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Number 43

APPLICATION NOTE

Stabilant 22 for Cameras, Video, HDTV, 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 strength is in its active properties when used in a connection and the other properties should be regarded as a bonus.

How is Stabilant 22 used in Cameras, Video, Editing and HDTV equipment?

This type of equipment can be extremely complex, and the reliability of electronic connections is vital. A holdup due to any type of malfunction is very costly, not only in a controlled environment such as a studio or stage; in live broadcasting 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 Stabilant products used in motion picture production?

- remote head slip rings
- Video terminals
- Remote Control Unit and Focus/Iris/Zoom controls & cables
- Electronic AKS
- Mags and camera bodies
- Lens data system terminals
- CPU's, PC boards and computer
- 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 contact cleaner / treatment with its ability to bridge the gaps and seal out corrosion to provide reliable signal paths. Stabilant products are essential tools for any good camera technician.

How is Stabilant 22 used in video production and screening?

A case study from W.M. (Michael) Wright, the founder of D.W. Electrochemicals Ltd., illustrates his restoration of an older-model BARCO projector:

“Card-edge plug in boards were disabling the synchronization that prevented 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 an 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 Stabilant products used in HDTV Production?

Reliable connections are an essential part of the maintenance that is necessary to allow trouble free video. Stabilant 22/22A are employed there, and in audio connections to both increase signal-to-noise ratios as well as reducing distortion.

Stabilant products used in wide band optical transmission of signals to remotely located theaters – and beyond

BARCO produced theater projection systems employing TI's modulation device; such as the D-Cine Premiere DP40 that used (then state-of-the-art) high contrast Texas Instruments DLP units. Michael noted: “When a central location is used to provide wide bandwidth to online theaters, even with the use of optical transmission, there are still an unbelievable number of electrical connections, both at the source and at the theaters themselves”. Even in 2023, with BARCO's expansion into medical displays, “video walls”, virtual reality and more, their products have connections that can benefit from Stabilant treatment to keep high-value products operating with high reliability.

Where else can Stabilant 22/22A be used?

Stabilant 22 can be used wherever electrical contacts are used, in connectors, in switches and more. 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?

By volume, Stabilant 22 is expensive, but very small amounts are needed. It is unique in having a very long useful life once in place. Unlike other 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 downtime 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 products include the concentrated form, simply called "Stabilant 22", and in diluted formulations: Stabilant 22A (25% concentrate and 75% isopropyl alcohol) and Stabilant 22E (diluted with ethanol). A convenient type of packaging available for industrial bulk users is Stabilant 22S. This 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 diluent and saves the added costs of shipping alcohol, as well as allowing the end-user to use an alternate diluent such as one of the other solvents used in electronics.

NATO CAGE/Supplier Code 38948

15ml Stabilant 22 (Concentrate), NATO Part # 5999-21-909-9981

15ml Stabilant 22A (Isopropanol Diluted), NATO Part # 5999-21-900-6937

15ml Stabilant 22E (Ethanol Diluted), NATO Part # 5999-21-909-9984

The Stabilants 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

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