

Static Electricity

And Rigid Media



Introduction

Static electricity is often a problem when working with rigid media, particularly of synthetic materials. The media materials are often nonconductive, so static charges cannot dissipate on their own. The typical symptoms of a static problem are any of the following:

- “Pinholes” or other small spots where ink did not adhere to the media, allowing the media surface to show through. Pinholes occur when static has attracted foreign particles to the media surface. The ink is applied to these particles rather than the media itself, and when the particles are wiped away after printing, the result is bare media.
- An apparent haze of very light ink coverage in areas of the media surface that were supposed to remain unprinted. Haze occurs when the statically charged media attracts ink droplets away from their intended trajectory and causes them to land in unintended locations.
- Unexpected printer behaviors, particularly cancelled prints with error codes starting with 011 on the printer’s control panel. (Static discharge can interrupt internal printer communication, causing a cancelled print.)
- Minor personal discomfort from static shocks.

A number of active and passive methods can be employed to minimize static:

- Maintain a humidity level of 40-60% in the printer area and media storage areas. Low humidity levels in the printer and media storage environment can exacerbate the issue.
- Drape copper tinsel over the media stacks and attach the tinsel to a grounding point. This will help discharge the static from each sheet as it is removed from the stack.
- Wipe down the media surface with isopropyl alcohol (IPA) prior to printing. This will remove any foreign particles that were attracted to the media by static.
- For extreme static problems, careful use of an antistatic spray may be warranted. We have found K2r *Static Stopper* to provide good results. Alberto-Culver *Static Guard* may also be used. Lightly spray and do not allow the antistatic spray to pool on the media. Note that the ink-adhesion properties of some media may be negatively affected by the spray, so use the minimum amount necessary to achieve results. Adhesion decreases were typically around 10% and typically occurred on media that already had poorer adhesion properties without the spray.
- HP offers an Ion Static Eliminator Bar for the 72” UV-Cure printers (part no. 0901228). This product mounts to the printer directly over the media just before the printing area to help neutralize static charges from the media prior to printing.

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