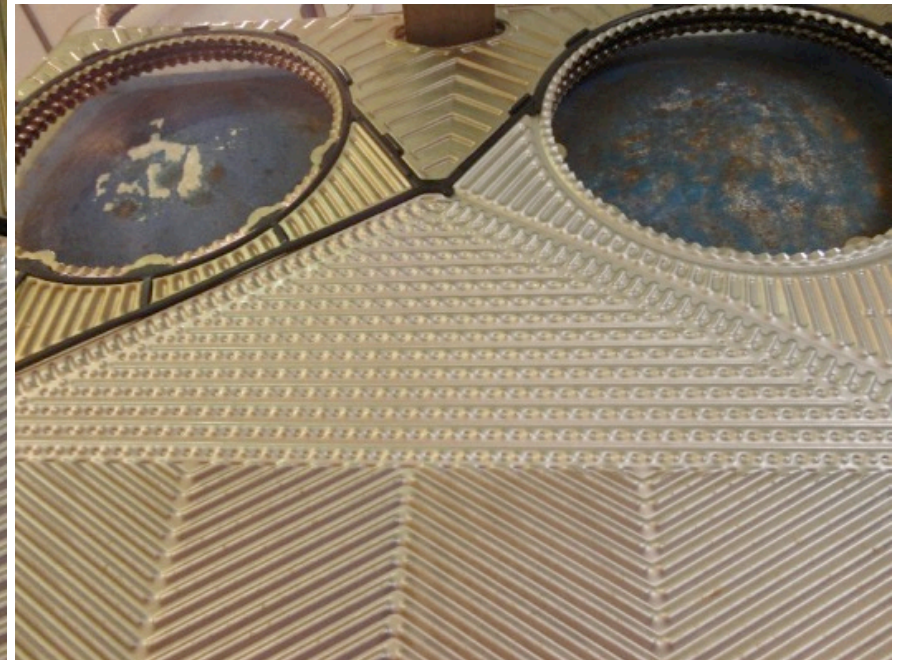


## Gasket Installation

<b>Adhesive</b>	Clip In
<b>Gasket Material</b>	NBR (Nitrile Butadiene Rubber)
<b>Plate Count</b>	405



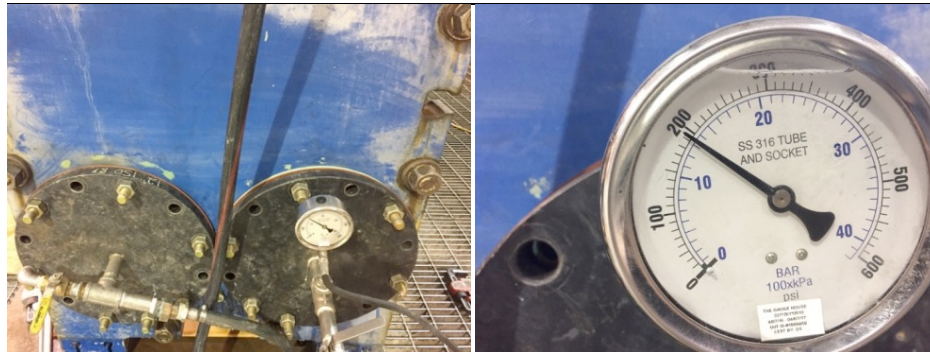
**Assembly and Hydro Test**

**Assembly**

<b>Frame Repairs Completed</b>	N/A
<b>Welder Name</b>	N/A
<b>Weld Certs</b>	N/A
<b>WPS</b>	N/A
<b>Weld Map</b>	N/A
<b>NDE Report</b>	N/A

**Hydro Test**

<b>Test Medium</b>	Water						
<b>Test Duration</b>	30 minutes @ 195psi						
<b>Gauge #</b>	PIC0003893	<b>Range</b>	0-1000 PSIG	<b>Cal Date</b>	4/7/2016	<b>NIST #</b>	150015523



**Order Details:**

**Customer Name:** Customer # 2

**PO#:** 9288

**Receiving Date:** 4/27/2017

**Ship Date:**

**Model:** B110

**Serial #:**

**Plate Count:** 307

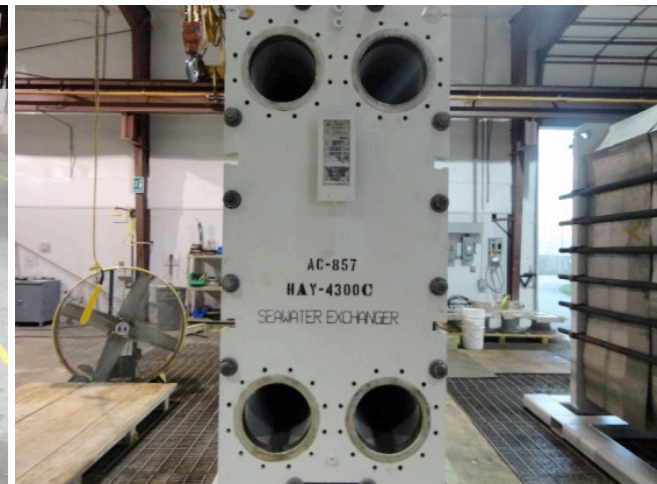
**Plate Material:**

**Gasket Type:** NBR

**Special Instructions:**

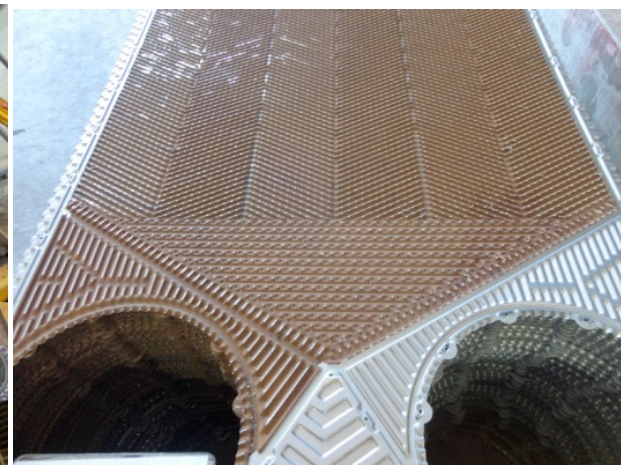
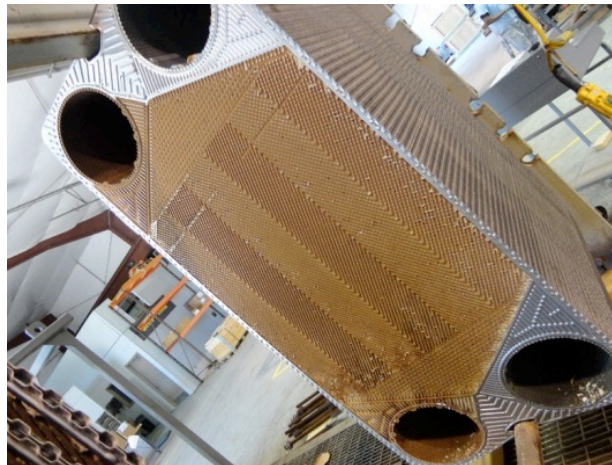
**Scope of Work:**

<b>Blast &amp; Paint Frame</b>	<input checked="" type="checkbox"/>
<b>R-Stamp</b>	<input type="checkbox"/>
<b>Receiving</b>	<input checked="" type="checkbox"/>
<b>Pre Wash Plates</b>	<input type="checkbox"/>
<b>Chemical Tanks</b>	<input checked="" type="checkbox"/>
<b>Clean and Inspect</b>	<input checked="" type="checkbox"/>
<b>Install New Gaskets</b>	<input checked="" type="checkbox"/>
<b>Oven Cure Adhesive</b>	<input type="checkbox"/>
<b>Assembly</b>	<input checked="" type="checkbox"/>
<b>Hydro Test</b>	<input checked="" type="checkbox"/>
<b>Final Inspection</b>	<input checked="" type="checkbox"/>



**Receiving and Disassembly:**

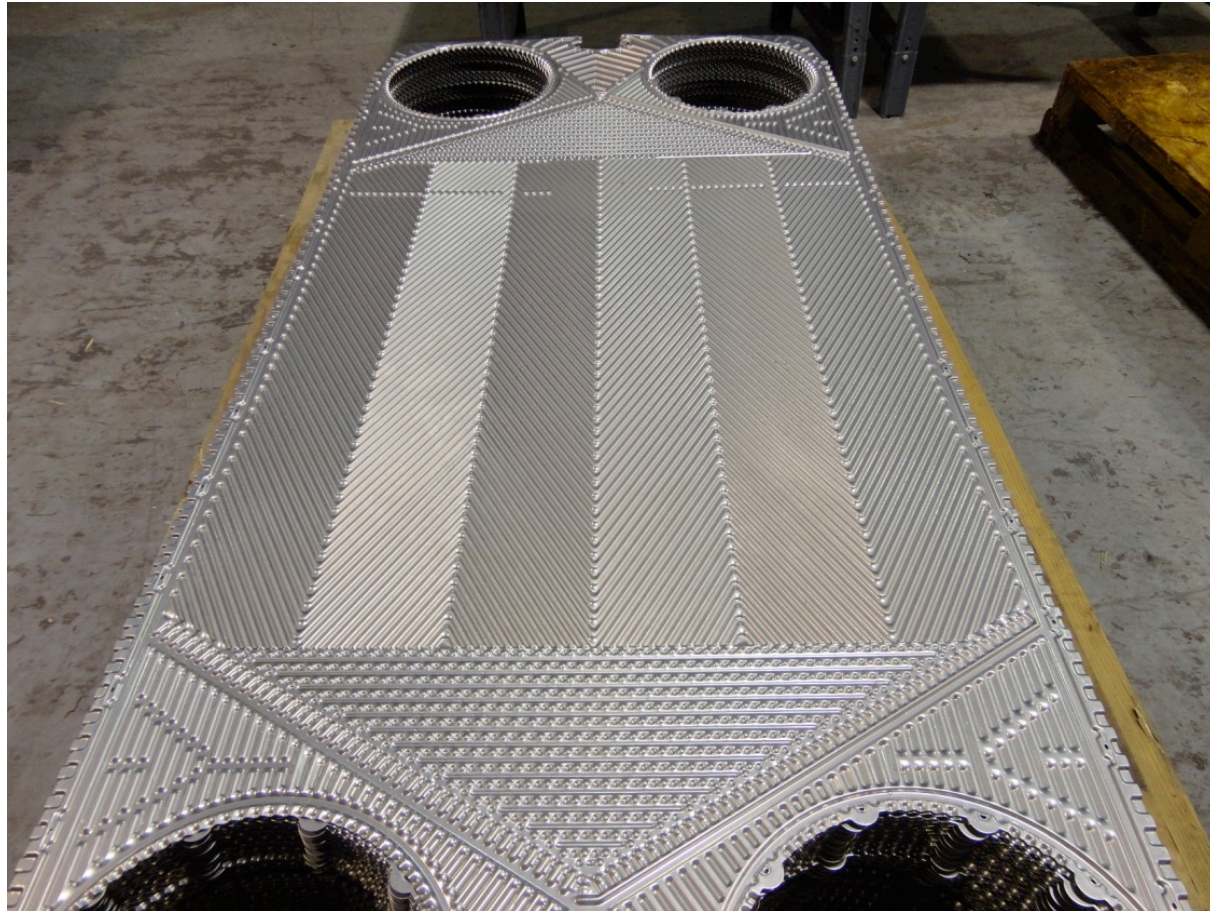
<b>Unit Condition</b>	Unit condition is fair with obvious rust throughout surface of unit.
<b>Frame Condition</b>	Good condition, with obvious signs of rust
<b>Tie Rod Condition</b>	Extreme rust
<b>Plate Condition</b>	fouled



**Chemical Cleaning and Inspection:**

Fluorescent die penetrant used for plate inspection

<i>Passed Inspection</i>	307
<i>Failed Inspection</i>	0
<i>Total Plates Inspected</i>	307



**Gasket Installation**

	Pliobond 30 - thermosetting adhesive that quickly bonds any porous or non-porous surface. When it's cured, it stays strong yet flexible over a wide temperature range.
<b>Adhesive</b>	NBR –Nitrile
<b>Gasket Material</b>	Butadiene Rubber
<b>Plate Count</b>	307



**Assembly and Hydro Test**

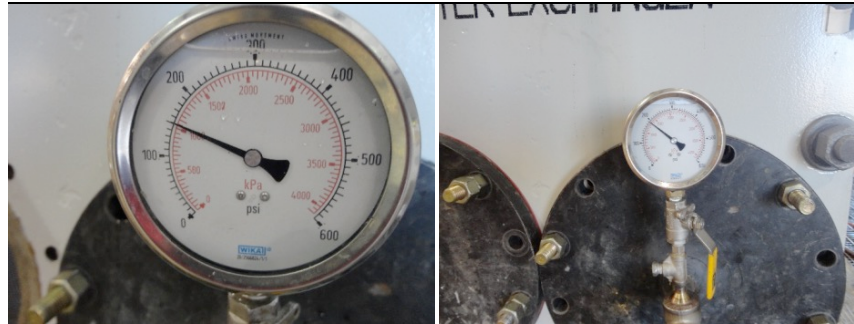
**Assembly**

<b>Frame Repairs Completed</b>	N/A
<b>Welder Name</b>	N/A
<b>Weld Certs</b>	N/A
<b>WPS</b>	N/A
<b>Weld Map</b>	N/A
<b>NDE Report</b>	N/A

**Hydro Test Internal Test: 150 psi for 30 minutes**

**Balance Test: 195psi for 30 minutes**

<b>Test Medium</b>	Water						
<b>Test Duration</b>	30 minutes						
<b>Gauge #</b>	003	<b>Range</b>	0-600 psi	<b>Cal Date</b>	5/12/2017	<b>NIST #</b>	27314200006



# PHE Final Report

## Order Details:

**Customer Name:** Bob's Chem Plant

**PO#:** MPC10252299

**Receiving Date:** 2/8/2017

**Ship Date:** 3/8/2017

**Model:** B134

**Serial #:** 44756.1

**Plate Count:** 405

**Plate Material:** **Gasket Type:** NBR

**Special Instructions:**

[FEB-09-17 Parts Services] 2 Units with 405 Plates in each.

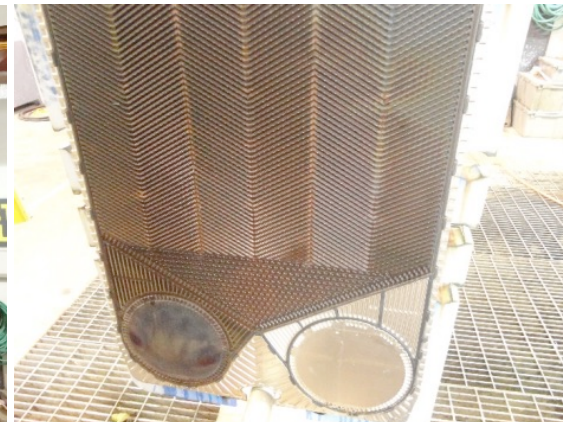
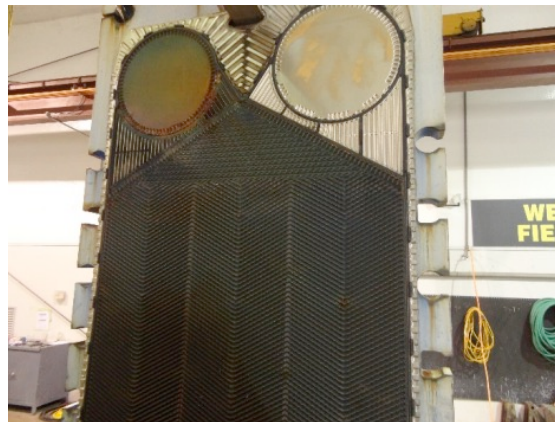
## Scope of Work:

<b>Blast &amp; Paint Frame</b>	<input type="checkbox"/>
<b>R-Stamp</b>	<input type="checkbox"/>
<b>Receiving</b>	<input checked="" type="checkbox"/>
<b>Pre Wash Plates</b>	<input type="checkbox"/>
<b>Chemical Tanks</b>	<input checked="" type="checkbox"/>
<b>Clean and Inspect</b>	<input checked="" type="checkbox"/>
<b>Install New Gaskets</b>	<input checked="" type="checkbox"/>
<b>Oven Cure Adhesive</b>	<input type="checkbox"/>
<b>Assembly</b>	<input checked="" type="checkbox"/>
<b>Hydro Test</b>	<input checked="" type="checkbox"/>
<b>Final Inspection</b>	<input checked="" type="checkbox"/>



**Receiving and Disassembly:**

<b>Unit Condition</b>	Unit condition fair, with normal signs of use. Unit arrived without bore flanges.
<b>Frame Condition</b>	Frame is structurally sound with faded paint and minimal rust noted.
<b>Tie Rod Condition</b>	Tie rods in good condition, minimal rust
<b>Plate Condition</b>	Heavily Fouled. Gaskets are "tab in" without glue, with exception of end plate which gasket is glued down.



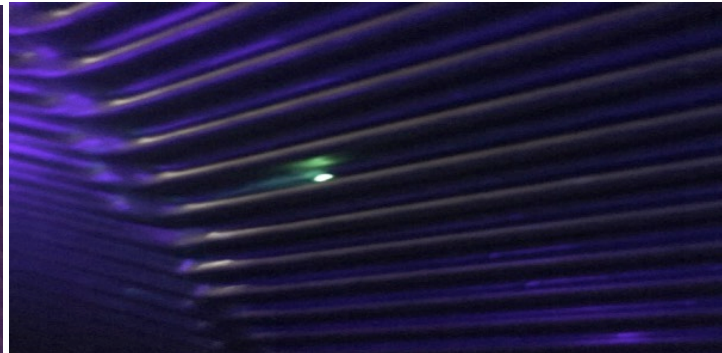
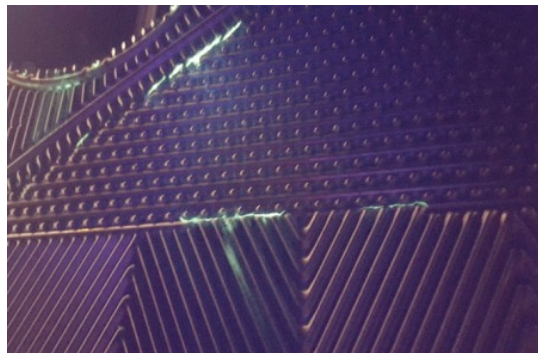
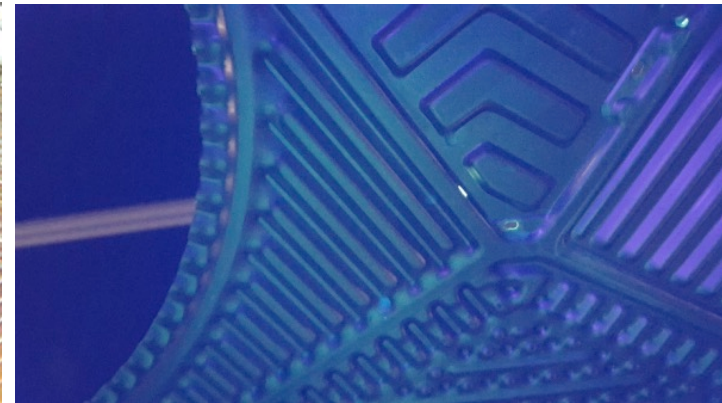
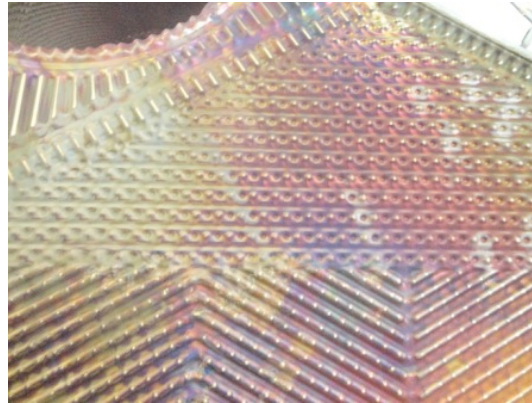
**Chemical Cleaning and Inspection:**

Fluorescent die penetrant used for plate inspection

<i>Passed Inspection</i>	392
<i>Failed Inspection</i>	13
<i>Total Plates Inspected</i>	405

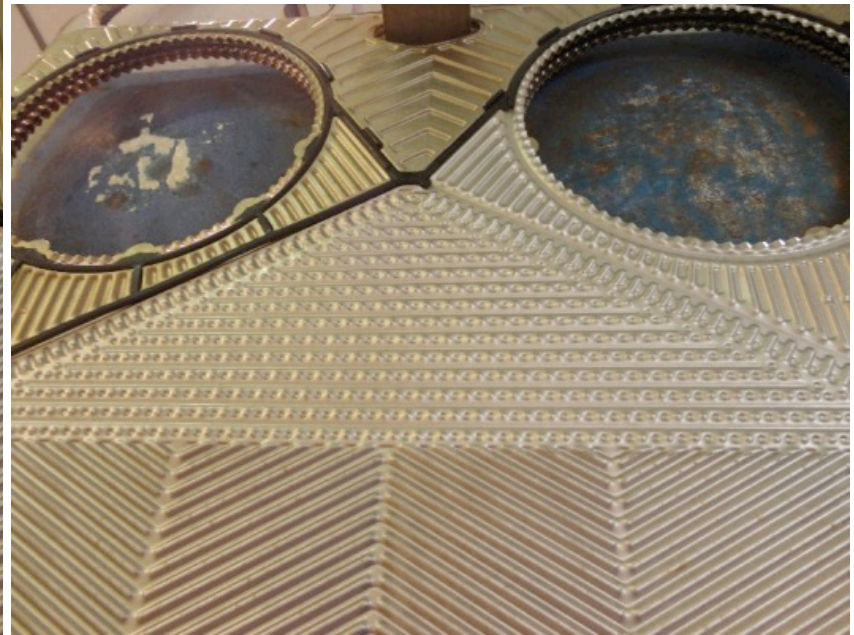
**Failed Plate(s) Disposition**

Plate's inspection completed with 13 failures due to cracks/pin holes. Plates replaced.



## Gasket Installation

<b>Adhesive</b>	Clip In
<b>Gasket Material</b>	NBR (Nitrile Butadiene Rubber)
<b>Plate Count</b>	405



*Assembly*

**Frame Repairs Completed** N/A

**Welder Name** N/A

**Weld Certs** N/A

**WPS** N/A

**Weld Map** N/A

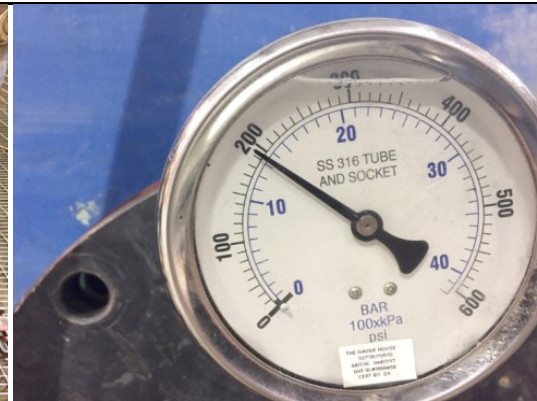
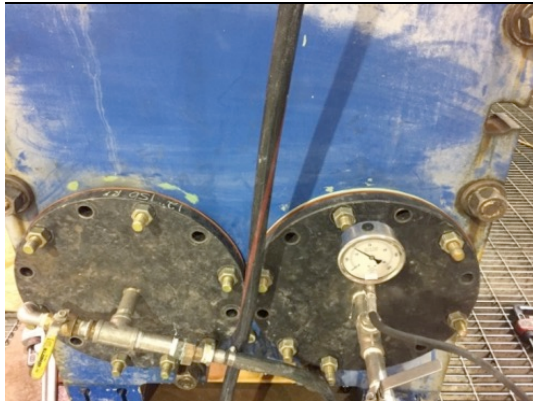
**NDE Report** N/A

*Hydro Test*

**Test Medium** Water

**Test Duration** 30 minutes @ 195psi

<b>Gauge #</b>	PIC0003893	<b>Range</b>	0-1000 PSIG	<b>Cal Date</b>	4/7/2016	<b>NIST #</b>	150015523
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# PHE Field Services

# **CAPABILITIES OF PHE FS**

- Open and Close Units
- Clean and Pressure Wash
- Dye Pinning
- Swap Plate Packs
- Troubleshooting Units
- Fix Leaks
- Change Gaskets
- Constructing of Knock Down units
- Deconstruction of Knock Down units
- Hydro Testing

# OPEN AND CLOSING UNITS

- Opening and closing of bigger units can be difficult at times.
- Requires hydraulic rams to force the unit closed.
  - Up to 10,000 PSI
- Opening the unit requires the same amount of pressure to release the tie rods.
- Must go in a certain order to open and close the unit.



# CLEAN AND PRESSURE WASH PLATES

- Offer cleaning of the plates on site
- Use pressure washers to clean the plates.
- Great for the hard build ups that CIP (Clean In Place) methods can't clean.
- Also gives the chance to inspect each plate and gasket.





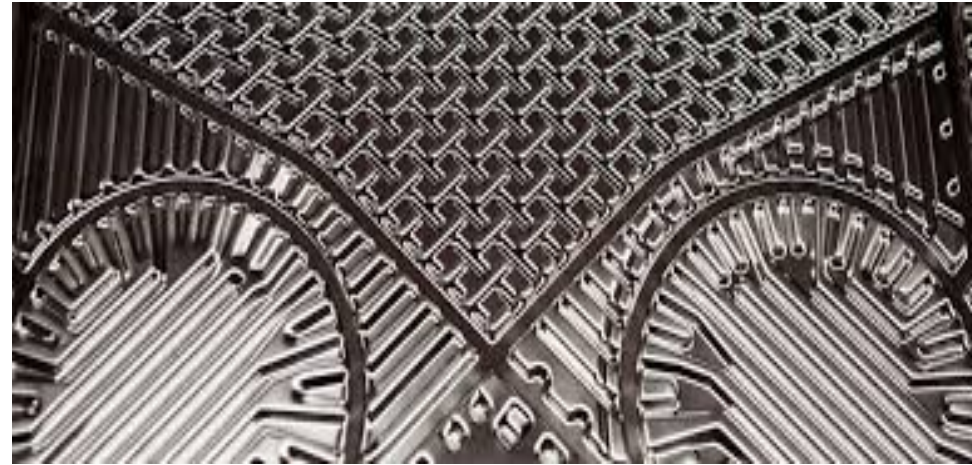
# DYE PINNING

- Offer plate inspection in the field to include dye pinning of the plates
- This process takes one brightly colored spray on one side and on the other a fluid that attracts the brightly colored fluid.
- This process will pin out even the smallest of pin size holes in plates



# SWAPPING PLATE PACKS

- Changing out plate packs every so often is vital in any process
- It is very important to install according to the plate map to ensure proper engineering specifications. – You will need to get the data sheets if the plates are unmapped on-site



# HYDRO TESTING

- Offer onsite hydro testing.
- If the site can not supply a line test bring a pump upon request.























