INSTALLATION MANUAL
MODEL ZSK-325

SOLDER-ON HEAT CABLE CLIPS



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DESCRIPTION

The ZSK-325 Copper Roof Clip can be used to secure Heat Tape PRO and other self-regulating heat cable to flat copper surfaces.

SOLDERING APPLICATION

General Note: This manual does not provide technical instruction, trade advice or specific recommendations regarding the practice of soldering copper sheet metal. The steps outlined in this manual provide a general procedural outline for installing the ZSK-325 clip only. In other words, know your stuff before you do this work.

TOOLS REQUIRED

- Soldering Iron (heavy-duty)
- Pop Rivet Tool
- Pliers
- Drill
- Drill Bit (#30)
- Wire Brush/Abrasive Cleaning Pad

MATERIALS & SUPPLIES

- 1/8" x 1/8" Copper Pop Rivets
- Flux
- 50/50 Solder
- Flux Brush
- Cotton Rag
- Denatured Alcohol
- Mild Detergent

STEP BY STEP INSTRUCTIONS

1. Mark out all of your clip locations and double-check your heat cable tracing pattern before installing the clips. They cannot be easily moved after installation. Some installers use a piece of chalk for this marking process.

2. Clean the bottom of each clip with denatured alcohol. Use wire brush or abrasive cleaning pad to remove oxidation from all clip installation areas on the copper roof. The copper surfaces must be clean and free of oxidation for the solder to bond properly. Clean an area slightly larger than the clip.

3. While holding the clip securely in place, use the pre-drilled holes in the clip's base plate as guides. Carefully drill through these guides using a #30 drill bit, penetrating the underlying copper roofing panel. Remove the clip and clear any metal shavings from the area.

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STEP BY STEP INSTRUCTIONS - CONTINUED

4. Using a brush, apply a thin, even layer of inorganic acid-based flux to the clip locations on the roof areas, on the bottom of the clip and in the holes in the clip. We recommend applying flux to an area slightly larger than the base of the ZSK-325 clip to promote good solder bonding.

5. Reposition the clip, aligning its holes with the newly drilled holes in the roof. Insert two 1/8" copper pop rivets into the holes and firmly set both rivets to mechanically secure the clip to the roof surface. The clip should now be tightly fastened against the roof panel. The rivets provide mechanical attachment while the solder provides waterproofing and long term bonding.

6. Using a heavy-duty soldering iron, heat the base plate and adjacent roof area. You must heat the base copper materials themselves to above the melting point of the solder, typically between 361°F and 419°F for 50/50 bar solder.

7. When the copper reaches the correct temperature, the solder will instantly liquefy and be drawn into the seam by capillary action. Apply bar solder around the clip to create a continuous, consistent and watertight bead of solder around the entire perimeter of the clip base and over the top of the two rivet heads.

8. After the solder joint has cooled, neutralize and remove all residual flux using a mild detergent or baking soda solution followed by a clean water rinse. Flux residue left on the copper can cause corrosion over time.

9. Place your heat cable in the cradle of the clips and squeeze the cradle (with fingers or pliers) until it embraces the cable in position. Always follow the heat cable manufacturer's recommendations for best practices relating to the installation of the heat cable system.

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