <u>1</u> | <u>1-1/2</u>  | <u>W</u>  | <u>SA312-H</u>   | <u>5/16</u> |                        | <u>W</u>      |
18. INSPECTION Manholes, No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_  
OPENINGS: Handholes, No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_  
Threaded, No. \_\_\_\_\_ Size \_\_\_\_\_ Location \_\_\_\_\_
19. SUPPORTS: Skirt \_\_\_\_\_ Lugs 2 Legs \_\_\_\_\_ Other \_\_\_\_\_ Attached TO SHELL  
(Yes or No) (Number) (Describe) (Where & How)
20. REMARKS: 26-144 CRUDE MELTER HEATER WITH STEAM IN SHELL AND DMT IN TUBES

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

<sup>1</sup> List other internal or external pressures with coincident temperature when applicable.)

(Over)

We certify that the statements made in this report are correct and that all details of material, construction, and workmanship of this unfired pressure vessel conform to the ASME Code for Unfired Pressure Vessels.

Date JUL 20 1967 19 Signed MANNING & LEWIS ENG. CO. By A. L. Gale  
(Manufacturer)

Certificate of Authorization Expires DEC. 31 1967

### CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY MANNING & LEWIS ENG. CO. at UNION, N. J.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of NAT'L BD. and employed by COMMERCIAL UNION INSURANCE CO. of NEW YORK

have inspected the pressure vessel described in this manufacturer's data report on \_\_\_\_\_ 19\_\_\_\_, 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 JUL 20 1967 19  
W. A. Storings Commissions NAT'L BD. 9313  
Inspector's Signature Nat'l Board or State and No.

### 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 \_\_\_\_\_ 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 \_\_\_\_\_ set 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 \_\_\_\_\_  
Nat'l Board or State and No.