

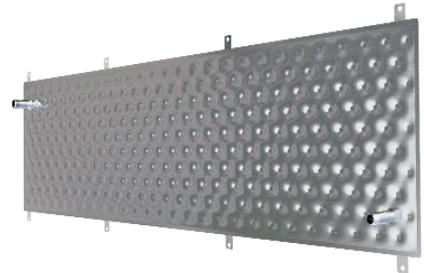
## CLAMP-ON SECTION INSTALLATION STEPS

### STEP 1 - DETERMINE A LIFTING AND HANDLING PLAN

It is important to prepare a plan for the lifting and handling of clamp-on section(s), as some designs can be heavy and/or have varying center of gravities, which makes handling tricky.

Some points to be considered before lifting or handling:

1. Confirm the weight of each section - refer to the **THERMAPLATE** project design drawing(s). Some larger assemblies may require aerial lifting equipment.
2. Review how the section(s) will attach to the receiving equipment to ensure the correct orientation prior to lifting.
3. If the clamp-on section(s) have factory pre-applied thermal compound, there will be a protective film on the surface of the compound. Leave the film in place until step 4.



### STEP 2 - POSITION CLAMP-ON SECTION(S)

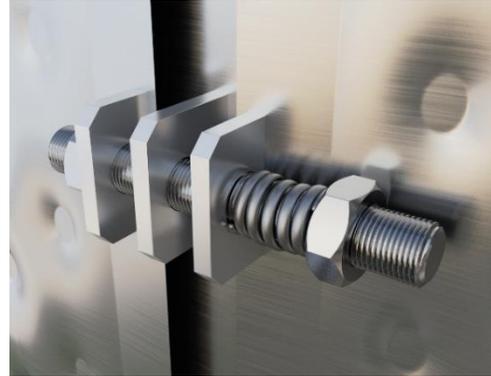


Lift each clamp-on section into its designated place on the receiving equipment. Verify that the section(s) have proper clearance around all outer edges (Recommended 1/2" clearance minimum). It is important to remember that each clamp-on section will thermally expand and contract during operation and any interference in this movement of the clamp-on section(s) could cause damage or performance losses.

### STEP 3 - LOCATE AND INSTALL TANK MOUNTING LUGS

In some clamp-on designs tank lugs are not required, if this is the case skip to step 4.

Once the position of the clamp-on section(s) has been confirmed, locate and mark the location of the tank mounting lugs. After the locations are marked, temporarily remove the clamp-on sections and weld out the tank lugs as shown to the right.



### STEP 4 - PREPARE CLAMP-ON SECTION(S) FOR INSTALLATION

If the clamp-on section(s) have factory pre-applied heat transfer compound (HTC), now is the time to remove the protective film. Otherwise, it is highly recommended by **THERMAPLATE** to apply an HTC product to the inner contact surface of the clamp-on section(s) that will be mating with the process equipment.

For additional information on HTC types and installation instructions see “Resources” page on our website.

It is important to achieve uniform HTC thickness of 1/8” across all contact surfaces. For double embossed clamp-on sections, the 1/8” HTC thickness will be measured from the highest point of the pillow surfaces.

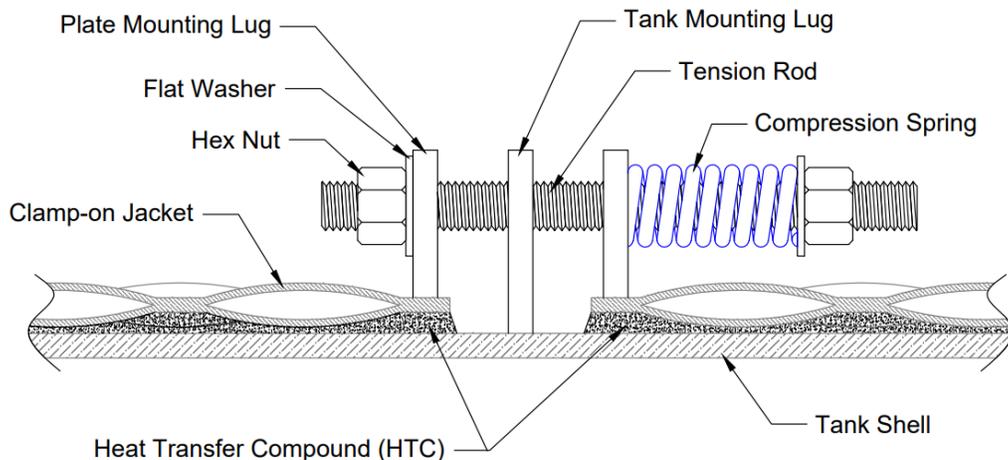
### STEP 5 - CLAMP-ON SECTION FINAL ATTACHMENT

Re-position the clamp-on section(s) back to the previously verified location(s). Be careful not to disturb the heat transfer compound on the contact surface while positioning. Note that the clamp-on can be substantially heavier after applying the HTC.

**TIP:** For installations with multiple clamp-on sections it is common to use temporary fasteners connected to the tank lugs, ratchet straps or mechanical banding.

## STEP 6 - INSTALL MOUNTING HARDWARE

Assemble and hand tighten the hardware in the order shown in the illustration shown below. The longer (spring) side of the assembly can be positioned in either direction, in order to provide additional clearance for any external features. Repeat this assembly step for all required attachment points of a given clamp-on section.



**Note:** Assemblies with multiple connecting clamp-on sections, the one (1) hardware assembly may be used for two (2) clamp-on connection lugs - refer to the **THERMAPLATE** project design drawing(s) to verify how many assemblies are required.

Once all hardware assemblies are pre-assembled, tighten the nuts on each side of the hardware assembly to ensure that the nuts are fully threaded on the bolt. Then, continue to tighten nuts to compress spring. Once spring is fully compressed, back off one nut a ½ turn. The pre-compression of the spring(s) will allow constant tension on the clamp-on section(s) during thermal expansion cycles.

## STEP 7 - INSTALL PIPING CONNECTIONS

Now that the clamp-on sections are fully installed, it is time to complete the piping connections to each section. For specific questions about piping arrangements or fitting types contact our office.