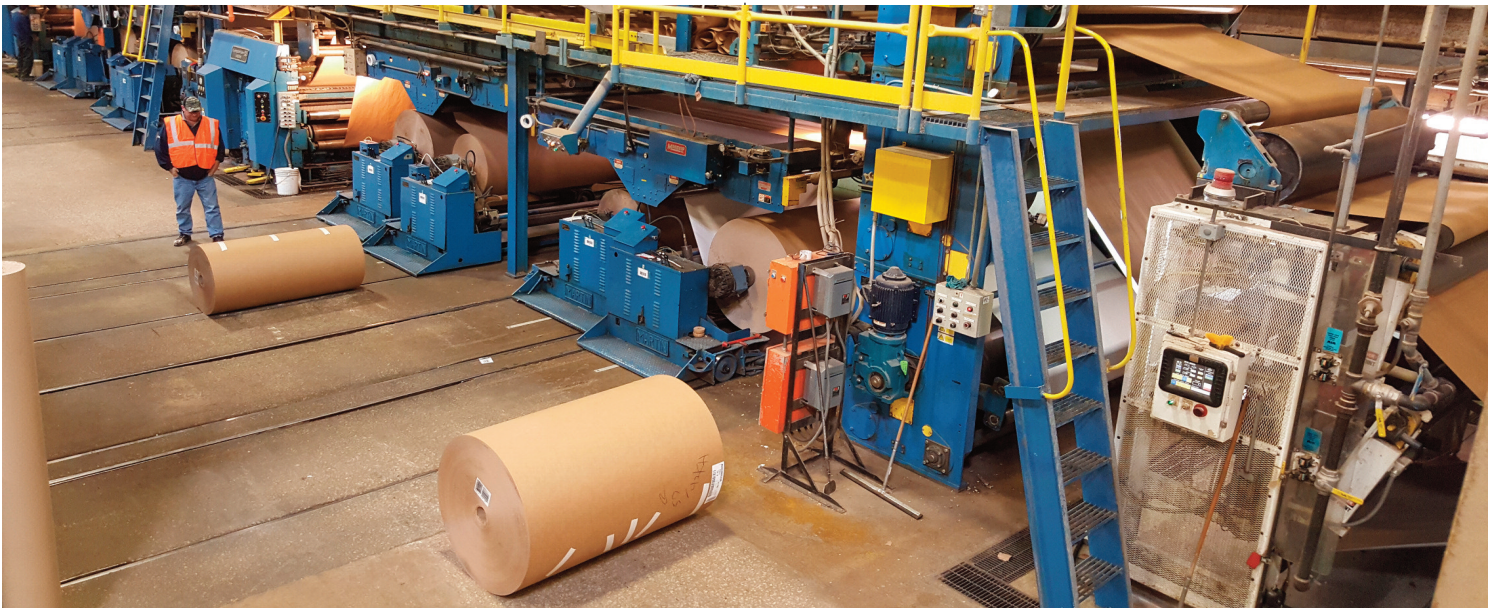


ADVANCED ADHESIVES REPORT

Your Corrugating Newsletter from HarperLove

SMALL ISSUES ARE CAUSING MAJOR PROBLEMS

By Wayne Porell



All box plants want to run at high speeds and produce quality board. When the corrugator slows down, board quality and production volume are affected, and issues like brittle board and warp will arise.

Throughout my travels, I have noticed many people walking along the corrugator on a mission of putting out fires. Like a race horse wearing blinders, their goal seems to be getting to the end without letting anything to their side distract them. When you are walking alongside the corrugator as it runs, slow down and look around along the way. Have a small pad of paper and write things down that need to be repaired.

The issue could be a minor problem that doesn't look important at the time. It could be an undulating edge entering the hot plates or slinging starch causing a wet edge. You can often get away with a small issue, it is when you have several small issues at one time that slower speeds and quality problems arise. I've seen this happen over and over again. It's not one major issue that is causing the plant a problem; it's usually several minor issues combined that result in a potential crisis.

A wavy edge entering the machine could just be a roll of paper that was rewound incorrectly at the mill, but it could also be misaligned equipment or even a bad bearing in one of the components. At the singlefacer, this loose edge would

cause the temperature of the paper entering the machine to be lower on one side than the other, resulting in the liner blowing away from the medium to create delamination. At the double backer, the liner entering the machine could be too cold causing the starch to dry on the sheet instead of gelling and forming a strong bond.

If they don't understand the real cause of the issue, the operators may try to solve it by adding heat to get the colder side up to the correct temperature. This would overheat the opposite side, causing delamination because the starch gels before it can penetrate the liner.

ADHESIVE: It is important to continuously monitor adhesive parameters such as gel temperature and viscosity because incoming raw materials such as the pearl starch can potentially change from one delivery to another. Just when you stop checking, something goes wrong and no one suspects the adhesive because it has always been in spec.

Many plants rely on automatic starch mixing systems for consistency because they deliver consistent adhesive from batch to batch. To ensure performance and consistency from automated starch equipment, the systems must be kept clean. Most operators rinse out the mixer, but forget to clean out the top. When enough dried starch builds up on the lid, it



PETER SNYDER is HONORED by TAPPI

During the 2016 SuperCorrExpo, Pete Snyder was presented with the prestigious Lifetime Achievement Award. Pete has previously received TAPPI's Technical Award in 2004. In 2011 he also received the Leadership and Service Award from the TAPPI Corrugated Packaging Division. Only one other person has ever won all 3 major division awards. We are honored that Pete achieved such a rare accomplishment and are very proud of his service to the industry.

Currently Mr. Snyder is a National Accounts Manager for HarperLove. He has been with HarperLove since 1985 and an active TAPPI member since 1987.

OTHER AWARD RECIPIENTS FROM THE HARPERLOVE TEAM:

CLINT BELL

Leadership & Service Award in 1991

BILL KAHN

Leadership & Service Award in 2005

JIM CARBONE

Corrugated Lifetime Achievement Award 2012
Division Technical Award
Harry J. Bettendorf Prize 2002

BILL NIKKE

Corrugated Lifetime Achievement Award 2006
Division Technical Award
Harry J. Bettendorf Prize 2000

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can throw off the load cells, and ingredient quantities will vary. Keep a log of the steam valves on the mixer as many only last 9 - 12 months with hard use. Items such as these are overlooked and can cause board quality issues because of varying temperatures, viscosities and gel points.

PAPER TEMPERATURES need to be checked by the crews and followed up by the supervisors. If the machine is running at 900 FPM and the bottom liner is entering the hot plates at 180°F on the operator side and 140°F on the drive side, you are probably going to get a loose edge on the drive side. When checking paper temperatures, it is necessary to physically walk around the machine and check both sides. The gun needs to be at a consistent distance from the paper to get comparable readings.

Keep all sensors clean so they can read accurately. If the sensor for the glue roll is dirty, it won't allow the glue roll to come in close enough to apply starch to the medium and thus creates waste. Sensors on the preheater wrap arms are critical to ensure the arms go to the correct position to avoid overheating or underheating the paper causing warp and waste.

IR TEMPERATURE SENSORS are used more extensively on newer machines and often they don't get cleaned frequently enough. If these aren't clean they will give inaccurate readings. Verify the cleaning procedures and compare the sensors' temperature readings with a hand-held gun. I have seen the



temperature sensor after the last hot plate reporting the bottom liner temperature at 250°F when the real temperature was 300°F.

The plant was experiencing cracked scores and severe up warp because of false readings from a dirty sensor. Newer machines may require more time to clean because they have more guarding and it is not as easy to get to the parts that need to be cleaned.

STEAM VESSELS /TRAPS: A cold steam vessel could be caused by a bad steam trap or possibly a bad siphon pipe. This is why steam vessels temperatures should be checked and recorded on a daily basis. If a cold vessel is discovered, have it repaired as soon as possible. Steam traps should be checked at least once a month.

SPLICER RELIABILITY: One missed splice can ruin your day. If you are running 1000 FPM and miss a splice, by the time



HarperLove Welcomes Gates Gravely as new Director of Sales and Marketing

We are pleased to announce that Gates Gravely has joined our company as Director of Sales and Marketing. Gravely comes to HarperLove following a 32-year career with Veritiv Corp. (formerly xpedx) where he held a variety of sales, sales leadership, and marketing leadership positions in the packaging business. He earned his Bachelor of Science degree in Business Administration from the University of North Carolina at Greensboro. Our CEO, Alan Clark, commented, "Gates comes to HarperLove with extensive experience selling from the plant floor to the headquarters level. In addition to his professionalism in sales leadership, Gates possesses the energy level, the desire for excellence, and the personal values that fit well in HarperLove's culture. I am glad to have him on our team leading HarperLove's growth and continued industry leadership." Gravely said, "The HarperLove focus statement 'To serve is to solve' conveys the company's intense customer focus and desire to add value as an extension of our customers' organizations. I share a passion for these areas and am honored to be a part of the HarperLove family."

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the machine stops, there is scrap up to the knife and slitter, jamming up the machine. This can cause 15 minutes of lost time or roughly 15,000 linear feet of board and this doesn't include the dwell time it takes to get back to the 1000 FPM speeds. That generally takes a few more minutes which just lost you another 2000 linear feet of board. If this were to occur once a shift, it would cost the plant 51,000 linear feet of board in a day. At an average web width of 98", that's equal to 138,834 sq. ft. lost daily. Splicers need to be monitored for reliability.

STACKERS: Make sure that all rolls and the backstop are parallel. Check that the fingers or brushes are in good condition. Ensure the no-crush wheels are in good condition and installed the correct direction. (Please refer to the August 2016 Advanced Adhesives Report for more information on no-crush wheels) This all matters when you are trying to get a nice, neat, even stack when running at higher speeds. Worn parts or parallel issues can cause stacker jams or bad units that the crews must restack. This requires time and takes the crew away from checking quality. If quality is not being checked at the stacker, wet-end operators won't be aware of the need for machine adjustments to correct problems.



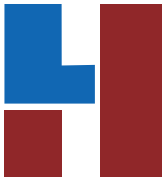
Root-cause analysis needs to be used in troubleshooting any machine or quality problem. Most large problems usually begin as small issues.

COUNTER-POINT

The article in our last issue about no-crush wheels generated a lot of response, particularly regarding Fosber machines.



Fosber installs no-crush wheels in either orientation, depending on the specific application. We reached out to Fosber's engineering department to better understand the rationale. They understand and agree with the advantages of mounting the wheels in the conventional manner but have determined that mounting them in the opposite direction can yield increased traction in some applications.



HarperLove

11101 Westlake Drive
P.O. Box 410408
Charlotte, NC 28241-0408

704-588-1350 • www.harperlove.com
e-mail: salestech@harperlove.com

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**WE DO MORE THAN
SELL ADHESIVE
ADDITIVES.**

**We offer 360°
solutions.**

