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(Indicate yes or no and the component(s) impact tested) 18. Hydro., pneu., or comb. test press. 75 psig hydro Proof test NA											
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Vapor	1	18"	150#	SA-240 316L	"	.375"	.125"	н	bb	Thd.Cpg.	
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21. Manufactur			ts prope	rly identified and signe	. ,					(Where and	now)
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22. Remarks:	UG-46(a)									

				CERTIFICA	TE OF SHOP CO	OMPLL	ANCE				
We certify th	at the stater	nents made	in this r	eport are correct and				struction, and Work	manshin	of this vessel	conform
to the ASME	Code for Pr	essure Ves	sels, Se	ction VIII, Division 1,				/		1	
U Certificat				7037	E	pires		/ \	11/2	96/ 19, 99	
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					rfacturer)		3		(Repres	sentative)	7.
					TE OF SHOP IN	ISPEC	TION		(itopic.	3CHIANIES)	
I, the undersi	gned, holding	g a valid co	mmission	n issued by The Nation				I Inspectors and th	a State	or Province of	: NY
and employed		,	Comm	ercial Union Insu	ance Company	u 1 10330			n, MA		rspected
		ibed in this	Manufac	cturer's Data Report o		19 94		ate that, to the be			
				essel in accordance v		tion VIII	Division	1. By cigning this	oortifical	o noither the	noncetor
nor his emplo	ver makes a	nv warrant	v. expres	ssed or implied, conce	rning the pressure ve	ecal dace	cribed in	this Manufacturar	Data D	anort Eurthor	mara
neither the ins	pector nor h	is emolove	r shall be	e liable in any manner	for any nersonal injur	V or prop	etty dan	age of a loce of a	o vala n	report, runner	niore,
with this inspe	ection.		, onan b	A made in any manner	ior any personal injur	y or prop	ierry dan	lage of a loss of al	iy kunu a	arising from or	connected
Date 8	3/31/94	Signe	d /	Sme -	da.	Comn	nissions	NB 5446A	NIVO1	22	1
	,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,,	_ Olgino	u K	(Authorized In:	enactor)	COM		And in case of the last of the			
			C	ERTIFICATE OF		I V CO	MIDLIA	oard incl. endorse	ment, St	ate, Province	and No.)
We certify tha	t the statem	ante on this									
of ASME Cod	e Section V	III Divicion	1	are correct and that th	e lielo assembly cons	struction	of all par	is of this vessel co	morms y	with the require	ements
U Certificate					F.,					40	
o ooranoate	or Addition	Zauonik	·		EX	oires _				,19	
Date		Name					01				
		- Ivallie		(Asse			Sigr			No. 101200 - 20	
						21 37 13 16	00507	ION	(Repres	entative)	
I the underside	and balding	سديد الطاعدة		ERTIFICATE OF	FIELD ASSEME	SLY IN	SPECT	ION	<u> </u>	7/201 G 507	1
	Programme and the second			issued by The Nation							annual representation of the second
and employed				cturer's Data Report w					f		
nave compare	a the statem	ients in this									
and belief if	W (:		,no	ot included in the certif	licate of shop inspect	ion, have	been in	spected by me and	to the b	est of my kno	wledge
and belief, the	manuracture	er has cons	tructed a	and assembled this pre	essure vessel in acco	rdance w	ith ASM	E Code, Section VI	II, Divisi	on 1. The des	cribed
ressel was ins	pected and	subjected to	o a hydro	static test of	psi. By signing th	is certific	ate neith	er the Inspector no	r his em	ployer makes	any
varranty, expr	essed or imp	olled, conce	rning the	pressure vessel desc	cribed in this Manufac	turer's D	ata Repo	ort. Furthermore, r	neither th	ne Inspector no	or his
employer shall	be liable in a	any manner	for any	personal injury or prop	erty damage or a los	s of any	kind aris	ing from or connec	ted with	this inspection	ı.
Date		Signed				c	ommiss	ions			
				(Authorized I	nspector)		(Nat'l Bo	ard incl. endorsem	ent, Sta	te, Province a	nd No.)

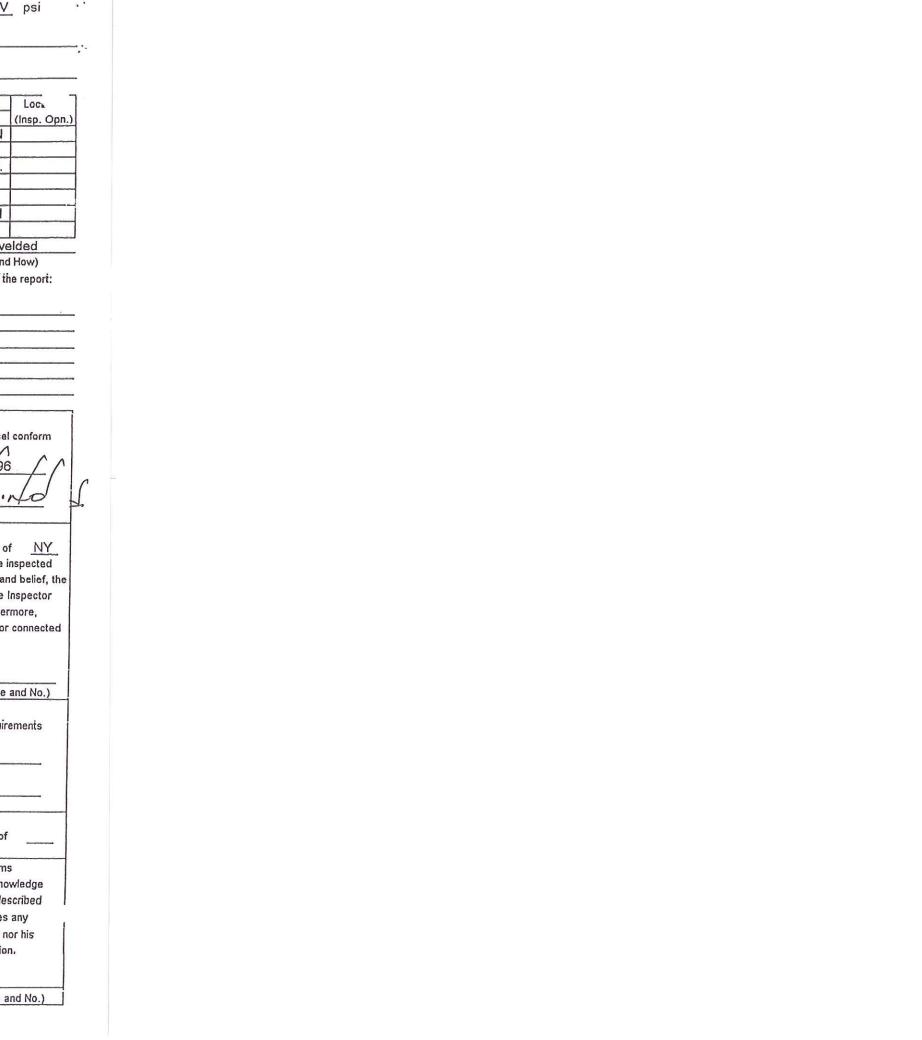


Fig Strange to Land Land Control of	officeration time to see the state of the st
	NATIONAL BOARD NO. 7785
{U}	CERTIFIED BY
\mathbb{W}	SOUTHERN HEAT
	EXCHANGER CORP.
	TUSCALOOSA, ALABAMA
Shell s	
MAWP MAWP	173 / F.V. PSI AT 400 °F.
MDMT *	°F. Al PSI
TUBE SI	DE
MAWP	SO /F.V. PSI AT 7.00 °F.
momt	20 °F. AT 50/11V. PS1
SHECO SER. NO.	94-020 YEAR 1994
CUST. ORDER	FILE AND THE STATE OF THE STATE
CUST. ITEM	1-12 335
L. Company	
	ALCON PROPERTY OF THE PROPERTY

HEAT EXCHANGER SPECIFICATION SHEET

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1 E-1213-5 ACID SPLITTER REBOILER
                                                              104352
  2 GLITSCH JOB NO. 5F-1096
  3
  5
    Size 25-120
                             Type NEN Ver Connected in 1 Parallel 1 Series
    Surf/Unit(Eff) 1169
                             ft2; Shells/Unit 1 Surf/Shell(Eff) 1169
                             PERFORMANCE OF ONE UNIT
  9 Fluid Allocation
                                            Shell Side
                                                                  Tube Side
 10 Fluid Name
                                               STEAM
                                                                ACETIC ACID
 11 | Fluid Quantity, Total
                                   lb/h
                                               5589
                                                                   159014
 12
         Vapor (In/Out)
                                   lb/h
                                          5589
                                                                         28034
 13
         Liquid
                                   lb/h
                                                    5589
                                                              159014
                                                                        130980
 14
         Noncondensable
                                   lb/h
 15 Temperature (In/Out)
                                      F
                                           250
                                                     250
                                                              162.2
                                                                          163
         Dew Point/Bubble Point
 16
                                      F
                                           250
                                                                         162.2
 17 Density
                                 lb/ft3
                                          0.071
                                                   58.789
                                                                         0.032
 18 Viscosity
                                          0.013
                                                    0.24
 19 Molecular Weight, Vapor
                                                              0.59
                                                                         0.01
                                                              60.49
 20 Molecular Weight, Noncondensable
                                                                         60.49
 21 Specific Heat
                             BTU/(lb*F)
                                          0.52
                                                    1.006
                                                              0.528
22 Thermal Conductivity
                                                                         0.295
                          BTU/(ft*h*F)
                                          0.397
                                                              0.087
                                                                         0.008
 23 Latent Heat
                                 BTU/1b
                                           942
                                                               186
 24 Inlet Pressure
                                   psia
                                                30
                                                                    2.8
 25 Velocity
                                   ft/s
                                               18.0
26 Pressure Drop, Allow./Calc.
                                                                   109.0
                                    psi
                                               5 / 0.283
                                                               2.102 / 2.083
27 Fouling Resist. (Min.) ft2*h*F/BTU
                                              0.0005
                                                                   0.001
 28 Heat Exchanged
                   5265990
                                  BTU/h; MTD (Corrected)
                                                           72.1
   Transfer Rate, Service 63
                                    Dirty 91
                                                    Clean 108
                                                                  BTU/(ft2*h*F)
 30
                          CONSTRUCTION OF ONE SHELL
                                                                   Sketch
 31
                                  Shell Side
                                                 Tube Side
32 Design/Test Pressure
                            psig | 175&FV/Code
                                               50&FV/Code
33 Design Temperature
                                     400
                                                    400
34 No. Passes per Shell
                                      1
                                                    1
35 Corrosion Allowance
                              in
                                    0.0625
                                                    0.125
36 Connections
                   In
                             in
                                    6 / 150
                                                  10 / 150
37
     Size /
                   Out
                              in
                                    3 / 150
                                                  18 / 150
38
     Rating
39 Tube No. 604
                  OD 0.75 ;Thk-Avg 0.083 in;Length
                                                        10 ft; Pitch 0.9375 in
40 Tube Type Plain
                                          Material SS317L
                                                               Pattern
41 Shell CS
                   ID 25.375 OD 26
                                       in Shell Cover
42 Channel or Bonnet SS316L
                                           Channel Cover CS/316LSS Clad
43 Tubesheet-Stationary SS316L
                                           Tubesheet-Floating
44 Floating Head Cover
                                          Impingement Protection In Dome
45 Baffles-Cross CS
                           Type SSEG
                                          Cut (%d) 44 H; Spacing: c/c 23.25 in
46 Baffles-Long
                                 Seal Type
                                                               Inlet 17.5 in
47 | Supports-Tube
                                 U-Bend
                                                       Type
48 Bypass Seal Arrangement
                                          Tube-Tubesheet Joint Welded
49 Expansion Joint Calculate
                                          Type Flanged & Flued
50 Rho*V2-Inlet Nozzle 883
                                Bundle Entrance 131
51 Gaskets-Shell Side Spiral Wnd 316SS TFE Fill Tube Side Spiral Wnd 316SS-
                                                          Bundle Exit
53 Code Requirements ASME Code Sec VIII Div 1
                                                                  TFE Fill
                                                          TEMA Class B
54 Weight/Shell 6564
                            Filled with Water 9512
                                                          Bundle 4214
55 Remarks See Engineering Notes
                                                                             lb
56 Tubes to be seamless. Tubes may be welded if they are cold drawn with no
57 more than 15% reduction in wall thickness. Spot radiograph required on butt
58 welds. Paint external SS surfaces per 11CS-674.
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