Potential Sources of Problems in Your Projection Booth

This past winter, we continued to hear concerns about "static cling" and "brainwraps" on certain releases. Even though almost all prints today are on polyester film stock, not all prints were affected, so it is not simply a "polyester problem." Kodak is very concerned about these problems which often result in lost shows, dissatisfied audiences, and damage to prints and equipment. We are making every effort to better understand static problems and help theaters cope.

Kodak has been trade testing a new ESTAR base film stock with a process-surviving antistatic layer and scratch resistant backing. Millions of feet have been used on thousands of selected prints, with minimal static problems reported. We are well on our way to completely eliminating static problems. But for now, we offer the following advice for controlling static.

- Optimum relative humidity for film handling is 50 to 60 percent RH. Very dry conditions (winter heating, desert climate) tend to aggravate static buildup.
- Purchase and use an accurate humidity gauge in the booth. Some very good electronic units with digital readouts are available (e.g., Radio Shack Model 63-855) for under $30. The cheap dial gauge units sold for home use don't hold calibration and are often inaccurate.
- If possible, adjust the projection room HVAC balance to maintain the humidity between 50 and 60 percent.
- If the HVAC cannot maintain the desired humidity, add moisture to the air by using portable humidifiers in the booth We suggest the use of evaporative humidifiers that blow air through a wet foam belt or cartridge. Don't use ultrasonic or "cold mist" vaporizers that actually spray water droplets into the air. Minerals in the water will accumulate as a white powder and may cause problems with electronic equipment. Hot steam vaporizers are expensive to run and usually have insufficient capacity to humidify a large room.
- If you cannot maintain the desired humidity in the booth, it is possible to increase the moisture content of the film overnight. Place a wet sponge in a dish inside the film roll on the platter, and cover with a "tent" of clear polyethylene plastic (e.g., the type used for a painter's dropcloth). The film emulsion will pick up some moisture overnight. Be careful not to get

the film, platter or components wet.

- Platters with non-conductive (plastic, enameled or anodized) surfaces tend to have more static problems than platters with bare metal surfaces. Check the surface conductivity with an ohmmeter. Non-conductive surfaces should be regularly treated with conductive anti-stats. Industrial anti-static sprays are available from suppliers of electronic or computer equipment for use on computer monitors and furnishings. Even laundry products intended to eliminate "static cling" (Static-Guard™, Cling-Free™, Bounce™, etc.) will help. Treat the platter surface, rollers, guide-posts, and all other nonconductive materials that contact the film. The edge of the film roll may also be treated with an anti-stat, but be careful not to get the film wet or sticky do not treat the image area with any chemical.
- Do not use materials such as WD-40, silicone spray, projector oil, talcum powder, etc. on the print. They may leave visible deposits or mottle and can cause serious problems, including loss of image dyes.
- If particle transfer rollers (PTRs) are used to clean the print, use conductive PTRs to minimize static buildup, such as those supplied by FPC (A Kodak Company). Call FPC at (800) 814-1333 or (213) 468-5774 for more information.
- Always winding film emulsion side in (toward the center of the platter) seems to minimize "static cling" problems, as well as improve focus stability on large screens (see SMPTE Recommended practice RP39).
- Consider the use of static control methods such as corona discharge ionizers (ionized air conducts electricity to help discharge static), anti-static brushes (contain soft carbon or metal fibers to bleed charge away from the film) or metal garland. Suppliers and consultants can be found in the Yellow Pages™ under "Static Controls."
- Kodak has always recommended the use of a tension-sensing fail-safe when using polyester film, to minimize damage to the film or equipment should a film jam or "brainwrap" occur. These devices automatically shut off the equipment or cut the film if the tension becomes excessive. These fail-safes should be used in addition to the film break detectors that simply sense when the film breaks or runs out.

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