

Chart Heat Exchangers L.P.  
Inspection & Test Report

Stacking & Brazing

Cell 4

Sales Order # 509-8-10

Module # \_\_\_\_\_ Manufacturing # 15770B-2

Operation

Instruction

Operator  
Clock #

Date &  
Inspector  
Initials

W/H Points  
Int & Date

1 TACKING ASSEMBLY

G Layer # 1

A Layer # 2

F Layer # 3

B/C Layer # 5

D Layer # 6

E Layer # 11

Layer

Layer

Layer

Layer

WI9-040-002

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

WI10-02

Half Primary Stacking & Squareness

Primary Stacking & Squareness

Compression & Dimensional Record

Braze Core / Module

Fixture Removal / Dimensional After Brazing

Date 2-23-05

Date 2-28-05

46356

75398/75398

Header Inspection Log									
		Sales Order #				509.8-10			
Header Assy. Item #	Stream Identification	Header Body Trace	End Piece Trace	Nozzle Trace	Misc. Material Trace	Final Insp. Initials & Date	X-Ray Initials & Date	X-Ray #	A.I. Review Initials & Date
1302	A-IN	S-408-C	S504C	T-151-C	N/A	WOODY 3-2-2005			HAL 3-2-05
1303	A-OUT	S-472-C	S483C	T-113-C	PERM. DISK S-446-C	WOODY 3-2-2005			HAL 3-2-05
1304	B-IN	S374C	S374C S504C	T139C		JL 3-1-05	DS3-2-05ME2	A920	AJH 3-2-05
1305	B-OUT	S409C	S409C	T105C		JE 3-1-05			AJH 3-2-05
1306	C-IN	S409C	S409C	T119C		JL 2-27-05			HAL 3-2-05
1307	C-OUT	S-407-C	S446C	T-109-C	N/A	WOODY 3/4/2005			HAL 3-4-05
1308	D-IN	S408C	S446C	T138C		JL 3-1'-05			HAL 3-1-05
1309	D-OUT	S483C	S504C	T119C		JL 2-28-05			HAL 2-28-05
1310	E-IN	T-007-C	S468C	T-156-C	N/A	WOODY 3-2-2005			HAL 3-2-05
1311	E-OUT	S408C	S504C	T109C		JL 2-28-05			HAL 2-28-05
1312	F-IN	S472C	S468C	T175C		JE3-1-05			HAL 3-1-05
1313	F-OUT	S472C	S468C	T151C		JL 3-1-05			HAL 3-1-05
1314	G-IN	S-472-C	S468C	S-472-C	N/A	WOODY 3/3/2005		A912	HAL 3-2-05
1315	G-OUT	S472C	S483C S477C	S472C		JL 3-2-05		A911	HAL 3-2-05



# Chart Heat Exchangers

## Post Braze

### Inspection and Test Report

National Board Number:

5127

Job Number/Serial Number 509.8-10

Drawing Number: 15770A

Mfg. Number: 15770B-2

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

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

#### General Documentation

Nameplate Verification

QC Inspection	Date	Authorized Inspector	Date
<u>SV</u>	<u>3-31-05</u>	<u>[Signature]</u>	<u>3-31-05</u>

## General Operations

	Emp #	Date	QC Insp	Date	AI Init & Date
Centerline Layout	46297	2-24-05			
Weld and Inspect Port Posting	46383	2-28-05			H 3-6-05

## 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 (h <sup>1</sup> )
		Visual Inspection before fit up	Black Light	LPT weld before fit-up
A-In	55	3-4-05		
A-Out	59	3-4-05		
B-In	20	3-6-05		N/A 3-15-05
B-Out	36	3-6-05		
C-In	59	3-4-05		
C-Out	36	3-6-05		
D-In	25	3-2-05	REQ	
D-Out	25	3-2-05	REQ	
E-In	36	3-6-05		
E-Out	25	3-2-05		
F-In	25	3-2-05		
F-Out	20	3-6-05		
G-In	36	3-6-05		
G-Out	20	3-6-05		

n<sup>1</sup> 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	46298/-	3-15-05			
Support angle fit-up	46298-	3-15-05			
Visual Inspection, final welds (Weld Check)			REQ	3-15-05	H 3-20-05
Dimension Check			SU	3-16-05	
LPT complete per drawing requirement			TR	3-21-05	
RT complete per drawing requirement			QC	3-31-05	

## Thermocouple Layout for Vacuum Drying

Layer No: 65 Stream No: 6 TC Located 159" from top of core between Bunt/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 3/19/05	46353	JK 3-19-05	JK 3-19-05
C	1371	↓	46353	JK 3-19-05	JK 3-19-05
D	870	↓	46353	JK 3-19-05	JK 3-19-05
E	653	↓	46353	JK 3-19-05	JK 3-19-05

## Core Drain and Dry

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

M

Emp #

Date

Verification of core dryness.

42488

3-21-05

## 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	TR 3-22-05	✓	✓	TR 3-22-05
B	1005	914	46287	TR 3-22-05	✓	✓	TR 3-22-05
C	1005	914	46287	TR 3-22-05	✓	✓	TR 3-22-05
D	638	580	46287	TR 3-22-05	✓	✓	TR 3-22-05
E	479	435	46287	TR 3-22-05	✓	✓	TR 3-22-05
F	44	29	46287	TR 3-22-05	✓	✓	TR 3-22-05
G	44	29	46287	TR 3-22-05	✓	✓	TR 3-22-05
TUV							
A	164	109	46424	REM 3/30/05	✓OK	✓OK	TR 03/30/05
B	1005	914	46287	PT 3-30-05	✓OK	✓OK	TR 03/30/05
C	1005	914	46287	PT 3-30-05	✓OK	✓OK	TR 03/30/05
D	638	580	46424	REM 3/30/05	✓OK	✓OK	TR 03/30/05
E	479	435	46424	REM 3/30/05	✓OK	✓OK	TR 03/30/05
F	44	29	46424	REM 3/30/05	✓OK	✓OK	TR 03/30/05
G	44	29	46424	REM 3/30/05	✓OK	✓OK	TR 03/30/05

## Final Inspection

Helium leak test

Header clean check inspection

Final inspection

Crate check(Tester)

Loose parts verification

ITR review and return to QC Office

Emp #	Date	QC Insp	Date
46348	3/23/05		
75379	3-31-05		
75519	3/31/05		
46021	3-31-05		