HOW TO TIN AND CARE FOR SOLDERING IRON TIPS

The proper use and care of the soldering tip will increase soldering production and decrease solder joint failure. Almost all soldering iron tips are iron-plated copper. Obtaining maximum service from an iron-plated copper tip starts with maintaining proper tinning on the working end.

Most industrial iron-plated tips are pretinned by the manufacturer. By applying solder to the iron-plated working surfaces of the tip, oxidation of the iron working surface is prevented and the tip is "ready to use".

One of the common causes of tip failure is the loss of this protective layer of solder, with the result that the tip working surface becomes oxidized. This is commonly referred to as a detinned tip. Simply stated, it reflects the inability of the tip to accept solder and to efficiently transfer heat to the metals to be joined.

Some of the major causes of detinning are:

1. **Failure to keep the working end of the tip covered with solder during idling periods.**

2. **Operating at high temperatures, which speeds oxidation. Maintain the temperature of 800°F (427°C), or less, whenever possible.**

3. **Use of very small solder wire. Its small diameter carries inadequate flux to keep the tip tinned.**

4. **Lack of flux in the soldering operation. Use of no clean fluxes and low-residue fluxes.**

5. **Use of solder with low tin content.**

6. **Repair and touch-up, and the use of wick.**

7. **Wiping of tips on dry sponges, man-made sponges, rags, paper towels, or metal wool in lieu of a wet cellulose sponge.**

It's also recommended that operators - do not rub the tip on the metals to be joined, also do not add solder directly to the tip - proper soldering requires that the operator feed solder to the joint.

To maintain the performance of any soldering iron tip, a simple maintenance procedure is recommended:

1. **Operate at the lowest possible temperature (800°F (427°C) or lower. Operating at temperatures exceeding 850°F dramatically increases the formation of iron oxides, which**

is one of the major causes of detinning.

2. **For tip wiping: use only (sulfur-free) pure cellulose sponges; wet to the touch.**

3. **Add rosin core solder of adequate diameter (.032", .80 mm, or larger) to the working end of the tip regularly.**

If your soldering tip becomes detinned (oxidized), it can be restored in a number of ways:

1. **Use Plato AB-3 polishing bar. A polyurethane foam bar with embedded abrasives which is used to polish the working end of the tip to remove surface oxides; then immediately re-tin the tip with rosin core solder.**

2. **Use Plato Tip Tin TT-95 Tip Tinner/Cleaner. This is a halide free, solid paste which provides quick and safe re-tinning and cleaning of oxidized tips. Just wipe the oxidized tip at normal soldering temperatures into the tip tinner for a few seconds until the bright tinning surrounds the working end of the tip. It's fast acting, environmentally acceptable, residue free.**

3. **Use a conventional solder wire with rosin base flux of sufficient diameter .032" (.80 mm) or larger, (with a sufficient percentage of flux available) to re-tin the solder tips. Flood working end of the tip regularly with solder.**

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