

Streaky Paper Dust Build-up on the Blankets



Sappi Printer Technical Service

877 SappiHelp (727 7443)

Problem

Streaky, white, paper dust pre-maturely builds up on the blankets, interfering with ink transfer.

Description

When paper debris build-up on the blankets appears streaky and sporadic across the web, but uniformly linear in press direction, it's an indication that the surface of the web is dragging on a stationary object and abrading somewhere through the press. This paper-abrading drag, accompanied by loose paper dust accumulations around the press, can usually be found somewhere along the web path just prior to the most contaminated blanket. The resulting surface abrasion may not be visible on the paper surface, but it's just enough to loosen the paper's coating or sizing to where the cumulative effect causes a streaky, white build-up of paper dust on the blankets and around the area of contact on press. This type of coating dust build-up should not be confused with the more solid and uniform appearance of non-image piling, linting, or "milking" of the paper coating.

Obviously, an incorrect web-up resulting in web drag over a press guard or other stationary object will result in surface abrasion of the paper, but there are also certain press configurations that may create a similar challenge when the press is correctly webbed-up. For instance, non-perfecting, UV half-web presses with stationary mid-press, bay-window, turn-bar systems designed to turn the web to print the other side may subject the paper to contact and frictional forces too high to transport the web without drag and abrasion. Additionally, some sized or coated paper surfaces may be too soft to run abrasion-free on certain types of narrow, high-contact, turn-bar systems without operator intervention and special consideration.

Causes

- Web-up is incorrect and the paper is dragging and abrading over a stationary object.
- Web-up is correct, but high tension and contact over the mid-press turn-bar system is resulting in excessive frictional forces that abrade the paper surface.
- The turn-bars are dirty, unpolished, or not plated with a low coefficient of friction material.
- Air pressure to the turn-bars is insufficient to minimize web contact, cooling, and frictional forces.
- High-force blanket release may be accentuating the piling and build-up effect.
- Paper's coefficient of friction is too high resulting in excessive drag over the turn-bars.

Streaky Paper Dust Build-up on the Blankets (continued)



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- The paper's surface sizing or coating is too soft, leaving it vulnerable to abrasion through high contact and friction experienced through certain mid-press turn-bar systems.

Options and Solutions

- Check the web path and correct any web drag that may be caused by incorrect web-up over a stationary object.
- Check the web-up and correct any web drag that may be the result of abrasive nip-roll contact or lead-roll drag due to contamination build-up or bearing wear.
- Relieve as much web tension around mid-press turn-bar as possible.
- Maximize turn-bar air pressure and tape-off any exposed air holes outside the web path.
 - Minimizes contact and friction of web across the turn-bar.
 - Cools and reduces counter-productive heat absorbed by the web through the first-down print unit's UV curing stations.
- Clean and insure that the mid-press turn-bars are free of any attached contamination that may cause isolated surface abrasion of the paper.
- Add a compatible non-piling additive to the fountain solution. Consult with supplier.
- Increase water to the plate in the most affected units of print.
- If there are open units in the press line after the mid-press turn-bar, move the color rotation forward and use the open unit(s) to dust the web immediately after the turn-bar.
- Apply a low coefficient of friction tape to the angle bars. Excellent performance reported using 2" wide 3M UHMW 5423 Polyethylene Tape.
- If coated paper is frequently run, consider plating the angle bars with a low coefficient of friction ceramic or highly-polished industrial chrome material.
- Try a different grade of paper.