



Installation Procedures

The simplicity of MakoFin is one of its many benefits. As with any system, if not properly installed, it may not function as intended. Therefore, it is important to review and follow these procedures and inspect the system to ensure a successful application.

Required Equipment:

- MakoFin Straight Lengths
- QMax Industries approved installation hose clamps (normally supplied with system)
- QMax Industries approved Heat Transfer Compound (HTC) (normally supplied with system)
- MakoFin HTC applicator tool (always supplied with system)
- May require: Aluminum cutting tool (band saw is preferred)

Step 1 - Preparation:

- 1) Verify the MakoFin matches the carrier pipe/tube (**Image A**). MakoFin should closely match the outside diameter.
- 2) Clean any debris from the outside of the pipe and inside of the MakoFin. Pipe surface must be clean to maximize thermal contact.

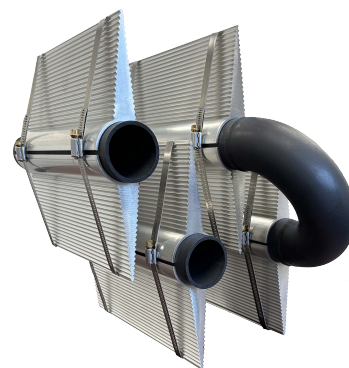


Image A

Step 2 - Installing MakoFin:

- 1) Stage the MakoFin lengths before applying the Heat Transfer Compound to ensure an efficient installation. This means selecting and placing the proper length of MakoFin straight sections to match the length of piping.
- 2) Apply MakoFin using the following steps:
 - a. If applicable, measure and cut the MakoFin lengths using a suitable aluminum saw (portable band saw with aluminum cutting blade is preferred). Remove any sharp edges or burrs after cutting to ensure a safe working environment.
 - b. Apply Heat Transfer Compound to the inside surface of the MakoFin using the supplied tubes and caulk gun. Use the caulk gun to apply two (2) 1/4" beads of = u # (**Image B**)
 - c. Always apply HTC above 60° F ambient. If not practical, warm the HTC and MakoFin before applying. Store indoors in a temperature-controlled environment when possible.
 - d. Install MakoFin over the pipe/tube by hand. Any obstructions or debris that may prevent the MakoFin from fitting snugly against the pipe or tubing should be removed to ensure optimum thermal performance.

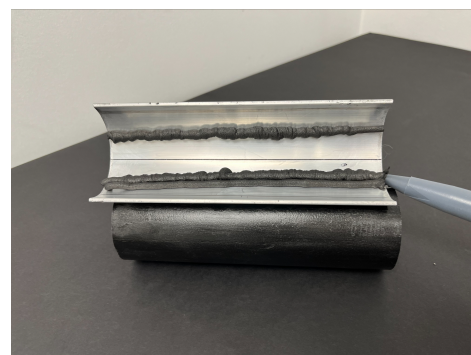


Image B



- e. Secure the MakoFin into place using QMax Industries approved installation hardware (**Image C**):

- 1. Stainless worm gear hose clamps
- 2. Screwdriver

- f. Install clamps:

- 1. Maximum 6" from each end of the MakoFin
- 2. Maximum 22" between each individual clamp

- g. Tighten MakoFin until Heat Transfer Compound is squeezing out the ends and seam (**Image D**). The tighter the fit between MakoFin and the pipe/tube, the better the system will perform. Recapture and reuse the Heat Transfer Compound that is not directly under the MakoFin.

- h. Ensure that the upper and lower fins of the MakoFin are aligned vertically and perpendicular to the ground (**Image E**).

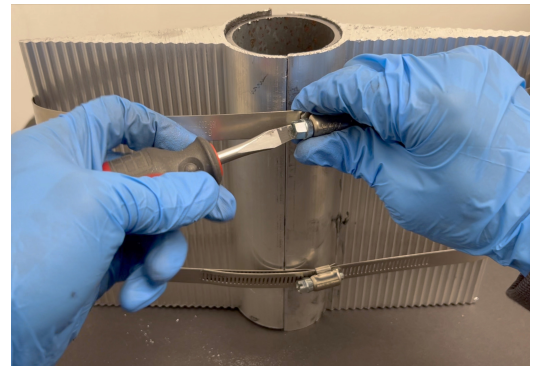


Image C

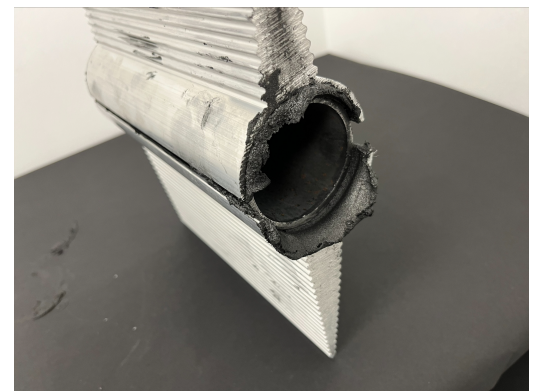


Image D

Step 3 - Inspection:

- 1) Inspect assembly for secure installation of the entire system. Installation guidelines may vary with each project. Allow ½ inch gap between each MakoFin piece for thermal expansion of the system.
- 2) Consult your QMax representative if any section of pipe or equipment has more than a 2-inch gap between QMax components.

Detail Notes:

- 1) QMax installation instructions and detailed drawings should not replace local facility standards without their consent.
- 2) Details above are offered as general guidelines, please contact a QMax representative if further clarification or assistance is required.

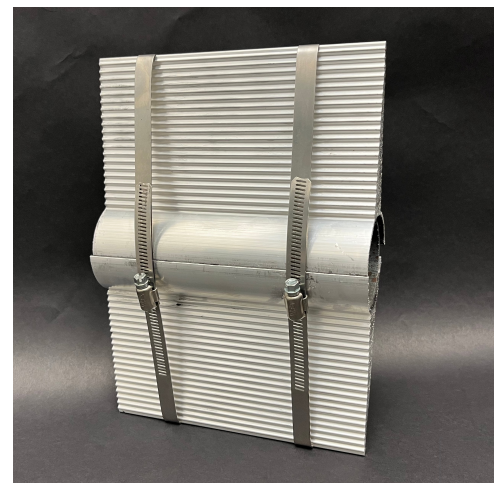


Image E