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Number 39

## APPLICATION NOTE

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### Use of Stabilant 22 on PLCC Packages and Sockets

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#### Introducing Stabilant 22

Stabilant 22 is an initially nonconductive block polymer which when used in a thin film between metal contacts becomes conductive under the effect of an electrical field. This occurs at an electric field gradient such that the material will remain nonconductive between adjacent contacts in a multiple pin environment. In addition, Stabilant 22 exhibits surfactant action as well as lubrication ability, providing a single component resident solution to virtually all contact problems.

*When applied to electromechanical contacts, Stabilant 22 provides the connection reliability of a soldered joint without bonding the contact surfaces together.*

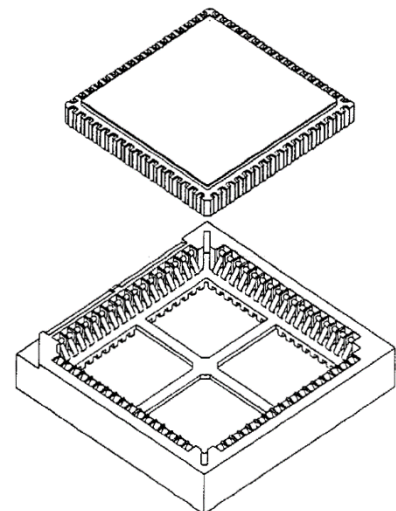
Stabilant 22A is a convenient dilution of Stabilant 22 concentrate in isopropyl alcohol (25% in 75% alcohol). It is less viscous and offers ease of application in many cases.

This Application Note describes the benefits of Stabilant 22 treatment of specialized IC sockets often found in computers and other digital devices.

#### Improving the performance of PLCC's: Using Stabilant 22/22A

The many pins on Plastic Leaded Chip Carrier (PLCC) IC's and sockets must all be properly seated and free of corrosion to ensure that all functions are uninterrupted. Stabilant 22 treatment benefits these devices from installation through their lifetime:

- Insertion is easier due to the lubricating property of Stabilant 22. Prevention of pin misalignment or wear immediately simplify the installation. Protection of the contacts begins immediately.
- The Stabilant film on contact surfaces excludes debris, oxygen and moisture, to prevent corrosion from developing, even in an environment with high temperature, humidity, vibration, etc.



Stabilant 22A is the easiest form to apply to these devices. It can be put on a microbrush (supplied with our 15mL Stabilant 22A Service Kit) or a soft natural bristle brush, then applied to the contacts on the IC. Treat the socket pins likewise. This method is more precise than putting drops directly on the device and saves on material.

Just after application, the alcohol in Stabilant 22A will evaporate, leaving a thin film of the concentrate as a protective coating on the contacts. Note that from 0.25 to 0.5 mil film thickness of the concentrate is all that is required.

Stabilant 22 treatment is very long lasting:

- It is very stable, with a published shelf life of 15 years and service lifetime of 12 years or more based on customer reports. It does not react to most chemicals encountered in use or in service situations.
- The concentrate will not evaporate, as it has a very low vapour pressure. There are no additives, let alone volatile compounds.

NATO CAGE/Supplier Code 38948

5mL Stabilant 22 (Concentrate), NATO Stock Number 5999-20-002-1112

15mL Stabilant 22 (Concentrate), NATO Stock Number 5999-21-909-9981

15mL Stabilant 22A (Isopropanol Diluted), NATO Stock Number 5999-21-900-6937

15mL Stabilant 22E (Ethanol Diluted), NATO Stock Number 5999-21-909-9984

Stabilant products are patented. Because the patents cover contacts treated with the material a Point-of-Sale license is granted with each sale of the material.

**SAFETY DATA SHEETS ARE AVAILABLE ON REQUEST**

#### **NOTICE**

This data has been supplied for information purposes only. While to our knowledge it is accurate, users should determine the suitability of the material for their application by running their own tests. Neither D.W. Electrochemicals Ltd., their distributors, or their dealers assume any responsibility or liability for damages to equipment and/or consequent damages, howsoever caused, based on the use of this information. This note is based on the original work of William Michael Dayton-Wright and includes updates by D.W.E. staff.

Stabilant, Stabilant 22, and product type variations thereof are Trademarks of D.W. Electrochemicals Ltd.

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