

## Differences Between DESCO-COIL™ and Dimple Type Prime Surface Heat Exchangers

### Background:

There are generally two (2) types of traditionally dimple jacketed coils. They are as follows:

**In one option**, the sheet material is passed multiple times through a die in a press that upsets the material to form dimples.

- 1) This is a manual operation and at times does not lend itself to accurate alignment thereby causing mislocated dimples.
- 2) Generally, the spacing of the dimples is limited due to the quantity of dies required to press the dimples. Therefore, in some operations the unsupported span is higher than what would be a safe dimension.

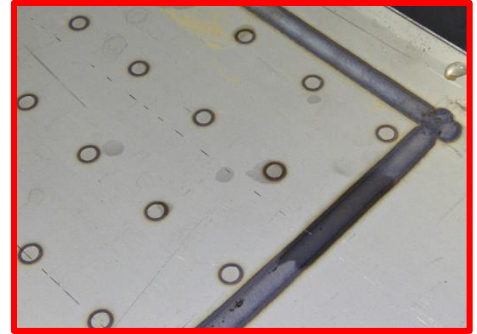
- 3) The centers of the dimples are then form holes in the sheet, which then are MIG welded to the companion sheets.



punched out to manually TIG or

- 4) The manual operation combined with the excess heat input is responsible for a joint that is not as strong as it should/could be, resulting in failures, especially in cyclic operations.

**In the second option**, the two (2) sheets are simply manually spot welded to each other and then expanded to the desired shape, giving the final dimpled appearance. Here again, the manual nature of the operation lends itself to inaccuracies in the spot weld spacing. Additionally, the points that are highlighted in our technical paper regarding the unequal wearing down of the spot weld points apply, with resultant welds that could very well be suspect.

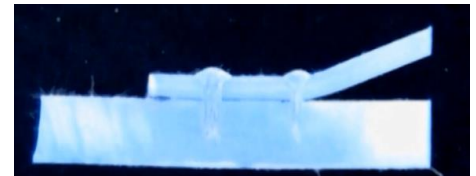


### **DESCO-COIL™ Comparison:**

Our DESCO-COIL™ are produced utilizing the state of the art single and double headed laser welding machines that are computer controlled with very minimal manual intervention. The ability of the machine to be programmed to enable the welds to be placed in exactly the correct location makes the product extremely versatile in that it can handle virtually any pressure rating, flow channel arrangement and pillow height.



There is no necessity to punch holes out since the laser with its precise heat control penetrates the two (2) sheet materials to the desired depth to ensure a stable and absolutely repetitive weld.



All parts are cut to the desired size using computer controlled laser machines and precisely clamped in a fixture allowing the computer program to precisely locate and space the welds.



The end result is a unit that can handle what are the customer's requirements without any compromises.