



1

Abitibi-Consolidated “Alma” – PM 14 conversion to coated paper

This rebuild at the Alma mill, Canada, was entrusted to Voith by Abitibi-Consolidated (ACI), a global leader in newsprint and uncoated groundwood papers as well as a major producer of wood products, with approximately 14,000 employees in Canada, the U.S.A., the U.K., South Korea, China and Thailand.



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ACI enjoyed such success with the previous conversion of Beupré (Quebec) PM 1 to high-bright coated paper, that the market demand for this product (named “Equal Offset”) is steadily rising. With that in mind, ACI decided to significantly increase the production capacity of this grade. An analysis concluded that the best candidate for a rebuild was PM 14 newsprint machine in the Alma mill, Quebec.

When fully optimized, PM 14 will produce 230,000 t.p.a. of “Equal Offset” at a paper machine speed of 1,100 m/min. The conversion from newsprint to coated paper production entailed major process changes. In addition to the PM rebuild, the project included an increase in TMP capacity, a new peroxide bleach plant, an increase in secondary paper treatment and modifications to the finishing section

Fig. 1: The converted PM 14.

Fig. 2: Abitibi-Consolidated, Alma mill, Quebec, Canada.



Gratien Girard

Project and production manager Abitibi-Consolidated (ACI)



and shipping logistics. The total project cost was about 200 million Canadian dollars.

The former was originally a hybrid with BelForm top former (forming shoe). For better formation and two-sidedness control, the latter was converted to a Voith DuoFormer D (opposing multi-blade former). The three straight-through presses were replaced with a new Centri-Nipco-Flex press + straight-through 3rd press. The Centri-NipcoFlex ensures very good sheet dryness before the first open draw. The straight-through 3rd press allows two-sidedness control in smoothness.

The dryer section rebuild pays particular attention to sheet support and high dryness ahead of the on-line coater. To accomplish this, the pre-dryer section was fitted with sheet support boxes (Pro-Release, DuoStabilizer and VentiStabilizer). Here again, the mechanical components had to be modified.

The TRC transfer roll coater was supplied by Voith-IHI (Japan). This “film-transfer” coating technology had been successfully applied in Beaupré and thus was a natural choice for the Alma project. After coating, the sheet run goes over a new contactless Airturn device and an IR dryer.

PM 14 previously incorporated two multi-hard-nip A-frame calenders. The new calender incorporates four rolls in a new L-frame, the existing rolls and hydraulics being reutilized. The sheet run ends at the new TR 125 reel.

In addition to the PM rebuild, Voith also supplied three MultiSorter broke screens to treat the coated broke, and two disk filters to recover the fibers from the PM white water.

The order was awarded in January 2003. Rebuild work started on April 11, 2004 and start-up was accomplished only

“Thanks to the support received from the Voith group, the ACI-Alma team was able to meet all performance goals of the Equal Offset project.”

The sheet quality level surpasses the objectives set for the project. More importantly, we received high praise from our customers for the excellent print quality. And, with respect to PM operating speed, we already expect to achieve the design speed shortly.

We are confident that we will surpass all the expectations of our investors.”

about seven weeks later on June 1. All the quality and quantity targets of this rebuild were attained in full. At an average operating speed of 1,125 m/min, the converted machine produces coated paper with a basis weight range of 59-74 g/m² and uncoated paper at 49-74 g/m².