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TTR Market Assessment
Abrasive Cleaning Leaders: Fact or Fiction

**Is the “built in solution” good for normal cleaning and
preventive maintenance?**

White Paper

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Introduction

If you find it challenging to maintain a clean and totally operational print head, understanding the OEM's recommendation for cleaning could help alleviate some of the challenge.

Most would not argue the fact that there is a need for regular cleaning over the life of a thermal transfer printer. The fact is, keeping the print head clean ongoing, can minimize down time due to improperly functioning print heads. In addition, normal cleaning of the thermal transfer printer is necessary to ensure the highest print quality as well as maximizing print head life.

A long term thermal transfer printer maintenance program requires a few of the basics. Basics like choosing a quality ribbon from a quality manufacturer, having a trained operator, and proper cleaning of the entire printer will insure your printer is kept up to date to OEM specs.

There has been marketing collateral from other TTR manufacturers (Competitor "E") stating that abrasive cleaning leaders are beneficial and in fact a cost effective way of maintaining good print quality as well as extending the life of the print head.

Our position at ITW Thermal Films (ITWTF) is that abrasive cleaning leaders do not necessarily insure you are using a quality ribbon or cleaning the printer completely or even properly.

We feel that part of the complete program is utilizing **ITW Thermal Films...with Printhead Saver®...** the ultimate source for Thermal Transfer Ribbon. Our performance specs are engineered to help prolong print head life.

The following research will demonstrate our position is proper maintenance of a thermal thermal transfer print head.

Problem Statement

Unfortunately, debris accumulates on many machine surfaces besides the print head which the label and ribbon may come in contact with. These surfaces require special attention that an abrasive cleaning leader does NOT clean or come close to. Accumulation of these types of contaminants including those from the environment and labels can affect the print quality over time. In some cases, we have found that dry abrasive cleaning products actually introduce additional particulates that need to be cleaned from the printer parts.

Is there a need for another TTR manufacturers' **abrasive cleaning card**? Yes, as a last resort where the contaminant needs to be "sanded" off the surface. We feel that abrasive cleaners should be used only when all other cleaning methods can not remove the build up and certainly not every time a new ribbon is put in the printer. The competitor's theory is that an abrasive cleaning card is the solution. In actual laboratory test conditions...this theory simply does not pass the tests.

High Level Solution

OEM printer manufacturers recommend the print head be cleaned after every ribbon. In reality, the typical end user will only clean the printer when there are signs of print deterioration. In addition, the OEM's recommend using a lint free **NON ABRASIVE** isopropyl alcohol wipe. Therefore as a testimony to our position, as well as OEM's: WE DO NOT recommend abrasive cleaning leaders.

We believe in **Prevention rather than Cure™**. That's why we developed the Printhead Saver® ribbon and PHS system. Printhead Saver® is an evolving product offering focused on damage prevention, as well as delivering printed images in perfect condition. The result for the end user is lower ongoing operating costs. Printhead Saver® formulations' provide trouble free operation and extends print head life.

The results of our proprietary ITWTF formulations show the following statistics:

- ✓ High Sensitivity Inks: Allowing lower print head temperatures, extra sharp dense bar codes, and high speed printing.
- ✓ Anti-Static backcoating: Eliminates static charges, reduces friction between ribbon and print head and extends life.
- ✓ Anti-Stick back coating: Eliminates ribbon sticking and breakage, enables continuous long run printing and high speed printing

Solution Details

Zebra, Datamax and Sato clearly site in their Operator and User's manuals to **ONLY** use pre-soaked (isopropyl alcohol) cleaning swabs in the preventative maintenance kit. They also specifically call out clearly to **NEVER** use any abrasive objects to remove adhesives or other contaminants that may have built up on the print head.

For example, OEM Printer references include:

- Zebra™ Users Guide pg 34 <http://www.ics-ident.de/Downloads/170PAX2pg.pdf>
- Datamax™ Operators Manual pg 69
http://www.datamaxcorp.com/assets/library/pdf/wclass_operators_manual_e.pdf
- Sato™ Users Manual pg 11 <http://www.iepos.com/support/sato-manuals.htm>

In our research and development laboratories, we create formulations that call for the lowest print head energy requirements in the market. Combining low energy usage with our unique anti-static back coating process produces the most print head friendly *thermal transfer ribbons* in the industry. Our ribbons performance characteristics allow printing at lower temperatures and faster speeds which result in reduced print head costs and lower overall energy usage.

Product Analysis

At ITW Thermal Films, Printhead Saver® ribbons are a solution to these issues. ITW Thermal Films Printhead Saver® ribbon is a proprietary formulation with static eliminating features:

- Build up free, high slip coefficient back coat
- High Sensitivity/Low Energy release ink formulation

Printhead Saver® ribbons are specifically formulated to run at lower temperatures hence extends the life of the print head. Our program covers a wide range of stocked products to provide solutions for specific thermal printing requirements.

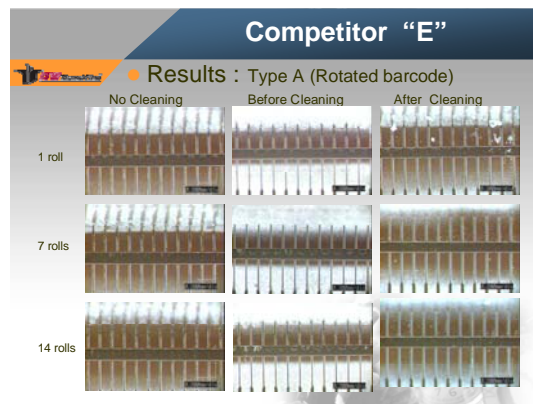
Test Analysis

ITW Thermal Films has tested competitor's ribbons along with our own and after reviewing the data we found that a premium quality back coat is the most significant factor in **reducing** print head build up and essentially **prolonging** the life of the print head. As evidence to this issue, we have tested the B220 Resin Enhanced Wax ribbon against a TTR competitors' comparable wax formulation using a ladder barcode.



These are the tests results of ITW Thermal Films B220/W90 Resin Enhanced Formulation under different cleaning methods. Our B220/W90 is a multipurpose **Thermal Transfer Ribbon** that is the “industry benchmark” wax-based product in the marketplace. It is a single formulation designed to yield excellent results on a broad range of media at a competitive price. This resin-enhanced wax formulation is designed to operate at low temperatures while combining high print density with excellent edge definition and fast print speeds. Our W90/B220 utilizes our proprietary anti-static formulation and back coating specifically designed to prolong print-head life. Its features make it superior to other conventional wax products.

In comparison, our competitors ribbon tested with poor quality back coats and in our opinion, yields inferior ink formulations. This can leave build up that is difficult to clean...even with so-called “**Cleaning Leader’s**.” See the results below tested by our product development team.

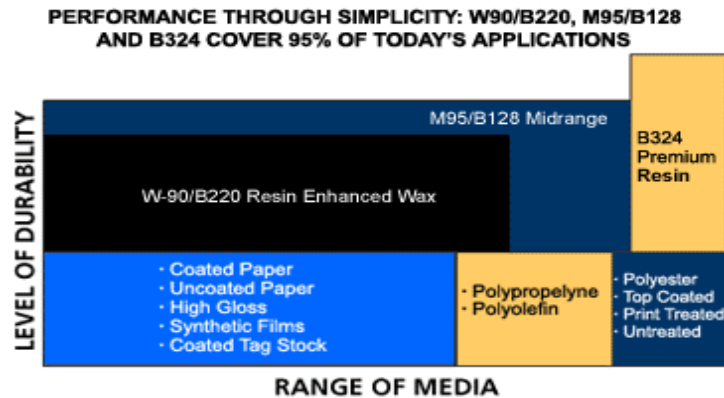


The intention of the competitor is to convey that an abrasive cleaning card is “**the Built-in Solution**” for normal cleaning as well as preventive maintenance. This in fact creates a “false” foundation in a proper printer maintenance strategy.

ITW Thermal Films provides consistency and quality without gimmicks.

Business Benefits

How do you measure success? At ITW Thermal Films (ITWTF), we measure success by how much the customer doesn't spend!!! The facts speak for themselves. Simplicity!! What you don't see is the key!!



Unique Selling Points: FAQ's: Abrasive Cleaning Leaders

To help our account base battle the controversy in the field regarding abrasive cleaning leaders attached to ribbons, we have compiled some additional questions they can ask a customer who is in doubt.

- Cost of ownership....how much are you willing to pay in additional margin to have the cleaning leader when you will need to purchase additional cleaning materials to properly clean the printer?
- Have you trained the operators on how to use the leader material properly so you do not damage the print head?
- Can you afford the additional time with every ribbon to properly load and "scuff" the print head which still requires the additional cleaning of the printer to meet the OEM's recommendation?
- Have you experienced the ribbon slipping on the take up? We have found that the material used in the cleaning leader sometimes causes the ribbon to slip on the take up creating poor or grayed out images later in the use of the ribbon – usually once half of the ribbon is used.
- Once the ribbon is introduced into the account, their brand is promoted. This may limit your **own** branding program or limit your options within the account in the future? Are you ready to give up that account ownership?
- Why aren't OEM printer manufacturers recommending using abrasive cleaning leaders?
- Who is responsible when the cleaning leader potentially damages the print head?

Summary

ITW Thermal Films is a premier thermal transfer ribbon manufacturer and converter based on exceeding standard measures of quality, performance and customer service. We continually provide consistent performance & high quality TTR products along with excellent customer service. We are focused on being an extension of our customers business and also offer technical support for all their needs.

Is the competitor's "Built in Solution" the answer for cleaning print heads and preventative maintenance? The facts demonstrate the compelling argument that our position on abrasive cleaning leaders is they are ineffective or even worse "damaging". In comparison, the ITW Thermal Transfer programs measure up to integrity, quality and raises the bar on customer expectations and performance.

We believe abrasive cleaning leaders in thermal transfer ribbon is nothing more than marketing hype.