



Some Alternate Uses for Chemtronics Products

Our thanks to ITW Chemtronics for allowing us to reprint the following article.

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Beyond the normal uses for Chemtronics solvent cleaners and other products in removing grease and grime from electronic circuit boards or repairing circuit board traces, Chemtronics® products have been used by our customers in a number of nontraditional uses. Many of these new uses have been reported to us by our customers and we have made many of our own recommendations to solve a particular problem. I will discuss a few of these non-traditional applications with the hope that this will trigger a response from the field regarding other uses not reported here and be a guide in suggesting Chemtronics products for applications outside our traditional markets.

Just as Chemtronics Electro-Wash® cleaners are used for removing oil, grease and other contaminants from printed circuit boards, these products can also be used to remove oil and grease from metal surfaces and equipment. Electro-Wash® NXO and Electro-Wash® MX make good degreasing solvents for cleaning electric motors, pumps, conveyors and other production machinery. MX is particularly effective in removing older, built-up grease and grime accumulations due to its slower evaporation rate, which helps it stay on the job longer to dissolve more grease. In a like manner Electro-Wash® NX offers a non-flammable alternative for heavy duty grease and grime removal. All three products offer safe replacements for traditional degreasing products which contained the now-banned chlorinated solvents.

Another use for these solvent cleaners that is of interest in the field is the removal of printing ink and the cleaning of print heads and printer cartridges. In these applications I have encountered a requirement for removing printing from metal bar stock, cleaning ink and built-up ink residue from print heads and the refurbishment of re-cycled ink printing cartridges. In testing the various products I have used the approach of selecting solvents on the basis of relative cleaning strength, trying the mildest cleaner first, then advancing to stronger cleaners.

A particular problem encountered with the removal of printing from aluminum bar stock, was that other solvents had been tried but were found to leave a faint print residue behind that was unacceptable. The solvents that had been previously tried seemed to

bleach the ink mark without completely removing it. In this case I selected The Mighty Pen® CW3700, Electro-Wash® MX ES1621 and finally the CW3500 CircuitWorks® Conformal Coating Remover Pen. I found that the first two products only produced the "bleaching" effect, but that the CW3500 pen completely removed the ink from the surface of the metal without leaving any visible trace behind.

Along with ink marking removal, another common use for our solvent cleaners is the cleaning of ink-jet print heads and printer cartridges. In one specific instance I was sent samples of ink-jet cartridges for a cartridge recycler and asked to find a product to remove residues from the copper contact area of the cartridge. I found on testing that the soil residues came in three flavors, each residue type being easily removed by a different product. The various cartridges exhibit either a single residue type, a combination of two of the three types of residues or all three types on one cartridge. The distinguishing characteristic of these three types of residues is that each needed a progressively stronger solvent product for complete removal. Prior to investigating the use of solvents for cleaning printer cartridges being recycled, the customer used a rubber eraser to clean the copper contact area. He stated that under this method his failure rate was as high as 50 percent. I started testing our solvent cleaning pens, the CW3700 Mighty Pen®, the CW3500 Conformal Coating Remover Pen and the CW9200 Rosin Flux Remover Pen. I also tested Flux-Off® Rosin, Electro-Wash® MX pre-sat wipes, CP400 Chempad™. In all this testing the idea was to move from the relatively least aggressive solvent up to the most aggressive solvent that was required to completely remove the toughest residue. I found that the simplest residue was removed by the CW3700 Mighty Pen®, the intermediate residue was removed by the CW9200 Flux Remover Pen, and the most tenacious residue was completely removed by the CW3500 Conformal Coating Remover Pen. In this particular application, and considering how the cleaner would be used, the pen applicators were found to be the best way to perform the cleaning. Cleaning with aerosol cans or brushing on liquid solvents was more wasteful of solvent, gave more chance for over-spray onto sensitive plastic parts and exposed the workers to more solvent vapors. As most of

these product were flammable, using other than the applicator pens also posed fire safety hazards.

Along with cleaning printer cartridges I have recommended the Chemtronics® presaturated alcohol wipes, particularly the CP400 Chempad™ and the SIP100P IPA Pre-saturated wipe for cleaning the print heads on printer equipment. Here the concern is the production of fibers, caused by vigorous rubbing over an uneven surface. Any of the Coventry™ or Chemtronics® foam or polyester swabs could also be used in this application. One situation that is commonly encountered is a build-up of hardened printing ink that is not easily removed by alcohol alone. In this case I have recommended using the Electro-Wash® MX Pre-Saturated Wipes to attack these heavier encrustations of dried ink. The slower, more moderate evaporation rate of the MX solvent lends itself well to dissolving this kind of dried residue. Alcohol evaporates too quickly to have much effect on this hardened material.

Insulating lacquers and varnishes used to coat electrical coils can be treated like conformal coatings and removed by using either Electro-Wash® Two Step or Flux-Off® Aqueous in an immersion bath process. If bath immersion is not practical, then select one of the more aggressive cleaners like New and Improved Electro-Wash® NX or Flux-Off® No Clean Plus, keeping in mind that these cleaners can attack any plastics they contact. Mask the plastic parts before cleaning or select a plastic safe cleaner, like the Cirozane™ products. In some cases the Chemtronics Freez-it® and Freeze Spray products can be used to remove gum, tar and adhesives from surfaces by freezing the soil and scraping the frozen residue from the surface. Apart from testing for component thermal intermittent failures, these freeze sprays can also be used to create a heat sink when working with heat sensitive component. Simply spray the area of the board surrounding the point at which soldering or desoldering is being performed. The colder board surface will draw heat away for the area in which the work is being performed.

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In the CircuitWorks® product line, the CW2400 Conductive Epoxy and the CW2200 Conductive Pen are used by automotive glass repair shops to repair rear-window defogger grids. The conductive epoxy is used to re-attach the main power tab connectors to the defogger grid, while the conductive ink pen can be used to repair broken grid lines. You can find a technical bulletin relating to these repairs on our website.

The CW7100 Silver Conductive Grease has been embraced by RV enthusiasts for water proofing their electrical power connectors. I have even heard of this grease being used to provide weathering protection for out-door model train tracts. CW7100 is also used in special applications for lubricating conductive bearing assemblies. The CW2200 silver-filled conductive ink, painted on at a thickness of at least 5 mils (.005 inches), makes a very effective coating for shielding electronics assemblies from radio frequency interference (RFI) and electromagnetic interference (EMI). CW2605 Rubber Keypad Repair Kit is used by many individuals for repairing the worn contacts in their TV and VCR remote controls, though this product is a bit expensive if you only need to repair a one or two buttons, due to its limited pot-life of one week once mixed.

The New and Improved Tuner Renu® ES1662 can be used as an effective replacement for the discontinued Silkon® 35 silicone lubricant and also works as an effective silicone mold release agent in some molding applications. The mineral oil counterpart, New and Improved Kontakt Restorer® can be used in similar situations where a silicone lubricant is not desired.

Exploring alternative uses for the Chemtronics products can open up new markets and new sales opportunities. So be alert to customers you find who are using one of our products in a non-traditional application and let me know about it, so that I can pass it on to other customers and sales personnel.



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