



Evaluating Starch Lines Using Iodine Stains

For a number of years, the corrugated industry has been using an iodine solution to evaluate the starch lines on a combined board. Once the board is thoroughly soaked apart, many of us were taught to spray iodine on the liner side of the board to evaluate the glue lines and troubleshoot based upon our observations. Pictures of various glue line defects were often available to compare your actual sample against to help with the troubleshooting process. The pictures are still helpful today and you can find them in Corrugated Chemicals' reference material also.

The use of Soak and Iodine stains progressed through the years to the point of quantifying the application by using a Glue Line Measuring Guide or Visual Micrometers using a scope proving to be very helpful in judging correct application rates. Complete instructions on how to use these measuring guides are available for your reference also.

What has proved to be a very effective troubleshooting tool is to not only iodine the liner side, but also the medium. The thought is staining the medium side tells you how well you applied the starch to the flute tip or application. Spraying the side of the liner tells you how well you transferred the applied starch to the liner, or the amount used for bonding. To further think about this, looking closely at the iodine stain on the medium, you will be able to measure the width of the application (not thickness), whether it is positioned corrected on the flute tip, if there is excess on one side versus the other, if there is any slinging between the flutes, if Morse Coding is present (skips in application), it will help you make decisions about Lag settings or Glue Roll to Paper Speed Ratios. The amount and quality of the transfer to the liner will tell you information about how much starch was actually used for bonding, positioning on the flute tip, scooting issues, Morse Coding, and other observations. You should always compare samples looking at three positions if not the full width of the web. We recommend the operator side, center, and drive side at a minimum. For checking machine direction variations, you will need to soak a long sample apart in each position and inspect for variations in the length direction. Runout and T.I.R. issues and bearing issues are examples of what will show up in the machine direction.

The bottom line is that soak and iodine stains and then inspecting both the liner and medium can tell you a great deal of information about your process and your glue application equipment (glue rolls, metering rolls, scraper blades, bearings, etc). It is a very effective troubleshooting tool when evaluating bonding defects at the corrugator during the process and after the fact. Having a soak and iodine tank/station available at the corrugator is a very important tool for everyday use.

Please use our technical service group for advice on setting up a station in your plant by calling 800-669-7589 or emailing solutions@corrugatedchemicals.com.



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