220001 - NB PARTS

MUTUAL BOILER AND MACHINERY INSURANCE COMPANY

MANUFACTURERS' DATA REPORT FOR UNFIRED PRESSURE VESSELS

As Required by the Provisions of the A.S.M.E. Code Rules

1. Manufactured by Artisan Industries Inc., Waltham, Mass. (Name and address of Manufacturer)
2. Manufactured for U. S. Steel Chemicals, Neville Island, Pa. (Name and address of Purchaser)
3. Type Vert. (Horiz. or Vert.) Kind Tank (Tank, Jacketed, Heat Exch.) Vessel No. (43386) (Mfrs. Serial) (_____) (State & State No.) Nat'l Bd. No. 640 Yr. Built 1966

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-312-Tp304 (Kind of Spec. No.) T.S. 75,000 (Flg. or F. B. & Spec. Min. T. S.) Nominal Thickness ¼ in. Corrosion Allowance 0 in. Diam. 2 ft. 2 in. Length 38 ft. 7 in.

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

Girth Dbl Butt H.T. No X.R. Spot Sectioned No No. of Courses 4

If riveted describe seams fully on reverse side of form.

6. HEADS: (a) Material SA-240 Tp304 SS T.S. 75,000 (b) Material SA-240 TP 304 S.S. T.S. 75,000

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	¼	36"	2¾					Convex
(b) Bottom	¼	24"	2¾					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.) × _____ (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] Vac to 30 psi. at max. temp. 450 °F. Min. temp. (when less than −20°) _____ °F. Hydrostatic / Pneumatic or Combination } Test Press. 45 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 _____ (Kind and Spec. No.) T.S. _____ (Flg. or F.B. & Spec. Min. T.S.) Nominal Thickness _____ in. Corrosion Allowance _____ in. Diam. ____ ft. ____ in. Length ____ ft. ____ in.

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

Girth _____ H.T. _____ X.R. _____ Sectioned _____ No. of Courses _____

If riveted describe seams fully on reverse side of form.

14. Heads (a) Material _____ T.S. _____ (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	XX	XX			XX	XX	XX	XX
(b) Channel								
(c) Floating	XXX							

* SEE ATTACHED FORM U-2 PARTIAL REPORT

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

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

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

Items below to be completed for all vessels where applicable.

16. SAFETY VALVE OUTLETS: Number 1 Size 2" Location Conical Section

17. NOZZLES:

Purpose (Inlet, Outlet, Drain)	Number	Diam. or Size	Type	Material	Thickness	Reinforcement Material	How Attached
Prod Inlet	1	6-150#	Flg'd	304 S.S.	40		Welded
Vapor Outlet	1	12"-150#	Flg'd	SA-240-304	5/16	SA-285-C	Welded
Drain	1	3-150#	Flg'd	304 S.S.	Sch.40		Welded

18. INSPECTION OPENINGS: Manholes, No. 1 Size 16" Location Vapor Section

Handholes, No. _____ Size _____ Location _____

Threaded, No. _____ Size 4 Location Shell-Weld

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

20. REMARKS: Artisan Plasticizer Stripper

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

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

Form 401B (ASME U-1) Rev. 2/1964

NOTE: Vessel also includes top vapor section. Fabricated of SA-240 Tp 304 S.S. ¼" thk x 36" OD. Attached to main shell by welding to 36" OD x 26" OD x 30" Lg. Conical Section

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

Date July 5 19 66 Signed Artisan Industries Inc. (Manufacturer) By R L Rickard

Certificate of Authorization Expires 31 December 1967

CERTIFICATE OF SHOP INSPECTION

VESSEL MADE BY Artisan Industries Inc. at Waltham, Mass.

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and/or the State of Mass. and employed by Mutual Boiler & Mach. Ins. Co. of Waltham, Mass. have inspected the pressure vessel described in this manufacturer's data report on July 5 19 66, 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 July 5 19 66

Inspectors Signature Commissions NB-5325 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 ____

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

FORM U-2 MANUFACTURERS' PARTIAL DATA REPORT

A Part of an Unfired Pressure Vessel Fabricated by One Manufacturer for Another Manufacturer

1. (a) Manufactured by Swepco Tube Corporation, Clifton, New Jersey
(Name and address of manufacturer of part)

(b) Manufactured for Artisan Industries, Waltham, Mass. (Whitehead)
(Name and address of manufacturer of boiler or vessel)

2. Identification—Manufacturer's Serial No. of Part J-6353-6-1-2-3-4

(a) Constructed According to Blueprint No. _____ B.P. Prepared by _____

(b) Description of Part Inspected 26"OD X 1/4"W X 115 - 3/4"

3. Remarks SA-312 Manufacture

We certify that the statements made in this manufacturer's partial data report are correct and that all details of materials, construction, and workmanship of this vessel conform to the ASME Code.

Date April 25, 1966 Signed Swepco Tube Corp. (Manufacturer) By J.A.Seme, Technical Director (Representative)

Certificate of Authorization Expires December 31 1967

CERTIFICATE OF SHOP INSPECTION

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 Commercial Union Insurance Co. of New York have inspected the part of a pressure vessel described in this manufacturer's partial data report on April 25, 1966, and state that to the best of my knowledge and belief, the manufacturer has constructed this part 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 part described in this manufacturer's partial 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 25, 1966

W. A. Storey
Inspector's Signature

Commissions NB-5313
Nat'l Board or State and No.

J-6353-6-1	1342
-2	1343
-3	1344
-4	1345

220 001 – NB PAPER

FORM U-2 (back)

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 T304 SA240 (Kind and Spec. No.) T.S. 75000 (Flg. or F.B. & Spec. Min. T.S.) Nominal Thickness 1/4 In. Corrosion Allowance 0 In. Diam 2 Ft 2 In. Length 7 Ft. 7 3/4" In.

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

If riveted describe seams fully on reverse side of form.

Girth _____ H.T. _____ X.R. _____ Sectioned _____ No. of Courses _____

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)								
(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.) 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] 309 psi at max. temp. 100 °F. Min. temp. (when less than −20°) _____ °F.

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 _____ (Kind and Spec. No.) T.S. _____ (Flg. or F.B. & Spec. Min. T.S.) Nominal Thickness _____ In. Corrosion Allowance _____ In. Diam. _____ Ft. _____ In. Length _____ Ft. _____ In.

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

If riveted describe seams fully on reverse side of form.

Girth _____ H.T. _____ X.R. _____ Sectioned _____ No. of courses _____

14. HEADS: (a) Material _____ T.S. _____ (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								
(b) Channel								
(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] _____ psi at max. temp. _____ °F. Min. temp. (when less than −20°) _____ °F.

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

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

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

[1] If postweld heat-treated.
[2] List under item 3 other internal or external pressures with coincident temperature when applicable.