

EXPLANATORY TEXT TO ACCOMPANY GLUE LINE POWERPOINT PRESENTATION

Slide 1 shows data from Sheets Unlimited showing how the previous glue machine (a 5 1/2 year old United) typically performed on 35-26m-35 C flute. The measured deflection which averaged 0.006 inch (0.152 mm) was unacceptable and kept them from utilizing 35 LB. liner on about 40% of their production.

Slide 2 shows data from Sheets Unlimited showing how the ISO-BAR glue machine typically performs on 35-26m-35 C flute. The measured deflection now averages about 0.0026 inch (0.066 mm) and has allowed them to utilize 35 LB. liner to replace 42 LB. on all of their high graphic quality board.

Slide 3 shows a photograph provided by Norampac's Technical and Development Centre. It shows in high magnification the iodine stained glue line of a 35-26m-35 C flute sheet produce by Sheets Unlimited after the ISO-BAR installation corresponding to the graph in slide 2.

Slide 4 shows data from Sheets Unlimited showing how the previous glue machine typically performed on 42-26m-42 C flute. The measured deflection which averaged 0.0025 inch (0.064 mm) was acceptable but costly for the reasons stated above.

Slide 5 shows a photograph provided by Norampac's Technical and Development Centre. It shows in high magnification the iodine stained glue line of a 42-26m-42 C flute sheet produce by Sheets Unlimited before the ISO-BAR installation, corresponding to the graph in slide 4.

By comparing slides two and five it is fairly easy to see why the ISO-BAR increases caliper. We can accurately place a much smaller glue film on the flute centerline, where it doesn't distort the flanks of the flute. The flute stays straighter and stands taller.

Slide 6 shows data from Sheets Unlimited showing how the ISO-BAR glue machine typically performs on 42-26m-42 C flute. The measured deflection now averages about 0.0009 inch (0.023 mm) but they rarely, if ever run it any more as they are using up inventory and switching over entirely to 35 LB.

Additionally I should point out that before our machine went in they were averaging 2.8 LBS. per MSF (0.58 GSM) glue consumption. After 4 months they are below 2.2 LBS. per MSF (0.45 GSM) and headed lower. As they slowly cut back their single facer they can then take more off at the glue machine. As you can see from the slides the board is significantly flatter. They were pleasantly surprised to find out that caliper is up from 0.002-0.004 inch (0.05-0.1 mm) on all grades.

Slide 7 shows a series of trials run at our next installation, Commencement Bay. Here we used the largest size rod available to us and varied the applicator roll speed to change glue weight. You will note that the glue line varies very linearly with respect to speed and that the glue line stays on the centerline of the flute tip. We accomplish this through the use of a control mechanism that is currently the subject of a patent application. Both Sheets Unlimited and Commencement Bay operate the glue roll speed exclusively below 40% of flute speed and I have an open invitation from both plants to bring anyone through to witness this.

Slide 8 shows the application of approximately the same amount of glue (as measured by glue line width) but using a smaller rod size which reduces the thickness of the film on the glue roll. Note that to get more on with a thinner film we simply run the glue roll speed at a faster percentage of flute speed. As I said earlier the 80 rod is currently the largest rod we have available and it puts a uniform film down on the glue roll about 0,008 inch (0.2 mm). We have successfully run rods that provide a film thickness as low as 0,003 inch (0.07 mm) and could easily go lower to get extremely low adhesive levels. Sheets Unlimited now runs all their flute sizes (B,C,E and doublewall) using a 50 rod that provides a 0,005 inch (0.13 mm) film thickness on the roll.

Both Sheets and Commencement have been able to raise their solids to the limit that their starch kitchens can fully suspend. This is currently as high as 32 %. I noted with interest (at the show this past week) that several starch companies were announcing 40% solids starches. The spreadsheet will allow your people to see the large differences in applied moisture using this high a solids. We can put on any weight, at any solids that will pump to the machine and not settle out in the glue pans.