

Help for Projector Dusting

Question: Some of my projectors are covered with white flakes and I have to clean them after every show. I also find a lot of buildup on my PTR film cleaners. Even with cleaning, the prints get quite dirty within a few weeks. Some other projectors never seem to have a dusting problem, except for a little purple-colored dust with brand new prints fresh from the lab. What causes this dusting?

Answer: The white "dust" you are seeing is likely small flakes of polyester scuffed from the backside of the film by the gate and intermittent shoe of the projector. If you look at the edges and perforation area of a print that has been through a "problem" projector a few times, it is likely that you will see scratches and abrasions, especially on the back side. Prints from the projectors that aren't dusting will show much less abrasion, even after hundreds of runs.

The intermittent shoe is the most likely area of the projector for back-side scuffing to occur. Any surface roughness here will be especially damaging. New projectors "out of the box" are often worse than projectors that have had the gate and shoe surfaces burnished by use.

Check with a magnifying glass to see if there is any obvious problem with the film contacting parts of the gate and shoe, such as a nick or burr, or a hardened buildup of emulsion. Remove any buildup with your fingernail or a non-metallic tool that won't nick or damage the metal surface. Misalignment of the gate and intermittent sprocket can cause the projector to damage the perforations or scuff the edge of the film, so carefully check the alignment.

Dusting is becoming more of a problem as very few laboratories routinely edge-wax release prints anymore. For optimum performance, Kodak has specified edge-waxing for 35mm prints since the 1920's. Proper lubrication reduces surface abrasion of the film, improves steadiness, and reduces perforation wear by reducing the tension required to pull the film through the gate. Unfortunately, previous methods applied the wax using a solvent that is now regulated as being environmentally harmful. Labs have phased Out edge-waxing, finding that Kodak color print film generally has acceptable performance because of the lubricants put into the raw stock. Optimum performance, including resistance to severe projector abrasion, still requires levels of wax only obtainable by edge-waxing after processing.

Unfortunately, some methods of lubricating prints often cause additional problems. Never use oils, silicones, or spray materials like WD-40 to lubricate film. These materials often stay on the film as a sticky coating. Some materials can actually leach the oil-soluble color dyes from the film. Products sold specifically for cleaning and lubricating film will not harm the film, but are difficult to apply.

Kodak is working to develop methods of edge-waxing prints that don't require use of harmful or toxic solvents. One promising method is very simple. It involves the use of SC Johnson Paste Wax (800-558-5252), which is a mix of hard waxes with a fast-evaporating solvent forming a soft paste-like material. We have found that a very small amount (no more than one level teaspoon) of the paste wax uniformly buffed along the side-walls of the print as it lies on the platter will penetrate into the edge and perforation area of the print. When the solvent evaporates, a thin clear layer of the solid hard wax is left on the surface of the print, in the areas where it is most needed to reduce friction and abrasion. Running the print through the projector spreads out the wax into a uniform coating. Although there is nothing in SC Johnson Paste Wax that will harm the film, care should be taken not to put too much on, as excess wax will build up in the projector, and could be visible on the screen or affect the reading of the soundtracks. Remember that it's easier to apply a very small amount of wax and add more if needed later. Another note of caution is that the added wax will make the film roll more slippery, requiring the use of platter clips to keep the roll from sliding on the platter surface.

Our tests show that proper edge-waxing will greatly reduce "dusting" and surface abrasion of prints. Edge-waxed prints should also run more quietly and smoothly through the projector, and perforation life will increase since the film will require less force to pull it through the gate.

By the way, a small amount of purple dust on the first few runs of a new print is normal. The dust is usually purple because the top imaging layer in the film is the magenta dye layer. Other than using PTR film cleaning rollers to clean the print during projection, no further action is usually needed, UNLESS there is obvious abrasion of the emulsion-side surface of the print.

For more information, contact me at john.pytlak@kodak.com