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Number 43

APPLICATION NOTE

Use of Stabilants on Cameras, including video, HDTV, fiber optic recording and projectors

- **What is Stabilant 22?**

Stabilant 22 is an initially non-conductive block polymer that under the effect of an electrical field and/or when used in a very narrow gap between metal contacts, becomes conductive. The electric field gradient at which this occurs is set so that the material will remain non-conductive between adjacent contacts in a multiple pin environment.

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

While **Stabilant 22** exhibits surfactant action, it is not sold as a contact cleaner. Equally, it exhibits quite good lubricating properties, but is not sold as a contact lubricant. Its métier is in its active properties when used in a connection and the other properties should be regarded as a bonus.

- **Where can it be used?**

Stabilant 22 can be used wherever electrical contacts are used, whether this is in connectors, or in switches. For example, one common use is to improve the connection reliability of socketed IC's in computers.

- **Why should we use Stabilant over less expensive alternatives?**

Granted that the material itself is expensive, however it is unique in having a very long useful life once in place. Unlike other so-called contact treatments, **Stabilant 22** will not cross-link (becoming varnish-like) under the action of sulfur based curing agents in elastomers, cutting oil residues, or the sulfur-bearing free-machining metal alloys used in some contacts.

In most types of service work, the cost of the down-time involved in removing and replacing a board will be much greater than the cost of the **Stabilant** used to treat the board. Here what is important is that not only will the proper board treatment cure existing contact problems, it will prevent others from occurring, thus eliminating the necessity of repeating the treatment at a later date, in other words, why do a job again?

- ***In what forms is Stabilant available?***

Stabilant 22 is packaged in 15mL, 50mL, 100mL, 250mL, 500mL and 1 Liter containers. Stabilant 22 is available in several forms: Normally it is used as a concentrate (**Stabilant 22**), and as an isopropyl alcohol diluted form called **Stabilant 22A**. It can also be supplied diluted with ethanol as **Stabilant 22E**. Because of the 4:1 dilution, a given size bottle of **Stabilant 22A** will cost less than a bottle of **Stabilant 22** for it has less of the concentrate in it. A type of packaging is available for industrial bulk users. **Stabilant 22S** packages the concentrate such that it occupies one-fifth the volume of an otherwise empty container. This allows the end-user to add his own diluant and saves the added costs of shipping alcohol, as well as allowing the end-user to use an alternate diluant such as one of the other solvents used in electronics.

- ***How are Stabilants used in Camera's, Video, Editing and even in HDTV equipment?***

As this type of equipment can be extremely complex, reliability of any connection is vital. Hold ups due to any type of malfunction is very costly, not only in a controlled environment such as a studio or stage; but in field conditions, delays can make rescheduling of shots almost impossible. If weather conditions are not stable, it is even more of a problem!

- ***How are Stabilants used in Motion Picture Production?***

- 1.remote head slip rings
- 2.all video terminals
- 3.all rcu and fiz controls & cables
- 4.electronic a.k.s.
- 5.mags and camera bodies
- 6.lens data system terminals
- 7.cpu's, pc boards and computers
- 8.moco data ports

When 15 minutes could mean \$15,000, anything a technician can do to prevent a potential weak link or failure should be one of their concerns. **Stabilant 22** is unlike any other terminal cleaner / treatment as it actually bridging those gaps to provide reliable signal paths. **Stabilants** are an essential tool for any good camera technician.

- ***How are Stabilants used in Video Production?***

Card-edge plug in boards were disabling the synchronization that presented the three projection tubes from turning on. We tested the projector completely, according to the manuals, then pulled the cards, one at a time, and applied **Stabilant 22A**. When all the retainers were screwed in, we tried the projector and, this time the synchronization functioned. The three projection tubes worked. I have used the same procedure on later models, the BARCO 801s Graphics and the 808s In digital based production, often high resolution video projectors, such as the BARCO 909s graphics , are used to screen clips or the entire movie; I have employed Stabilant even on the old BARCO 401s to refurbish it. Some of the Graphics with Iris, were treated as well

- **How are Stabilants used in HDTV Production?**

Reliable connections are an essential part of the maintenance that is necessary to allow trouble free viewing. As **Stabilants** are also employed in audio to both increase signal-to-noise ratios as well as reducing distortion, they are needed.

- **How are Stabilants used in the wide band Optical Transmission of Signals to Remotely Located Theaters?**

BARCO now produces a theater projection system that employs TI's modulation device; such as the D-Cine Premiere® DP40 that uses the State-of-the-Art, high contrast Texas Instruments DLP unit. When a central location is used to provide wide bandwidth by the use of optical transmission to the on-line theaters, there are still an unbelievable number of electrical connections, both at the source and at the theaters themselves.

Revision 4

Stabilants are a product of Dayton Wright research & development and are made in Canada

NATO/CAGE 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 pending. 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.

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

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NOTICE:

This Application Note, is based on customer-supplied information, and D.W. Electrochemicals is publishing it for information purposes only. In the event of a conflict between the instructions supplied by the manufacturer of the equipment on which the Stabilant material was used, and the service procedure employed by our customer, we recommend that the manufacturer be contacted to make sure that warranties will not be voided by the procedures.

While to our knowledge the information is accurate, prospective users of the material should determine the suitability of the Stabilant materials 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 any consequent damages, howsoever caused, based on the use of this information.

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