E105

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

Manufactured and certified by	HE	AT TRANSFE	R SYSTEMS,		POLK, MO. 63	3111	
2. Manufactured for	PROTHERM CO			OWNE SQL	ARE, ST. LOUIS,	MO. 63123	
3. Location of Installation		• *************************************	UNKNO				
o. Location of installation			(Name and ad				
4. Type: HORIZ.	HEAT EXC	HANGER	12915-2	N/A	B-2915-2-01	1802	2007
(Horiz., vert., or sphere)	(Tank, separator, jkl. ve	and the same of the same of the same of	(Mfg's serial No.)	(CRN)	(Drawing No.)	(Nal'i Bd. N	lo.) (Year Built)
5. ASME Code, Section VIII, Div. 1	2004 Ad	/ A 2005		N/A		N/A	
3,223	(Edition and Ad	denda (date))	(Co	le Case No.)	(Spe	cial Service per	UG-120(d))
items 6 - 11 Incl. to be completed for s	ingle wall vessels, jackel	s of jacketed vessels,	shell of heat exchan	gers, or chamber	of multi chamber vessel	ls.	•
8. Shell (a) No. of course(s):	4	(b)	Overall length (ft & i	n.):	25' - 1	0 7/8"	
Course(s)	Material	Thickness		nt (Cat A)	Circum Joint (Cat A	B&C) 1	Heat Treatment
No. Diameter, In. Length (ft & In.)	Spec./Grade or Type	Nom. Corr.	Type Full, Sp	ot, None Elf.	Type Full, Spot, Nor	ne Eff. Te	emp. Time
3 32" 8' - 0"	SA-516, Gr. 70	0.500" 0.1250		NE 70%			00 F. 0.50 Hi
1 32" 1'-10 7/8"	SA-516, Gr. 70	0.500" 0.1250)" 1 NC	NE 70%	I NONE	70% 110	00 F. 0.50 Hi
	l	l				-1	
	516, Gr. 70	1100 F. 0.5	0 Hr. (b)				Commence (Sec. 16, 17)
(Mat'i Spec	. No., Grade or Type) H.1	r Time & Temp		(Mari S	pec. No., Grade or Type)) H.T Time & 1	Гетр
Location (Top, Thickne Bottom, Ends) Min.		Elliptical C	onical Hemispheri		Side to Pressure	Cate	gory A
D DIE D ANGELLO	Corr. Crown Kn	uckle Ratio Ape	ex Angle Radius	Diameter 32"	Convex Concave	Type Full, S	ONE 85%
.3:7:	1230			- JZ	\-\^	- B - 140	OND 657
(b) If removable, bolts used (describe of	hardadanian			1		l	Ja
ir removable, boils used (describe of	ner rastering)		(Mari	Spec. No., Grade	size No.)		
				190			
8. Type of jacket			Jacket o	aosure	(Describe as ogee	ole sed blow &	Vancour a reservoir
						H. L. alley A	y Janusha na abatab
If bar, give dimensions						• • • •	describe or sketch
9. MAWP 80	psl at max. temp		•F	Min. design	netal temp20	Fal	80 ps
(Internal) (exte	rnal)	(internal)	(external)				
10. Impact test	NONE	PER UG-20 (f),	AND UCS-66		at lest	temperature of	termination of
	(indicate yes	or no and the compor	ient(s) impact tested)				
11. Hydro., pneu., or comb. test pres	HYDRO - 10	4 PSI Proof test		* * # 10 (% * 1 (* * * * * * * * * * * * * * * * *	and a second car can have a c		
Items 12 and 13 to be completed for tu	be sections.						
12. Tubesheet: SA-516, G		36 7/8"	2'		0.1875"	ВС	OLTED
Stationary (Mat'l S		n. (subject to press.)	Nom. thk.,	în.	Corr. Allow., in.	* ****** * *****	(welded or bolted
and the second s	The transfer of the second sec						
Floating (Mal'I Spec. No.)	Dia., in.	~	Nom. thk., in.	Con	. Allow., In.	Altac	chment
13. Tubes: SA-214 ER		3/4"	0.08	3" Min.	280	U-	TUBES
Mat'l Spec. No., Grad	e or Type	O.D., in.	Nom. thk	, in. or gauge	Number		Straight or U)
Items 14 - 18 Incl. to be completed for							
	1		Overall length (ft & Ir		1' - 9 :	5/8"	
14. Shell (a) No. of course(s):	<u></u>	(0)					
Course(s)	Material	Thickness		nt (Cat A)	Circum Joint (Cat A		Heat Treatment
No. Diameter, In. Length (ft & in.) 1 32" 1' - 9 5/8"	Spec./Grade or Type SA-516, Gr. 70	Nom. Corr. 0.500" 0.0625	Type Full, Sp	ol, None Eff. NE 70%	Type Full, Spot, Nor NONE	ne Eff. To	emp. Time
1 32" 1'-95/8"	5A-510, GI. 70	0.300 0.0020	/ · · · ·	7070	1 1010	1000	
4E Unada (a) CA	516, Gr. 70	1	(b)		Name of the second		
	c. No., Grade or Type) H	T. Time & Temp		(Matt S	pec. No., Grade or Type) H.T Time &	Temp
			Conical Hemispher	The second of the second of the second	Side to Pressure		egory A
Bottom Ends) Min.	Corr. Crown Ki		ex Angle Radius	Diameter	Convex Concave	Type Full, S	Spot, None Eff.
(a) L-END 0.4375" 0.	0625"	2:1		32"	X		ONE 85%
(b)						l	
If removable, bolts used (describe oth	er fastening)	3/4" - 24 PCS	OF SA-193-B7	STUDS AND	3/4" - 48 PCS OF	SA-194-2H	INUTS
-0. 100 1 200 11 - 1 300 - 1			(Ma	I'l Spec. No., Gra	ide, Size, No.)		

	100 (internal)	(ex	ternal)	si at max. temp.	-	150 nternal) (ext	• F	Min.	design metal temp.	-20	• F at	100 р
Impact test				NONE PE	R UC	3-20 (f), AND	UCS-66			at test ter	mperature of	
impact tost				(Ir	ndicate	yas or no and the co	mponent(s) im	pact tested)				
Hydro., pnu	Ia., or cor	nb. test pre	SS.	HYDRO -	130	PSI	Proof test	3	L. B. B.			
Nozzles, insp			140									
urpose (Inte		Diameter	Flange	T	Mate	rial	Nozzle 1	hickness	Reinforcement		tlached	Location
tlet, Drain, e	lc.) No.	or Size	Type RFSO	SA-106-B S			Nom.	Corr.	Material	Nozzle	Flange	(Insp. Open.)
INLET	1	14"		SA-106-B S	ML	SA-105		0.1250"		- C	0	
OUTLET	1	4"	RFSO	SA-106-B S				0.1250" 0.0625"		- c	0	
INLET	1	12"	RFSO	SA-106-B S				0.0625"			0	
OUTLET	1_	12"	RFSO	SA-106-B S	MILL	5A-103	0.575	0.0023				
											 	
	l	l				NO		CADDI	LE SUPPORTS	-L	MEI DED	TO SHELL
Supports: S		NO (Yes or No)	Lugs	NO (No.)	La	gs NO	Olhers		(Describe)	Allacheo		and How)
(List the nar	me of part	, item numb	per, mfg's. n	ame and identifyi	ng num	nber)			nished for the followin			
Remarks:												
ASM	E Code fo			n this report are o	correct	RTIFICATE OF S			struction, and workm	anship of this	vessel confor	n to the
	5/	Authorizat	lon No.		20649		Expires .	Signed	1 / win	04/2069		
U Ge Date	5/		lon No.		20649 NSF (Mai	ER SYSTEMS	S, INC.		fluin	(A). Representative		<i>f</i>
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