

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 J.D. Cousins, Inc. 667 Tiftt Street Buffalo NY 14220 USA
(Name and address of Manufacturer)

Manufactured for THERMAL KINETICS 667 TIFFT ST. BUFFALO, NY 14220
(Name and address of Purchaser)

3. Location of installation CENTRAL ILLINOIS ENERGY 23133 EAST COUNTY HWY 6 CANTON, IL. 61520
(Name and address)

4. Type: Horiz. Heat ExchANGER 606-6
(Horiz., vert., or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Mfr.'s serial No.)

TKSTD2-BC-7003 R 1 7996 2006
(CRN) (Drawing No.) (Nat'l. Bd. No.) (Year built)

5. ASME Code, Section VIII, Div. 1 2004 Edition, 2005 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): N/A (b) Overall length (ft & in.): N/A

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	-	-	-		-	-	-	-	-	-	-	-	-	-
2	-	-	-		-	-	-	-	-	-	-	-	-	-
3	-	-	-		-	-	-	-	-	-	-	-	-	-

7. Heads: (a) N/A (b) N/A
(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) N/A

8. Type of jacket N/A Jacket closure N/A
(Mat'l Spec. No., Grade, size, No.) (Describe as ogee & weld, bar, etc.)

If bar, give dimensions: N/A If bolted, describe or sketch.

MAWP - psi at max. temp. - °F Min. design metal temp. - °F at - psi.
(internal) (external) (internal) (external)

10. Impact test - at test temperature of - °F
(Indicate yes or no and the component(s) impact tested)

11. Hydro., ~~PIREX~~, ~~OR KODAK~~ test press. - Proof test -

Items 12 and 13 to be completed for tube sections.

12. Tubesheet: SA-240-304/304L 39 7/8 X 53" 1.437 0 Bolted
(Stationary (Mat'l Spec. No.)) (Dia., in. (subject to press.)) (Nom. thk., in.) (Corr. Allow., in.) (Attachment (welded or bolted))

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

13. Tubes: SA-249-304/304L 2" .049 180 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): 2 (b) Overall length (ft & in.): 4'-4 3/8"

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	53"	39 7/8 X 53"	SA-240-304L		.250	0	SMLS	None	70	-	-	-	-	-
2	-	-	-		-	-	-	-	-	-	-	-	-	-
3	-	-	-		-	-	-	-	-	-	-	-	-	-

15. Heads: (a) SA-240-304L (b) SA-240-304L
(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)	END	.738	0	-	-	-	-	-	26X52.5	-	-	SMLS	NONE	100
(b)	END	.738	0	-	-	-	-	-	26X52.5	-	-	SMLS	NONE	100

If removable, bolts used (describe other fastening) SA-193 B7 HEX HD BOLTS 3/4" (144)
(Mat'l Spec. No., Grade, size, No.)

16. MAWP 35/FV 15 psi at max. temp. 250 250 °F. Min. design metal temp. -20 °F at 35/FV psi.
 (internal) (external) (internal) (external)
 17. Impact test NO PER UHA-51(d) AND UCS-66(e) at test temperature of _____ °F.
 (Indicate yes or no and the component(s) impact tested)
 18. Hydro., ~~burst~~, ~~or burst~~ test press. 46 Proof test _____ N/A

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	14"	LAPJT	SA-312-316/316L	SA-105	.250	0	NONE	UW16.1	LAPJT	DOME
Vent	1	2"	RFSO	SA-312-304L	SA-182-304L	.109	0	NONE	UW16.1	APP2-4	DOME
Outlet	1	6"	LAPJT	SA-312-304L	SA-105	.134	0	NONE	UW16.1	LAPJT	DOME
Vent	2	1 1/2"	RFSO	SA-312-304L	SA-182-304L	.145	0	NONE	UW16.1	APP2-4	DOME
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt _____ Lugs 4 Legs _____ Others _____ Attached WELDED TO DOME SHELL
 (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, mfr.'s name and identifying number)
 N/A

22. Remarks: All Shell diameters are Outside Dimensions.
 VESSEL HYDRO TESTED IN THE HORIZ. POSITION
 SAFETY RELIEF DEVICE BY OTHER
 PO# 73338

CERTIFICATE OF SHOP COMPLIANCE

We certify that the statements 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. 1219 Expires 1/31/2008

Date 12/5/06 Name J.D. Cousins, Inc. Signed Nary Bailey
 (Manufacturer) (Representative)

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 or Province of NY and employed by OneBeacon AMERICA INSURANCE CO. of Boston, MASS. have inspected the pressure vessel described in this Manufacturer's Data Report on 12/5/06, 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 12/5/06 Signed J.A. Thomas Commissions NB 7710 A NY 2705
 (Authorized Inspector) (Nat'l Board incl. endorsements, 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 _____

Date _____ Name J.D. Cousins, Inc. Signed _____
 (Assembler) (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/or the State or Province 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 to the best of my knowledge and belief, the Manufacturer has constructed and assembled this pressure vessel in accordance with the 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 _____ Commissions _____
 (Authorized Inspector) (Nat'l Board incl. endorsements, State, Province and No.)