

Web Cleaning & Static Control

Issue

Keeping printing webs clean and dust free becomes more difficult when the weather starts to get cold and the relative humidity drops. During this time, customer complaints related to dirt specs in overlaminates and print areas typically also increase.

Solution

To keep the web clean, one must first determine the source of the dirt.

- A shop towel can usually be placed against the face of the web to wipe it as it unwinds to trap dirt that may have come from our processes or the material itself. If this is the source, the shop towel may be adequate alone. If the shop towel doesn't show signs of dirt, dust or debris, the press may be the source of contamination.
- It is critical to maintain good housekeeping. This holds for our operations and the pressroom. Particularly, cleaning around and under the equipment is critical. Even the blowers in the dryers should be thoroughly cleaned.
- Look for dust contributions from other processes. For instance, a Bindery operation adjacent to a printing press may require isolation to keep paper dust from the Bindery from contaminating the press and ink systems.
- Web cleaner selection will depend upon how stubbornly the dirt or debris clings to the substrate. Often a simple cloth wipe will work. Sometimes more aggressive means are necessary, including tack cloths, vacuums and contact web cleaners.
- The substrate must be clean and static neutral so to not attract dirt from the surroundings. Cooler, dry weather increases the potential for static charges to be induced into the pressure-sensitive laminate. When the material has a static charge, it will attract dust and dirt from around the machine.

Static Electricity Control

Neutralizing static charges helps in dirt removal. Controlling static charges is also an important safety consideration for both operators and equipment. Static neutralizers may be passive or active.

Passive Static Neutralizers

Passive static guards, which include Copper Grounding Tinsel (not the decorative Mylar Garland tinsel) and Static String, should be the minimum effort used to reduce static. It is important to remember that the passive device must be grounded. A positive ground to bare metal on the press is preferred. Place the passive ground close to the moving web. Static String can drag on the web without scratching delicate surfaces. Dryer fabric softener sheets can also be used as passive static eliminators.

Passive devices are available from:

- Anti-static Tinsel - TAKK (800) 792-8255, www.takk.com
- Amstat, Industries (800) 783-9999 <http://www.amstat.com>
- Static String - Alpha Innovation (781) 639-9796, www.stopstatic.com

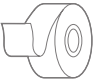
Passive devices should be placed at the unwinds and rewinds, as well as at each nip point on press. When material passes through a nip, a static charge is generated.

Active Static Neutralizers

Active static neutralizing equipment generates an ion field to neutralize the charges. These are electrical devices. These often are offered with a web cleaner package.

Active devices are available from:

- Tantee, (847) 524-5506, www.tantecusa.com
- SIMCO Industrial Static Control (215) 822-2171, www.simco-static.com
- Pillar Technologies, (414) 367-3060, www.oillartech.com
- Exair, (800) 903-9247, www.exair.com
- Electrostatics, Inc. (Autostat), (215) 513-0850, www.electrostatics.com



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- Amstat, Industries (800) 783-9999
<http://www.amstat.com>
- On the Internet, use www.google.com. "static eliminators"

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Ionized Air Blowers

Ion blowers are recommended for products, like label sheets, that may require post-press antistatic treatment. Commercial blowers are available but the fans may be too strong for the sheets. Work with your supplier to get the appropriate equipment.

Many handheld hair driers on the market today have ion generators that will dissipate static charges. This can provide a low cost, short-term alternative.

Anti-Static Sprays

Anti-static sprays and coatings have also been used to control and dissipate static charges.

- On the Internet, use www.google.com, "anti-static spray" for commercial products
- Home products such as Static Guard can work as anti-static spray.
- A homemade anti-static spray can be made by combining 1/4 cup fabric softener, 1/4 cup ammonia and 2 cups of water.

Use caution with anti-static sprays and dryer sheets so they do not contaminate the finished labels. For instance, labels that will be imprinted, including laser and inkjet printer labels, must not be contaminated with a static spray.

In summary, clean your equipment throughout the process, clean the material, remove any static, and if needed, employ more aggressive web cleaning immediately before critical press operations.

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