HARPERLOVE

ADVANCED ADHESIVES REPORT

YOUR CORRUGATING NEWSLETTER FROM HARPERLOVE

May 2020

Glue Dams

by Freddy Ramsey

The glue dams are a very important piece of the puzzle when running a corrugator. The dams are designed to keep the correct level of adhesive on the glue roll and metering rolls. If they are not set correctly, they can lead to a variety of quality and productivity issues. The glue dams are supposed to be set just inside the outer edge of the medium. On some machines they move automatically, but they are typically set manually on older equipment.

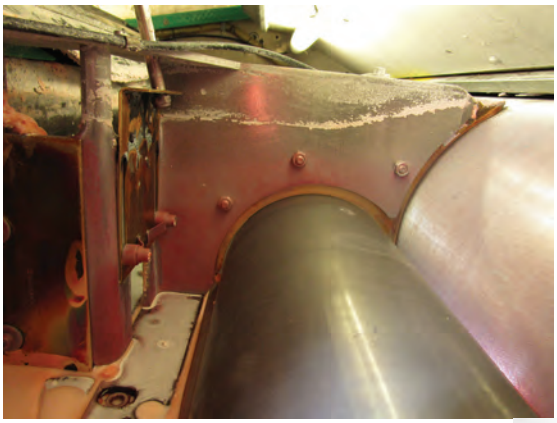
After every paper change, the operators must ensure the top liner and the medium are aligned and then set the glue dams just inside the edge of the medium. The position of the dams is visible on many machines but hidden by the vacuum chamber on some of the newer machines. If the dams are not visible, making a small tear-out in the web will reveal their position.

If the glue dams are set too narrowly, you will not get adhesive across the full width of the web. This will lead to edge delamination. If they are set too wide, adhesive will build up on the lower corrugating roll outside web. This build-up will cause the corrugator rolls to bounce and will lead to uneven pressure and poorly formed flutes. Many times, an operator can hear this condition taking place before even seeing it. The sound of starch getting ground up between the corrugating rolls can sound like a bad bearing. This will ultimately cause a “fluff out” or “blow out.” (Different plants use different terms to describe this issue.) The excess adhesive can also build up on the clean-out fingers in the corrugating roll if the edge is around one of the clean-out slots. This can create another issue on the belted machines such as BHS and the MHI 60H. On these machines, the adhesive will build up on the pressure belt and cause the fluff out or blow out. When this happens on a high-speed machine, it can lead to a serious jam up on the dry end. The adhesive build-up on the corrugator rolls can also cause the coating on the corrugator rolls to deteriorate and cause chipping.

Adhesive on Finger

The glue dams along with the entire single facer should be cleaned thoroughly when the run of that particular flute has been finished and the other single facer is in use. As part of the preventative maintenance, the glue dams should be removed and

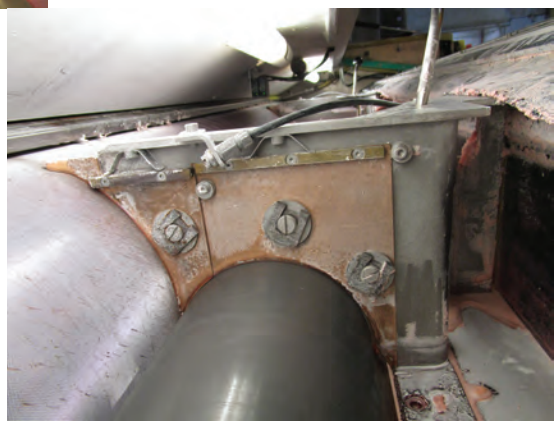
inspected regularly. All worn and damaged parts should be replaced. Directions for changing the dams are provided in the manuals which are typically located in the maintenance department. After the dams are reinstalled and adhesive is back in the machine, inspect the dams and look for leaks. If leaks are present, you may have to disassemble the dams to fix the issue.



BHS - Inside View

The glue dams on BHS machines are brass plates that are very sharp and can be damaged very easily during installation. Special care should be taken not to damage them. These glue dams are set automatically. Because they are very hard to see inside of the adhesive pressure chamber, the operator should always check the web after it leaves the pressure belt for alignment, glue dam setting, glue line width and pressure cutting of the medium on both sides of the web.

BHS module facers also have a water spray nozzle located on the outside edge of each glue dam. These can be set for the length of time to spray and at what interval you prefer. They spray constantly as the glue dams are being moved to help clean off any dried adhesive that may be on the glue roll. It is important not to over spray the water or have any leaks in this system because this water goes directly back into the adhesive and will affect the quality of the adhesive.



BHS - Outside View

Glue dams, like many parts of the corrugator, play a critical role in producing quality board. To avoid downtime and quality issues, glue dams need to be set properly and regularly cleaned and maintained.

Roll Stock Handling

by Joe Giovanni

In today's production environment, we are constantly pushing to increase production and reduce waste safely to improve the bottom line. The corrugated process starts with roll stock, and proper handling of roll stock is critical to reducing waste and increasing profits.

Roll stock is usually shipped to a box plant by rail car or truck, and the first opportunity for damage and waste occurs in transit. If the roll stock is not properly loaded, blocked and secured, it can be easily damaged in transit. Damage to the outside of the rolls leads to wraps having to be removed, and this is a direct cause of waste.

Clamp truck drivers are key to proper roll stock handling. Clamp drivers should conduct a daily inspection of the clamp trucks to ensure proper condition of the clamp and all equipment to prevent the jaws from damaging rolls. The drivers are also the first line of defense to unload railcars and trucks, and to inspect the rolls for prior damage. Depending on the amount of damage, the drivers should complete a roll stock mill complaint or claim

(including pictures, if possible) in accordance with their company's procedures. The complaint or claim not only serves to provide a credit for the damage, but it also helps the mill determine the root cause and take corrective actions.

Once the rolls are unloaded, proper handling and storage will also reduce waste. In high traffic areas and aisles, half-round roll protectors should be placed around the bottom roll of each stack to protect the rolls from being hit or bumped.

Depending on the plant's location and the size of the roll room, some roll stock may be stored outside. Exposure to the elements creates another potential for damage. When rolls are stored outside, they

Protected Rolls

should be protected with caps, covers, or shrouds to keep rainwater and moisture out of the roll. If water or excess moisture gets into the paper, it will create production and waste issues on the corrugator. A roll that has wet edges is much more difficult to run, and the corrugator crews will have to slow the machine to run a usable sheet. If the wet edge isn't too far into the roll, it may be trimmed off at the dry-end slitter.

Roll condition will dictate the number of wraps that will need to be stripped off prior to running the roll. If the roll has damage, the operator will have to trim more paper than usual. If a roll is in good condition, only a few wraps will need to be removed. A roll stock trimming tool makes it easy for the operators to trim the desired number of wraps off the roll accurately. This tool is relatively inexpensive, lasts

Roll Stock Trimming Tool

for a good amount of time, and is easily stored in your pocket or a tool holder attached to your belt.

The care that is taken in unloading, storing and moving roll stock will ultimately determine the number of wraps that must be stripped off the roll at the corrugator. If the rolls are damaged when they arrive to the corrugator for production, more paper will be trimmed prior to the run. Fewer wraps equal less waste. The plant's waste report, particularly the peel waste category of the report, is a very good indicator of issues with roll stock handling. This number will show issues with roll handling processes from the initial unloading through storage and all the way to the corrugator.

Protected Rolls

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