

# DEFEATING STATIC BUILDUP!



## **Introduction**

Many of us have faced problems with high levels of static electricity when printing on certain materials. The dryer the material (such as polyesters and plastic coated products), the more static is present. The relative humidity of the room is also a large contributing factor. The sad fact is that all makes, and models of Thermal Transfer printers inherently create large amounts of static electricity while printing; coming from both the Print Head itself and from the pressure and friction between the while material and the ribbon. The more pressure and/or friction generated the greater the static. It has been sometimes said that certain types or brands of ribbons generate more static than others as well. When printing on paper materials with summer humidity static electricity is rarely a problem. However, when printing on polyester or different material products such as poly/tyvek pouches in the winter the effects can be quite the opposite.

## **The Problem: What High Static Levels Cause**

The classic problems caused by high levels of static are mostly related to the feeding of product. The material will either "creep" up the ribbon (stuck to it with tremendous "static cling") or stick to the platen roller instead wrapping itself around the roller completely. It is also a problem when cutting and/or stacking printed product as the material won't feed into the Cutter or stack correctly. Also, a high amount of static can stay with the completed product for a long time, often sticking to the next product above or below in the stack causing further handling problems down the line.

## **The Solution: Eliminate the Static**

For those who have had problems with Static we believe that we have found a simple solution. Ionizing Static Eliminators are not new as they have been known in the offset printing and copier businesses for years. We integrated a Dual Stage Static Eliminator Bar and Transformer into our XXXTREME/64-xx Tabletop Thermal Transfer Printer with some excellent results.

## **What does an Ionizer do?**

Ionizers radiate Ions (free electrons or protons) into the air. Static electricity is caused by opposing objects in a field having different charge potentials and polarities. An Ionizer radiates such high amounts of ions that it saturates an area, eliminating the charge and polarity imbalances and thereby the static. Ion-based air fresheners exude negative ions in large quantities, which supposedly gives a "fresh" smell to the air. Industrial ionizers radiate in both polarities, which doesn't improve the air quality much but does negate static charges of either polarity and is claimed to be more effective over a given area. The Bars have several small pins cased in epoxy which are the electrodes. Although the stainless steel pins are exposed, the decoupled and isolated power from the transformer minimizes the risk of shock to the User. The manufacturer calls them "shockless" and under normal operating conditions they are.

## **How does it work with the XXTREME/64-xx Thermal Printer?**

We mounted the Eliminator Bar near the front of our Printer with the active end pointing towards the junction point of the Ribbon, Head and outputted material. The results of the tests were very positive. In all cases the static cling was mostly or completely removed from the material and ribbon and the print quality and product restacking were normalized.

## **Any other ideas?**

We also tried a simpler, less expensive anti-static "Tinsel Garland". This copper garland looks exactly like the Holidays decoration. It is used to drain static off of a surface by shunting it to Ground. We draped the tinsel, so it was touching the ribbon, near where it exited the Head area. We then ran a print job with our "worst case scenario" of resin ribbon and polyester material; and unfortunately it did little to solve the high amount of static on the material. It did work better on some less difficult problems, but in general was found to be of limited help.

**Feel free to contact Dalemark for more information!**

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With excerpts from Novexx