

It's Static Season!



It's that time of year when dropping temperatures and low humidity combine to create static electricity headaches. What can you do now to be prepared?

Though there are no magic bullets that will get rid of unwanted static once and for all, the good news is that static electricity can be managed to the point where it no longer has a negative impact on production.

Here are a few of the basics:

Moisture in the air is key. If the relative humidity in your pressroom, warehouse or bindery falls below 40 percent, the paper in your system will most likely accumulate a static charge. Paper is a "slow conductor" so static can be bled off, but it takes moisture to conduct the charge away from the paper.

More humidity is better when it comes to dissipating a charge. Higher humidity in the summer makes that happen naturally and air moisturizing systems can also reduce static in the winter.

When it comes to removing the charge from printed signatures, proper grounding is vital. Copper tinsel with a proven connection to true ground in the bindery and anywhere the signatures are on a conveyor (press or bindery) will help dissipate the charge.

Dry static suppressors can be effective. They work by dissolving static in the air stream and require some moisture in the air to work. Keep in mind that your compressed air is also a static generator. High velocity dry air moving through plastic (non-conductive) tubes can be a source of the charge. Puhl offers suppressors for compressed air and material handling ducts. Though these units can't be considered a cure-all, they can play an important role in any static elimination strategy down to about 20 percent RH.

Silicone used on presses for anti-marking purposes is an often-overlooked cause of static electricity. Applying an anti-static agent can help but press crews over time can apply too much silicone which ends up causing more static than the anti-stat solution can suppress. Ask your press crews to minimize the amount of silicone they use on the web. NOTE: Printers that run saddle stitchers or print retail inserts typically run more silicone than printers with adhesive binding operations. This is because running too much silicone in an adhesive-bound book can cause pages to fall out. If your bindery is stitch-only or if you are a retail insert printer, make sure to have the press crews dial down the silicone in the winter when ink offset and chill drum streaks are less of an issue than they are in the summer months. Not only will this reduce static in the winter, it will save money because you'll use less silicone/anti-static solution, too.

Consider wet static suppressors. These water mist units, which spray microscopic water droplets with each baler stroke, work great down in the baler chute. Wet suppressors can also be used on dust collectors and separators IF the water is managed properly. Keep in mind that too much water can ruin a set of bags or cartridges. If you go with a wet suppressor, make sure it's well maintained. If you skimp on maintenance, be prepared for mineral build up in the solenoid and nozzle which can cause them to stick open. The timer may also fault and send a steady stream of water to the dust filter which can cake and ruin the filter media. This is something you'll want to avoid. It's best to consider a wet suppressor as a last resort when all of the other methods discussed earlier have failed to address the issue.

Ionizing suppressors are also available. Though they work very well in some applications, they're not always the best choice for material conveying systems. One of the primary drawbacks is that metal must be kept out of scrap systems that use ionizing suppressors. If there's a chance that staples from saddle stitched books might end up in the system, the metal will cause an electric short and fault in the unit. In addition, ionizing suppressors aren't the most robust when it comes to handling high material loads. The units are filled with small metal ionizing pins that have a tendency to bend in high material flow situations, which increases the possibility of a short. To be most effective, these units are typically placed on the separator inlet, which means that in positively pressurized systems, they will leak dust. Despite the drawbacks and the relatively higher cost compared to other static solutions, in certain applications, ionizing suppressors can be worth the investment, maintenance and nuisance dust. Note that ionizing pins are a consumable item and their effectiveness is reduced as the points of the pins erode and get rounded. Annual maintenance / replacement is required.

Interested in learning more? The links below offer more details that will be of particular interest to printers and binders.

<http://www.technifoldusa.com/bindery-success-blog/bid/54842/Static-in-the-Print-Shop-and-Bindery-Is-There-a-Cure>

<http://www.staticinsel.com/>

<https://www.trifield.com/content/fixing-common-static-problems/>

If you want to get a jump on this year's static problem, just give us a call at 615.230.9500 or email us at sales@gfpuhl.com.