

Sunstrip™ Fin Preparation Information

Introduction

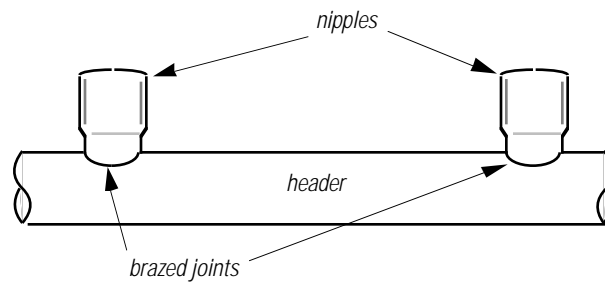
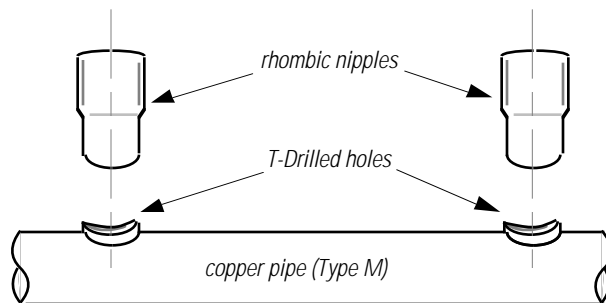
Sunstrip™ is an all aluminum/copper solar fin. Two strips of aluminum are bonded together along with a copper tube in the center to provide a waterway. The bonding process involves the use of steel rolls to apply high pressure to the raw materials, thus bonding them. The finished Sunstrip™ is then coiled to be shipped.

The next stage in the Sunstrip™ fin process is to cut and inflate. An inflation machine is used for this process. The machine cuts and inflates fins to a specified length. The fins are now ready for use in a solar absorber.

The Sunstrip™ Grid Absorber

The Sunstrip™ Grid absorber is comprised of a top and bottom copper header, with Sunstrip™ aluminum/copper fins.

The headers are made using copper pipe, (Type M is sufficient), and rhombic nipples. Once the desired fin spacing has been decided, the copper pipe is T-Drilled for the rhombic nipples. Each nipple is then brazed to the copper pipe completing the header. It is imperative that the rhombic end of each brazed nipple be polished before attaching the fins to the headers.

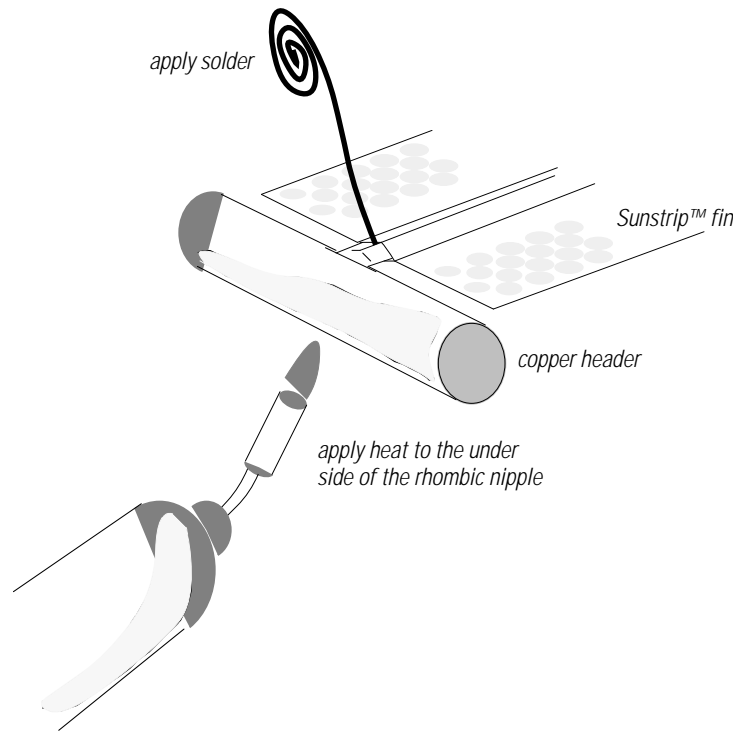


nipples must be polished after brazing to the header, and before solder to the fin.

The most effective way to polish the header nipples is to use a drill press with a wire wheel attachment. To the polished nipples, apply a conservative amount of soldering flux. **(Do not apply a large quantity of flux.)**

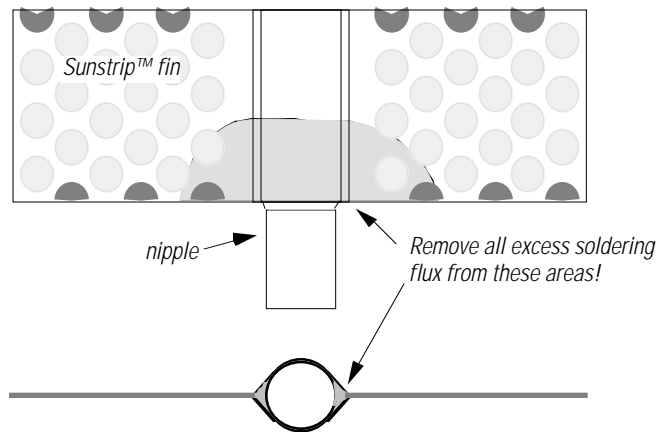
The Sunstrip™ fins have a copper waterway and thus are soldered to the headers. (Use 95/5 tin /antimony solder). If the cut and inflated Sunstrip™ fins have a clean copper waterway and thus do not have to be polished. However, if the fins have been lying around for a long period of time and the copper waterways become discolored due to oxidation, some brushing may be required. This can be done using a 1/2" copper fitting brush. Apply a minimal amount of soldering flux to the copper waterway.

Join the headers to the fins, and solder. **(Do not over solder!!!!!!)** Very little solder is required to join the headers to the fins. Apply heat to the bottom of the joint, and the solder from the top. Once the solder begins to flow, remove heat and apply solder once around the joint. This will give you a sufficient amount of solder. Too much solder and/or flux will cause the solder to flow into the fin which could cause blockage or solder pellets which may eventually end up in mechanical parts of the system.



Cleaning Sunstrip™ fin/ header joints

The final stage in producing a Sunstrip™ fin absorber is to thoroughly clean all soldered joints, removing any excess flux. This soldering flux is an acid, and must be eliminated in order to ensure the aluminum will not be corroded.



Paul R. Sajko, B.Eng.
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