

FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS
As Required by the Provisions of the ASME Code Rules, Section VIII, Division 1

1. Manufactured and certified by Texas Metal Fabrication Co., A Trinity Industries Co. 7010 Old Katy Road, Houston, TX 77270
(Name and address of Manufacturer)

2. Manufactured for THE M.W. KELLOGG CO., HOUSTON, TEXAS (PHILLIPS SUMIKA POLYPROPYLENE CO.)
(Name and address of Purchaser)

3. Location of installation PASADENA, TEXAS
(Name and address)

4. Type: Vertical Heat Exchanger 9459 --- 9459 --- 1995
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfg's serial No.) (CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 1992, INCLUDING 1993 ADDENDA --- ---
Edition and Addenda (date) Code Case No. Special Service per UG-120(d)
Items 6 - 11 incl. to be completed for single wall vessels, jackets of jacketed vessels, shell of heat exchangers, or chamber of multi-chamber vessels.

6. Shell (a) No. of course(s): THREE (b) Overall length (ft & in.): 24'-7 3/4"

| Course(s) | | | Material | | Thickness | | Long Joint (Cat. A) | | | Circum. Joint (Cat. A, B & C) | | | Heat Treatment | |
|-----------|---------------|--------------------|---------------------|--|-----------|-------|---------------------|------------------|------|-------------------------------|------------------|------|----------------|------|
| No. | Diameter, in. | Length (ft. & in.) | Spec./Grade or Type | | Nom. | Corr. | Type | Full, Spot, None | Eff. | Type | Full, Spot, None | Eff. | Temp. | Time |
| 1 | 48" | 10'-0" | SA-516Gr.70 | | 1/2" | 1/16" | 1 | Spot | 85% | 1 | Spot | 85% | --- | --- |
| 2 | 48" | 9'-4 15/16" | SA-516Gr.70 | | 1/2" | 1/16" | 1 | Spot | 85% | 1 | Spot | 85% | --- | --- |
| 3 | 48" | 3'-5 15/16" | SA-516Gr.70 | | 1/2" | 1/16" | 1 | Spot | 85% | 1 | Spot | 85% | --- | --- |

7. Heads: (a) --- (b) ---
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp

| Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | | | | | | | | | | | | | |
| (b) | | | | | | | | | | | | | |

If removable, bolts used (describe other fastening) ---
(Mat'l Spec. No., Grade, size, No.)

8. Type of jacket --- Jacket closure ---
(Describe as ogee & weld, bar, etc.)

If bar, give dimensions --- If bolted, describe or sketch ---

9. MAWP 267 15 psi at max. temp. 302 --- °F Min. design metal temp. 30 °F at 302 psi.
(internal) (external) (internal) (external)

10. Impact test NO, CHARPY IMPACT TEST EXEMPT PER UCS-66(b)
(Indicate yes or no and the component(s) impact tested)

11. Hydro., pneu., or comb. test press. 459 Proof test ---
Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-266-2 48" 4 7/16" 1/8" Welded
Stationary (Mat'l Spec. No.) Dia., in. (subject to press.) Nom. thk., in. Corr. Allow., in. Attachment (welded or bolted)

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Floating (Mat'l Spec. No.) Dia., in. Nom. thk., in. Corr. Allow., in. Attachment

13. Tubes: SA214 ERW 1 1/4" .110"(MW) 720 Straight
Mat'l Spec. No., Grade or Type O.D., in. Nom. thk., in. or gauge Number Type (Straight or U)

Items 14 - 18 incl. to be completed for inner chambers of jacketed vessels or channels of heat exchangers.

14. Shell (a) No. of course(s): TWO (b) Overall length (ft & in.): 5'-11 3/4", 13'-11 3/4"

| Course(s) | | | Material | | Thickness | | Long Joint (Cat. A) | | | Circum. Joint (Cat. A, B & C) | | | Heat Treatment | |
|-----------|---------------|--------------------|---------------------|--|-----------|-------|---------------------|------------------|------|-------------------------------|------------------|------|----------------|------|
| No. | Diameter, in. | Length (ft. & in.) | Spec./Grade or Type | | Nom. | Corr. | Type | Full, Spot, None | Eff. | Type | Full, Spot, None | Eff. | Temp. | Time |
| 1 | 48" | 8'-5 15/16" | SA-516Gr.70 | | 3/4" | 1/16" | 1 | Spot | 85% | 1 | Full | 100% | --- | --- |
| | | | | | | | | | | | | | | |
| | | | | | | | | | | | | | | |

15. Heads: (a) SA-516GR70, NONE (b) SA-516GR70, NONE
(Mat'l Spec. No., Grade or Type) H.T.-Time & Temp (Mat'l Spec. No., Grade or Type) H.T.-Time & Temp

| Location (Top, Bottom, Ends) | Thickness | | Radius | | Elliptical Ratio | Conical Apex Angle | Hemispherical Radius | Flat Diameter | Side to Pressure | | Category A | | |
|------------------------------|-----------|-------|--------|---------|------------------|--------------------|----------------------|---------------|------------------|---------|------------|------------------|------|
| | Min. | Corr. | Crown | Knuckle | | | | | Convex | Concave | Type | Full, Spot, None | Eff. |
| (a) | | 3/4" | 1/16" | | | 30 | | | | | 1 | Spot | 85% |
| (b) | | 3/4" | 1/16" | | | 30 | | | | | 1 | Full | 100% |

If removable, bolts used (describe other fastening) --- SA-193-B7, 1", 64,
(Mat'l Spec. No., Grade, Size, No.) RR 1026.10

16. MAWP 403 7.5 psi at max. temp. 302 — °F Min. design metal temp. 30 °F at 403 psi.
(internal) (external) (internal) (external)

17. Impact test NO, CHARPY IMPACT TEST EXEMPT PER UCS-66(b)

(Indicate yes or no and the component(s) impact tested)

18. Hydro., pneu., or comb. test press. 605

Proof test —

19. Nozzles, inspection, and safety valve openings:

| Purpose (inlet, Outlet, Drain, etc.) | No. | Diameter or Size | Flange Type | Material | | Nozzle Thickness | | Reinforcement Material | How Attached | | Location (Insp. Open) |
|--------------------------------------|-----|------------------|-------------|----------------|--------|------------------|-------|------------------------|--------------|--------|-----------------------|
| | | | | Nozzle | Flange | Nom. | Corr. | | Nozzle | Flange | |
| Inlet | 1 | 26" | CL300WN | SA-516GR70 | SA105 | 3/4" | 1/16" | Not Required | Welded | Welded | End |
| Outlet | 1 | 26" | CL300WN | SA-516GR70 | SA105 | 1" | 1/16" | SA-516Gr.70 | Welded | Welded | — |
| Outlet | 1 | 3" | CL300WN | SA106Gr.B SMLS | SA105 | .300" | 1/16" | — | Welded | Welded | End |
| Inlet/Outlet | 2 | 16" | CL300WN | SA106Gr.B SMLS | SA105 | .844" | 1/16" | SA-516Gr.70 | Welded | Welded | — |
| Handhole | 2 | 6" | CL300LWN | — | SA105 | 1 1/16" | 1/16" | Not Required | — | Welded | — |
| misc. | 4 | 1" | CL300LWN | — | SA105 | 9/16" | 1/16" | — | — | Welded | — |

20. Supports: Skirt — Lugs 4 Legs — Others — Attached Side Welded
(Yes or No) (No.) (No.) (Describe) (Where and How)

21. Manufacturer's Partial Data Reports properly identified and signed by Commissioned Inspectors have been furnished for the following items of the report:
(List the name of part, item number, mfg's. name and identifying number)

22. Remarks: EXPAN. JOINT (2) F&F HEADS .60" O.D. X 48" I.D. X 7/16" THK. W/ 1 1/2" I.C.R. & O.C.R., 1 1/2" S/F @ FLG. & 1" S.F. @ FLUE
P.O. # 6014-02D1-C210-01, ITEM # 1-41-5004.

CERTIFICATE OF SHOP COMPLIANCE

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 1,

U Certificate of Authorization No. 1844

Expires 3/30

Date 8/8/95

Name Texas Metal Fabrication Co., A Trinity Industries Co.

(Manufacturer)

Signed

(Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province of TX and employed by DELTA LLOYDS INS. Co. of Houston have inspected the pressure vessel described in this Manufacturer's Data Report on 7-3, 19 95, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME Code, Section VIII, Division 1. 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 8-11-95

Signed

(Authorized Inspector)

Commissions

(Nat'l Board incl. endorsement, State, Province and No.)

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements on this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME Code, Section VIII, Division 1,

U Certificate of Authorization No. —

Expires —

, 19 —

Date —

Name —

(Assembler)

Signed —

(Representative)

CERTIFICATE OF FIELD ASSEMBLY INSPECTION

I, the undersigned, holding a valid commission issued by The National Board of Boiler and Pressure Vessel Inspectors and the State or Province 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 to the best of my knowledge

and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with ASME Code, Section VIII, Division 1. 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 — Signed —

(Authorized Inspector)

Commissions —

(Nat'l Board incl. endorsement, State, Province and No.)