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

As required by the Provisions of the ASME Code Rules

1. Manufactured by STEEL & ALLOY TANK COMPANY, NEWARK, N. J.
(Name and address of Manufacturer)

2. Manufactured for THIOKOL CHEMICAL CORPORATION, REACTION MOTORS DIV., DENVILLE, N.J.
(Name and address of Purchaser)

3. Type Vert. (Horiz. or Vert.) Kind Jacketed (Tank, Jacketed, Heat Exch.) Vessel No. (J-9445) (Mfrs. Serial) ( ) (State & State No.) Natl. Bd. No. 1410 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 SA-240, T-347 (Kind and Spec. No.) T.S. 75000 (Flg. or F.B. & Spec. Min. T.S.) Nominal Thickness 3/16 Corrosion Allowance 0 In. Diam. 2 Ft. 2 In. Length 3 Ft. 3-3/4 In.

5. SEAMS: Long FW-DB (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No)[1] X.R. Spot (Spot or Complete) Sectioned No (Yes or No) Efficiency 85 %

Girth FW-DB H.T. No X.R. Spot Sectioned No No. of Courses 1

If riveted describe seams fully on reverse side of form.

6. HEADS (a) Material SA-240, T-347 T.S. 75000 (b) Material SA-240, T-347 T.S. 75000

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) Top	3/16"	24"	1-5/8"					Concave
(b) Bottom	3/16"	24"	1-5/8"					Concave

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.) X ( ) (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[2] 50 psi at max. temp. 200 °F. Min. temp. (when less than –20°) 320 °F. Hydrostatic / ~~Pneumatic~~ or Combination Test Press 84 psi.

Items 10 and 11 to be completed for tube sections.

10. TUBE SHEETS: Stationary. Material ( ) (Kind & Spec. No.) Diam. ( ) (Subject to Pressure) In. Thickness ( ) In. Attachment ( ) (Welded, Bolted)

Floating. Material ( ) (Kind & Spec. No.) Diam. ( ) In. Thickness ( ) In. Attachment ( )

11. TUBES: Material ( ) (Kind & Spec. No.) O.D. ( ) In. Thickness ( ) Inches or Gage Number ( ) Type ( ) (Straight or U)

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

12. SHELL Material SA-240, T-347 (Kind and Spec. No.) T.S. 75000 (Flg. or F.B. & Spec. Min. T.S.) Nominal Thickness 1-9/32 Corrosion Allowance 0 In. Diam. 1 Ft. 8 In. Length 2 Ft. 8 In.

13. SEAMS: Long FW-DB (Welded, Dbl., Single, Lap, Butt) H.T. No (Yes or No)[1] X.R. Complete (Spot or Complete) Sectioned No (Yes or No) Efficiency 100 %

Girth FW-DB H.T. No X.R. Complete Sectioned No No. of courses 1

If riveted describe seams fully on reverse side of form.

14. HEADS (a) Material SA-240, T-347 T.S. 75000 (b) Material SA-240, T-347 T.S. 75000 (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	Top 1	1/4		2:1				Concave
(b) Channel	Bott. 1	1/4		2:1				Concave
(c) Floating								

If removable, bolts used (a) ( ) (Material, Spec. No., T.S., Size, Number) (b) ( )

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

15. Constructed for max. allowable working press[2] 2000 psi at max. temp. 2000 °F. Min. temp. (when less than –20°) 320 °F. Hydrostatic / Pneumatic or Combination Test Press 3350 psi.

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
Shell	4	1" & 3"	Pipe Sch. 80	347 SS		347 SS	Welded
Jacket	3	1"	Couplings	347 SS	3000#	347 SS	Welded

(Items 18 through 20 continued on back)

[1] If postweld heat-treated. [2] List other internal or external pressures with coincident temperature when applicable.

FORM U-1 (back)

18. INSPECTION OPENINGS: Manholes, No. _____ Size _____ Location _____
Handholes, No. _____ Size _____ Location _____
Threaded, No. _____ Size _____ Location _____ Welded to

19. SUPPORTS: Skirt No (Yes or No) Lugs 4 (Number) Legs 4 (Number) Other _____ (Describe) Attached Lower Head (Where & How)

20. REMARKS: 50 Gallon Jacketed Tank
Impact Tests were performed at Minus 320°F.
(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 10, 1967 Signed STEEL & ALLOY TANK COMPANY (Manufacturer) By C. W. Hanselman

Certificate of Authorization Expires Dec. 31st, 1967

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Steel & Alloy Tank Co. at Newark, 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 National Board and employed by Hartford Steam Boiler Insp. & Ins. Co. of Hartford, Connecticut have inspected the pressure vessel described in this manufacturer's data report on April 10, 1967, 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 10, 1967

J. Hanle
Inspector's Signature

Commissions N.B. #1981
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 _____, 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 _____

_____ Commissions _____
Inspector's Signature Nat'l Board or State and No.

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