

THE HAKKO 599 TIP CLEANER AND HOW TO USE IT

GENERAL INFORMATION.

The Hakko 599 tip cleaner, sometimes known as a 'Brillo pad' because it looks like one, cleans better and lasts longer than conventional sponges. Because it does not need water, the tip stays hot and there is no thermal shock, which can reduce tip life; because contaminants adhering to the tip are not transferred to the porous medium of the sponge, there is less likelihood of the tip becoming corrupted by odd bits of flux, solder, partially combusted conformal coating, and other garbage that usually adheres to sponges.

The Hakko 599 is made of a long flat brass strip, rather like a shaving of phenomenal length, and is treated with a SW-11 rosin flux mixture. This mixture, 0.1% of the mass of the unit, consists of 99.% fatty acids ($\text{CH}_n(\text{CH}_n)_n\text{COOH}$) and 1% inert material. Neither is 'hazardous to your health', but it is not good to eat.

HOW TO USE IT.

For ordinary tips -

1. *Gently* insert the soldering tip into the pad. If you force it, or stuff it with force again, you can damage the tip.
2. Rotate the tip about half a turn - clockwise, then counterclockwise, unless you want to do it the other way round - to remove the solder and flux.
3. Pull the tip out of the pad.
4. Re-tin the tip with fresh solder.

UNUSUAL CASES.

- Knife tips or very large chisel tips - *gently* wipe each surface across the pad until the tip is clean. Remove and re-tin.
- Small SMD tips - after *gently* inserting the tip into the pad, rock it back and forth to remove solder from between the prongs. Remove and re-tin.
- Big SMD tips - *gently* press the tip against the pad and rotate until the inside surface is clean. Wipe the outside surfaces against the pad. Remove and re-tin.

WHY 'GENTLY'?

The solder is molten. It will come off very easily. There is no need to horse the tip to get it clean. If you go at it like you are scouring a rusty piece of iron you will only succeed in scratching the tip and reducing its life; properly used, the Hakko 599 will help increase tip life.

Neither American Hakko nor Hakko Japan have received any comments or complaints regarding contamination arising from the use of the Hakko 599. In the process of cleaning soldering tips, it is highly unlikely that a significant amount of flux from the cleaner would adhere to the tip. The process would be as follows:

- A tiny amount of fatty acid could adhere to the tip after cleaning, although proper use would preclude this happening (the wiping action removes solder and flux residue).
- Most of this trace amount would be converted, per heat, into vapours¹; a tiny amount might remain on the tip.
- When the tip is re-tinned, any fatty acid or products of combustion thereof would be covered by the solder.
- While it is theoretically possible for some of this residue to be transferred to the board, it has not been noted in practice.
- We made some test pieces, some with no-clean flux and some with no flux at all, and submitted them to comparison tests against the 'standard' 599. We found no significant differences between them, save that the untreated cleaners - those with no flux - corroded more rapidly.
- We enquired of Hakko Japan; their answer follows: 'There is such a small amount of this compound in the 599 that it is not considered a problem when used in a 'normal' manner. For this reason there are no plans to make a version with no-clean flux, although such could be done 'if the demand was great enough'.

¹ One should always have a fume extractor handy to get rid of the vapours. Have you met the HJ3100?