

Chart Heat Exchangers L.P.
Inspection & Test Report

Stacking & Brazing

Cell 4

Sales Order # 509.872 Module # _____ Manufacturing # 15770B-4

Operation	Instruction	Operator Clock #	Date & Inspector Initials	W/H Points Int & Date
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1. TACKING ASSEMBLY

WI9-040-002

- #1 Layer G - Stream
- #2 Layer H - Stream
- #3 Layer F - Stream
- #5 Layer B & C - Stream
- #6 Layer D - Stream
- #11 Layer E - Stream
- Layer
- Layer
- Layer
- Layer

WI10-02

46322
46463 2-23-05 TR 2-23-05

WI10-02

46322
46463 2-23-05 TR 2-23-05

WI10-02

46322 77544
46463 2-23-05 TR 2-23-05

WI10-02

46322 77544
46463 2-23-05 TR 2-23-05

WI10-02

46322 77544
46463 2-23-05 RED 2-23-05

WI10-02

46322
46463 77544 TR 2-23-05

WI10-02

WI10-02

WI10-02

WI10-02

Half Primary Stacking & Squareness

WI10-02

46505
75343 75340
46445/46489 2-23-05

Primary Stacking & Squareness

WI10-02

46409/46426
46469/77075 2-24-05

Compression & Dimensional Record

75343
46426/46489 77075 75343

Braze Core / Module

Date 2-26-05 46420

Fixture Removal / Dimensional After Brazing

Date 2-27-05 46420/46366

Header Inspection Log									
Header Assy. Item #	Stream Identification	Header Body Trace	Sales Order #			509.8-12		X-Ray #	A.I. Review Initials & Date
			End Piece Trace	Nozzle Trace	Misc. Material Trace	Final Insp. Initials & Date	X-Ray Initials & Date		
1302	A-IN	S408C	S504C	T151C		TL 3/9/05			HAL 3-9-05
1303	A-OUT	S472C	S477C	T108C	S422C	TL 3/9/05			HAL 3-9-05
1304	B-IN	S504C	S504C	T139C		TL 3/7/05	DS3-9-05ME	A945	HAL 3-9-05
1305	B-OUT	S409C	S409C	T105C		TL 3/9/05			HAL 3-9-05
1306	C-IN	S409C	S409C	T119C		JL 3-10-05			HAL 3-10-05
1307	C-OUT	S408C	S422C	T109C		TL 3/9/05			HAL 3-9-05
1308	D-IN	S408C	S422C	T138C		JL 3-9-05			HAL 3-9-05
1309	D-OUT	S483C	S460C	T119C		JE 3-6-05			HAL 3-9-05
1310	E-IN	TOO7C	S408C	T156C		JL 3-9-05			HAL 3-9-05
1311	E-OUT	S408C	S504C	T109C		JL 3-9-05			HAL 3-9-05
1312	F-IN	S472C	S408C	T175C		JL 3-9-05			HAL 3-9-05
1313	F-OUT	S472C	S408C	T151C		JL 3-9-05			HAL 3-9-05
1314	G-IN	S472C	S408C	S472C		TL 3/7/05			HAL 3-7-05
1315	G-OUT	S472C	S477C	S472C		TL 3/9/05		A915	HAL 3-9-05

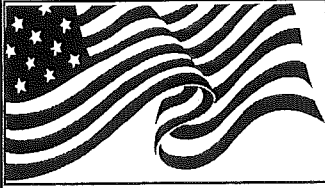


Chart Heat Exchangers

Post Braze Inspection and Test Report

National Board Number:

5129

Job Number/Serial Number 509.8-12

Drawing Number: 15770A

Mfg. Number: 15770B-4

Review of Design Calculations, Assembly Drawings and I&T Report

QC Review and approval of ITR: KKDate: 2/2/05AI Review and acceptance of ITR: [Signature]Date: 2-4-05

General Documentation

Nameplate Verification

QC Inspection	Date	Authorized Inspector	Date
SV	4-1-05	[Signature]	4-1-05

General Operations

Centerline Layout

Weld and Inspect Port Posting

Emp #	Date	QC Insp	Date	AI Init & Date
75519	2-28-05			
17117	3-3-05			3-3-05

Header Fit-up and Inspection

Header	AI Hold (H)	Clean Check / Header Fit-up (Stamp # & Date)	Oxygen Service (QC Inspection)	Inactive Vent or Pan header (n ¹)
		Visual Inspection before fit up	Black Light	LPT weld before fit-up
A-In		40 3-12-05		
A-Out		20 3-10-05		
B-In		26 3-9-05		NA WA
B-Out		2 3-10-05		
C-In		2 3-10-05		
C-Out		20 3-10-05		
D-In		46 3-11-05	SU	
D-Out		14 3-10-05	NA	
E-In		14 3-11-05		
E-Out		14 3-11-05		
F-In		46 3-11-05		
F-Out		2 3-10-05		
G-In		25 3-9-05		
G-Out		2 3-10-05		

n¹ AI to review header welds prior to fit-up of inactive vent or pan headers. LPT header welds if specified on assembly drawings

Pre-hydro Inspection and Tests

	Emp #	Date	QC Insp	Date	AI Init & Date
1st Air Test	46312/46290	3-14-05			
Support angle fit-up	46332	3-14-05			
Visual Inspection, final welds (Weld Check)			TL	3-15-05	3-15-05
Dimension Check			TL	3-15-05	
LPT complete per drawing requirement			TL	3-16-05	
RT complete per drawing requirement			4C	4/1/05	

Thermocouple Layout for Vacuum Drying

 Layer No: 65 Stream No: 8 TC Located 159" from top of core between Point/Cont header

Pretest with Water

Stream Identification	Stream Test Pressure (PSIG)	Supervisor Initial and Date	Testor Employee # & Date	Inspector or 2nd Testor Employee # and Date	AI Hold Point Init & Date
B	1371	TP 3/17/05	46424 3-17-05	R20 3-17-05	TP 3/17/05
C	1371		46447 3-18-05	SV 3-18-05	TP 3/17/05
D	870		46447 3-18-05	SV 3-18-05	TP 3/17/05
E	653		46447 3-18-05	SV 3-18-05	

Core Drain and Dry

Drying Procedure: Manual (M) or Automatic (A)

A

Emp #

Date

Verification of core dryness.

75519

3-19-05

Pneumatic and Leak Test

Stream Identification	Pneumatic Test Pressure (PSIG)	Leak Test Pressure (PSIG)	Testor Emp # and Date	Inspector or 2nd Testor Emp# and Date	Internal Leak Test Emp # and Date	External Leak Test Emp# and Date	AI Hold Point Init & Date
A	164	109	46287	RT 3-3-05	Vok	Vok	3-30-05
B	1005	914	46287	RT 3-30-05	Vok	Vok	3-30-05
C	1005	914	46287	RT 3-30-05	Vok	Vok	
D	638	580	46287	RT 3-30-05	Vok	Vok	3-30-05
E	479	435	46287	RT 3-30-05	Vok	Vok	3-30-05
F	44	29	46287	RT 3-30-05	Vok	Vok	3-30-05
G	44	29	46287	RT 3-30-05	Vok	Vok	3-30-05
TUV							
A	164	109	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
B	1005	914	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
C	1005	914	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
D	638	580	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
E	479	435	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
F	44	29	46287	RT 3-30-05	Vok	Vok	TR 03/30/05
G	44	29	46287	RT 3-30-05	Vok	Vok	TR 03/30/05

Final Inspection

Emp # Date QC Insp Date

Helium leak test

Header clean check inspection

Final inspection

Crate check(Tester)

Loose parts verification

ITR review and return to QC Office

46424	3/21/05		
75519	3-31-05		3-31-05
			4-1-05
46359	4-1-05		
46359	4-1-05		