

National Board Number: 3409

Mfg. Representative: CUDate: 10-7-15Authorized Inspector: MCDDate: 10/8/15**FORM U-1 MANUFACTURER'S DATA REPORT FOR PRESSURE VESSELS****As Required by the Provisions of the ASME Boiler and Pressure Vessel Code Rules, Section VIII, Division 1**

1. Manufactured and certified by OHMSTEDE LTD., CORPUS CHRISTI PLANT 410 FLATO ROAD CORPUS CHRISTI, TEXAS 78405
(Name and address of Manufacturer)
2. Manufactured for INVISTA 2695 OLD BLOOMINGTON HWY., VICTORIA, TEXAS 77905
(Name and address of Purchaser)
3. Location of installation INVISTA 2695 OLD BLOOMINGTON HWY., VICTORIA, TEXAS 77905
(Name and address)
4. Type Horizontal HEAT EXCHANGER 558810
(Horizontal, vertical, or sphere) (Tank, separator, jkt. vessel, heat exch., etc.) (Manufacturer's serial number)
- 558810R3 3409 2015
(CRN) (Drawing number) (National Board number) (Year built)
5. ASME Code, Section VIII, Div. 1 2013 Edition 2732-1 -
(Edition and Addenda, if applicable (date)) (Code Case number) [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 multichamber vessels.

6. Shell: (a) Number of course(s) 2 (b) Overall length 14'-10 1/16"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	42" I.D.	7'-11"	SA-516-70		1"	1/8"	1	Spot	.85	1	Spot	.85	-	-
2	42" I.D.	6'-11 1/16"	SA-516-70		1"	1/8"	1	Spot	.85	1	Spot	.85	-	-
3	-	-	-		-	-	-	-	-	-	-	-	-	-

Body Flanges on Shells

No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	*	42"	53"	5 1/2"	1"	SA-350LF2CL1	UW12(e)	END	(44)-1 5/8"	SA-193B8M2	-	-
1	**	41 13/16"	46 1/4"	6 1/2"	-	SA-350LF2CL1	UW12(4)	END	(36)-3/4"	SA-193B8M2	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

7. Heads: (a) - (b) -
(Material spec. number, grade or type)(H.T. - time and temp.) (Material spec. number, grade or type)(H.T. - time and 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)	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Body Flanges on Heads

	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-

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

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

9. MAWP 630 psi 0.0 psi at max. temp. 500 deg.f - Min. design metal temp. 10 deg.f at 630 psi
(Internal) (External) (Internal) (External)

10. Impact test NO, EXEMPT PER UHA-51 & UG-20 (f) at test temperature of -
[Indicate yes or no and the component(s) impact tested]

11. Hydro., pneu., or comb. test pressure 819 psig Proof test -

Items 12 and 13 to be completed for tube sections.

12. Tubesheet SA-240-304/304L 43 3/4" 3 3/8" SS 1/8" / TS 1/16" Bolted
[Stationary (material spec. no.)] [Diameter (subject to press.)] (Nominal thickness) (Corr. allow.) [Attachment (welded or bolted)]
- SA-240-304/304L 41 3/4" 3 1/4" SS 1/8" / TS 1/16" Bolted
[Floating (material spec. no.)] (Diameter) (Nominal thickness) (Corr. allow.) (Attachment)
13. Tubes SA-249TP304/304L 1" 0.065" A.W. 800 Straight
(material spec. no., grade or type) (O. D.) (Nominal thickness) (Number) [Type (straight or U)]

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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) 1 (b) Overall length 2'-4"

Course(s)			Material		Thickness		Long. Joint (Cat. A)			Circum. Joint (Cat. A, B & C)			Heat Treatment	
No.	Diameter	Length	Spec./Grade or Type		Nom.	Corr.	Type	Full, Spot, None	Eff.	Type	Full, Spot, None	Eff.	Temp.	Time
1	42" I.D.	2'-4"	SA-240-304/304L		5/16"	1/16"	1	Spot	.85	1	None	.85	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-	-	-

Body Flanges on Shells												
No.	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Location	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
1	***	42 3/4"	49 3/8"	3 3/8"	-	SA-350LF2CL1	SLIP ON	END	(36)-3/4"	SA-193B8M2	-	-
1	***	42 3/4"	53"	6 3/8"	-	SA-350LF2CL1	SLIP ON	END	(44)-1 5/8"	SA-193B8M2	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-	-

15. Heads: (a) SA-240-304/304L (Material spec. number, grade or type)(H.T. - time and temp.) (b) SKIRT COVER SA-240-304/304L (Material spec. number, grade or type)(H.T. - time and 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	2 5/16"	1/16"	-	-	-	-	-	49 3/8"	-	-	S	NONE	1.0
(b)	END	2 1/16"	1/16"	-	-	-	-	-	45 3/8"	-	-	S	NONE	1.0

Body Flanges on Heads												
	Location	Type	ID	OD	Flange Thk	Min Hub Thk	Material	How Attached	Bolting			
									Num & Size	Bolting Material	Washer (OD, ID, thk)	Washer Material
(a)	-	-	-	-	-	-	-	-	-	-	-	-
(b)	-	-	-	-	-	-	-	-	-	-	-	-

16. MAWP 30 psi 15 psi at max. temp. 500 deg.f - Min. design metal temp. 10 deg.f at 30
(Internal) (External) (Internal) (External)17. Impact test NO, EXEMPT PER UHA-51 & UG-20 (f) at test temperature of -
[Indicate yes or no and the component(s) impact tested]18. Hydro., pneu., or comb. test pressure 40 psi Proof test -

19. Nozzles, inspection, and safety valve openings:

Purpose (Inlet, Outlet, Drain, etc.)	No.	Diameter or Size	Type	Material		Nozzle Thickness		Reinforcement Material	Attachment Details		Location (Insp. Open.)
				Nozzle	Flange	Nom.	Corr.		Nozzle	Flange	
Inlet / Outlet	2	10"-150#	RFWN	SA-312TP304/L	SA-182F304/304L	.3650"	1/16"	INTEGRAL	UW16.1(e)	UW12(1)	Channel
Inlet	1	4"-600#	RFWN	SA-106B	SA-105N	.4380"	1/8"	SA-516-70	UW16.1(e)	UW12(1)	Shell
Outlet	1	2"-600#	RFLWN	SA-105N	-	.6600"	1/8"	INTEGRAL	UW16.1(e)	-	Shell
Vent	1	1"-600#	RFLWN	SA-105N	-	.5600"	1/8"	INTEGRAL	UW16.1(e)	-	Shell
Inspection	1	4"-600#	RFWN	SA-105N	-	.4380"	1/8"	SA-516-70	UW16.1(e)	UW12(1)	Shell
-	-	-	-	-	-	-	-	-	-	-	-
-	-	-	-	-	-	-	-	-	-	-	-

20. Supports: Skirt - Lugs - Legs - Others (2)-SADDLES Attached WELDED TO SHELL
(Yes or no) (Number) (Number) (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, Manufacturer's name, and identifying number):
-
-22. Remarks ASME EXTENSION THRU 12-1-2015 ITEM NO. 3043-7011-3 P.O. NO. 3081240588 * APPENDIX 2 WELD NECK FLG..
** PACKING BOX, ***SLIP ON LAP RING FLG., SKIRT: (1)-40 1/2" I.D. X 41 3/4" O.D. X 5/8" THK. X 14 1/4" LG. SA-240-304/304L WELDED TO
FLTG. TUBESHEET. PACKING GLAND: (1)-41 13/16" I.D. X 46 1/4" O.D. X 3" LG. WITH A 1 1/4" THK FLANGE SA-105B., SKIRT CVR. BACK-UP
FLANGE: (1)-41 13/16" I.D. X 45 3/8" O.D. X 2 7/16" THK.SA-350LF2CL1, SKIRT COVER BOLTED TO FLG. WITH (36)-5/8" SA-193B8M2 BOLTS

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Date: 10-7-15

Authorized Inspector: MCD

Date: 10/8/15

FORM U-1 (Cont'd)

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 BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1.

U Certificate of Authorization Number 20,206 Expires 04/19/15

Date 10-7-15 Name OHMSTEDE LTD., CORPUS CHRISTI PLANT
(Manufacturer)

Signed Charles Vawter
(Representative)

CERTIFICATE OF SHOP INSPECTION

I, the undersigned, holding a valid commission issued by the National Board of Boiler and Pressure Vessel Inspectors and employed by ONECIS INSURANCE COMPANY of LYNN, MA

have inspected the pressure vessel described in this Manufacturer's Data Report on 10/08/2015, and state that, to the best of my knowledge and belief, the Manufacturer has constructed this pressure vessel in accordance with ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 10/08/15 Signed YHC Luwala
(Authorized Inspector)

Commissions NB1396A TX 1512
(National Board (incl. endorsements))

CERTIFICATE OF FIELD ASSEMBLY COMPLIANCE

We certify that the statements in this report are correct and that the field assembly construction of all parts of this vessel conforms with the requirements of ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. U Certificate of Authorization Number - Expires -

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 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 the ASME BOILER AND PRESSURE VESSEL CODE, Section VIII, Division 1. The described vessel was inspected and subjected to a hydrostatic test of -. By signing this certificate neither the Inspector nor his/her employer makes any warranty, expressed or implied, concerning the pressure vessel described in this Manufacturer's Data Report. Furthermore, neither the Inspector nor his/her 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 -
(National Board (incl. endorsements))