

# FPIinnovations' Roll Testing Facility (RTF)

Web breaks, bagginess, misregistration, corrugations, wrinkles, and other roll structure defects can turn into serious problems for papermakers as well as for tissue and film manufacturers. They may occur only at the customer's site, so it becomes difficult to track the problems back at the production sites. However, when relevant information is obtained on problematic and well running rolls, it makes it possible to resolve these issues. The Roll Testing Facility (RTF) offers a complete inspection of both web and roll, through the measurement and analysis of numerous data related to web uniformity and roll structure.

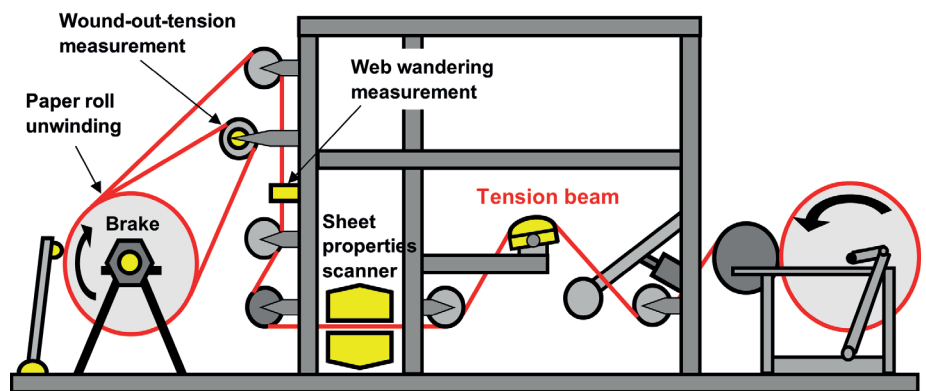
The distinctive feature of the RTF is the high resolution quantification of web tension profile in cross direction. Paper properties (moisture, BW, caliper) complement the web uniformity analysis. The other useful attribute of the RTF is the capability to generate the wound-out-tension (WOT) curve of a roll. Combined with the highly precise measurement of several more roll structure data, FPIinnovations can obtain a clear indication of roll performance on press or converting equipment. With over 4000 rolls tested for customers from North America and also Europe, FPIinnovations has developed strong expertise in solving common or otherwise more specific web, roll and winding issues.

## ROLL STRUCTURE DATA

- WIT-WOT Curve
- Roll Density
- Web Length
- Out-of-roundness
- Centroid
- Lateral Movement
- Telescoping

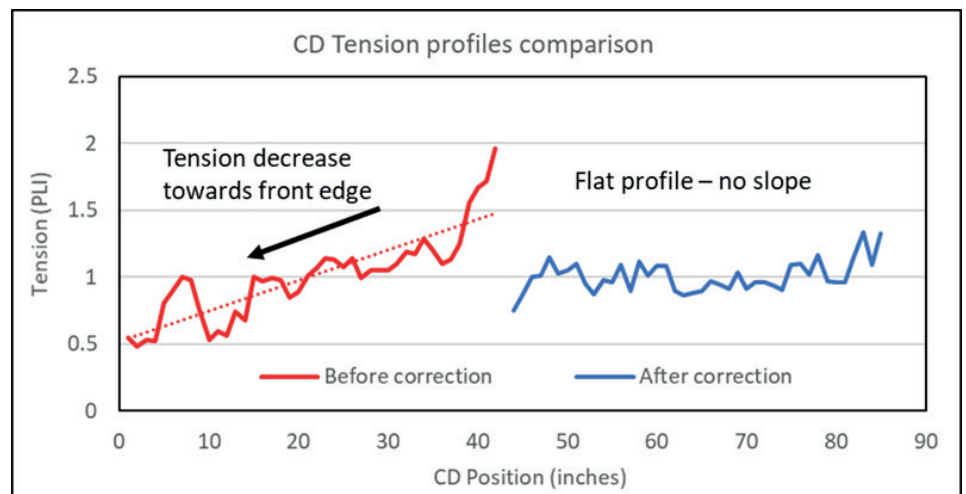
## WEB UNIFORMITY DATA

- Bagginess Quantification
- Basis Weight
- Moisture
- Caliper



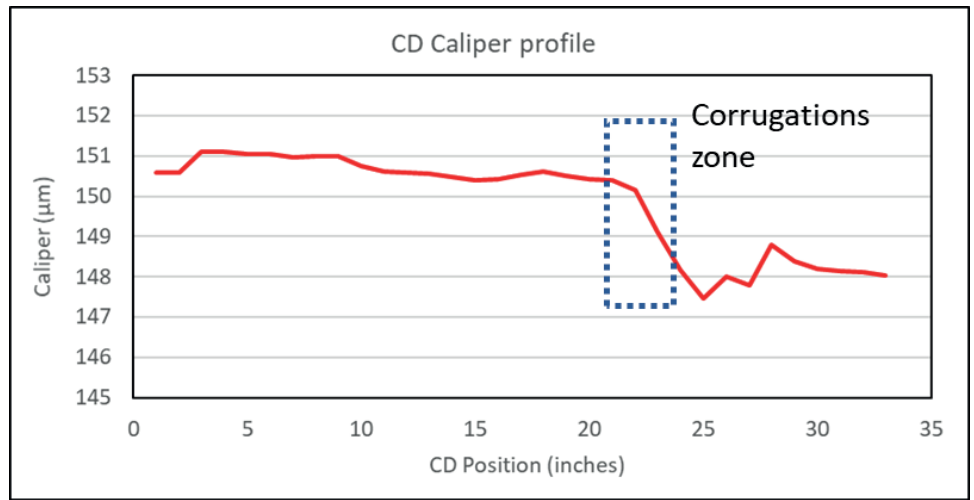
## CASE STUDY 1: BAGGY EDGE & MISREGISTRATION

- A pressroom reported misregistration with the front edge rolls.
- As measured with the RTF, the web showed a tension drop at the paper machine front edge.
- Following one of our recommendations, a moisture bias was applied to correct the CD tension profile.
- After correction, the pressroom no longer showed signs of misregistration.



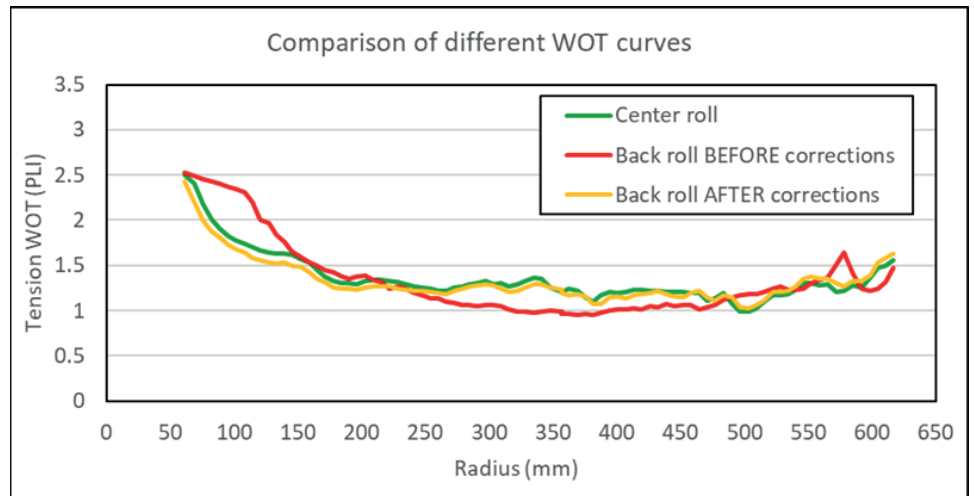
## CASE STUDY 2: CORRUGATIONS

- Corrugations were generated during printing on linerboard paper.
- A variation in CD caliper at the corrugations area was likely the cause.
- Based on the RTF data, several recommendations were made to minimize caliper variation, thus eliminating corrugations.



## CASE STUDY 3: WIT-WOT

- A paper mill found that the back edge rolls were not properly wound at the winder.
- As measured with the RTF, the back edge roll showed a very dissimilar WOT curve compared to the middle roll.
- The adjustments made to the rider roll and to the CD profile uniformity corrected the imperfect winding curve.



## CASE STUDY 4: LENGTH MEASUREMENT

- Fewer copies per roll were reported by a pressroom.
- With the RTF, paper length was measured. The roll's length was found to be shorter.
- The paper mill was able to adjust the way roll length was measured at the winder.
- Ultimately, the roll specification conveyed to the pressrooms was accurate.

	Paper Mill	RTF	Difference
Roll Length (m)	12 472	12 437	-35

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