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Number 16

# APPLICATION NOTE

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## Using Stabilant 22 as an Aid to IC Insertion

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- *General:*

While **Stabilant 22/22a** is known primarily for its property of providing the reliability of a soldered joint without forming a physical bond, it is becoming increasingly used in a dual role: not only for the reliability increase, but as an insertion aid for both machine and hand-insertion of IC's!

- *How does it assist in the insertion of IC's?*

Quite often, when an IC is inserted in a socket, one or more of the pins will buckle and bend-under. Sometimes this is not detected until the system is powered-up and it shows up as a fault. In some cases, it might not be detected until some program does not run properly! Because of the large number of IC's used in many computers, the job of locating a single bent-under pin is often very difficult. And when a number of boards are being hand-stuffed with "socketed" IC's there is an excellent chance that this problem will occur.

When **Stabilant 22** is used on the IC pins, its lubricating qualities reduce the insertion forces on the individual pins making it *much* less likely that a pin will be bent-under.

- *How can Stabilant 22 be applied to IC pins?*

An applicator can be made by using a rectangle of the conductive foam used to transport static-sensitive IC's. Using five-minute epoxy, glue this material on the bottom of a container such as a petri-dish or a shallow tin. **Stabilant 22** (the concentrate) is then poured over the foam pad.

To use, the IC is picked out of the dispenser with a standard tool, and its pins thrust into the pad in order to wet them with the **Stabilant**. (While a small amount will be left on the bottom of the IC this will not affect its performance.) The IC is then inserted into its socket in the usual fashion. It will be noticed that there is less insertion resistance.

The use of **Stabilant 22** is not a substitute for having the pins of the IC properly lined up or aligned in properly spaced parallel rows.

While hand insertion of IC's without the use of a tool is made much easier when **Stabilant 22** is used as a lubricant, we suggest that a tool be used wherever possible.

- *Can Stabilant 22 be diluted?*

The lubricating quality will, of course, be reduced as the **Stabilant** is diluted. If it is necessary to dilute it, we would suggest that a small amount of isopropyl alcohol be used - no more than 1 part of isopropyl alcohol to 3 parts of **Stabilant 22** by volume.

- *Can Stabilant 22a be used in this application?*

Yes, but as **Stabilant 22a** is diluted 4:1 with isopropyl alcohol, much more will have to be applied to the pins and its lubricating qualities will be realized only after the alcohol evaporates. This could slow down the process of IC insertion.

NATO Supply Code 38948 - 15 mL of S22a has NATO Part # 5999-21-900-6937

The **Stabilants** are patented in Canada - 1987; US Patent number 4696832. World-wide patents applied for. Because the patents cover contacts treated with the material, a Point-of-sale License is granted with each sale of the material.

**MATERIAL SAFETY DATA SHEETS ARE AVAILABLE ON REQUEST**

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