

104511

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

As required by the Provisions of the ASME Code Rules

M & L JOB # 16371-6

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. (4833) (Mfrs. Serial) (State & State No.) Natl. Bd. No. 2559 Yr. Built 1967
(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 SA240-304 T.S. 75000 Nominal Thickness 1.25 Corrosion Allowance 0 In. Diam. 1 Ft. 10 In. Length 15 Ft. 10 In.
5. SEAMS: Long DBL. 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 DROOVE H.T. NO X.R. NO Sectioned NO No. of Courses 1
6. HEADS: (a) Material T.S. (b) Material T.S.
Location (Top, bottom, ends) Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)
(a) NO
(b) NO
If removable, bolts used NO Other fastening NO (Describe or Attach Sketch)
7. STAYBOLTS: (Material) NO If hollow (Size of Hole) Attachment (Threaded, Welded) Pitch X (Horiz.) (Vert.) Diam. (Nominal)
8. JACKET CLOSURE: (Describe as gage & weld, bar, etc. If bar give dimensions, if bolted, describe or sketch)
9. Constructed for max. allowable working press. 75 psi. at max. temp. 300 °F. Min. temp. (when less than -20°) - °F. Hydrostatic } Test } Press. 136 psi.
Pneumatic or }
Combination }

If riveted describe seams fully on reverse side of form

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material SA240-304 Diam. 2.375 In. Thickness 1.125 In. Attachment W
(Kind & Spec. No.) (Subject to Pressure) (Welded, Bolted)
Floating. Material SA249 Diam. NO In. Thickness NO In. Attachment NO
(Kind & Spec. No.)
11. TUBES: Material TP304 O.D. 3/4 In. Thickness 18 Lanes or Gage Number 402 Type S
(Kind & Spec. No.) (Straight or U)

Items 12-13 incl. to be completed for inner chambers of jacketed vessels, or channels of heat exchangers.

12. SHELL: Material SA53-B T.S. 55000 Nominal Thickness 375 Corrosion Allowance 1/16 In. Diam. 1 Ft. 10 In. Length 1 Ft. 74 In.
13. SEAMS: Long SMLS H.T. NO X.R. NO Sectioned NO Efficiency 80 %
(Welded, Dbl., Single, Lap, Butt) (Yes or No) (Spot or Complete) (Yes or No)
Girth DBL. BUTT H.T. NO X.R. NO Sectioned NO No. of courses 1
14. HEADS: (a) Material SA285-C T.S. 55000 (b) Material T.S. (c) Material T.S.
Location Thickness Crown Radius Knuckle Radius Elliptical Ratio Conical Apex Angle Hemispherical Radius Flat Diameter Side to Pressure (Convex or Concave)
(a) Top, bottom, ends 375 21 1.375
(b) Channel NO
(c) Floating NO
If removable, bolts used (a) SA193-B7 125000 5/8 24 (b) NO
(Material, Spec. No., T.S., Size, Number)
(c) NO Other fastening NO (Describe or Attach Sketch)
15. Constructed for max. allowable working press. 75 psi. at max. temp. 300 °F. Min. temp. (when less than -20°) - °F. Hydrostatic } Test } Press. 113 psi.
Pneumatic or }
Combination }

If riveted describe seams fully on reverse side of form

CONCAVE

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number NO Size NO Location NO
17. NOZZLES:
Purpose (Inlet, Outlet, Drain) Number Diam. or Size Type Material Thickness Reinforcement Material How Attached
IN-OUT 2 4 SO SA312-304 3/4 WELDED
IN-OUT 2 8 W SA53-B 8/30 WELDED
18. INSPECTION Manholes, No. NO Size NO Location NO
OPENINGS: Handholes, No. NO Size NO Location NO
Threaded, No. NO Size NO Location NO
19. SUPPORTS: Skirt (Yes or No) Lugs (Number) Logs (Number) Other (Describe) Attached TO SHELL (Where & How)
20. REMARKS: 22-192 METHANOL COOLER W/METHANOL IN SHELL AND WATER IN TUBES.

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

List other internal or external pressures with coincident temperature when applicable.)

(Over)

4933

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 Apr 7 1967 19 Signed MANNING & LEWIS ENG. CO. By J. H. Gale
(Manufacturer)

Certificate of Authorization Expires DEC. 31 - 1967

CERTIFICATE OF SHOP INSPECTION	
VESSEL MADE BY <u>MANNING & LEWIS ENG. CO.</u>	at <u>UNION, N. J.</u>
I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of <u>NAT'L BD.</u> and employed by <u>COMMERCIAL UNION INSURANCE CO.</u> of <u>NEW YORK</u> have inspected the pressure vessel described in this manufacturer's data report on <u>SEP 7 1967</u> 19 <u>67</u> , 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 of a loss of any kind arising from or connected with this inspection.	
Date <u>SEP 7 1967</u> 19 <u>67</u>	
<u>W. A. L. Thompson</u> Inspector's Signature	Commission <u>NAT'L BD. 5313</u> 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 _____ 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 of a loss of any kind arising from or connected with this inspection.	
Date _____ 19_____	
Inspector's Signature _____	Commission _____ Nat'l Board or State and No.