



“Perfect Fit” – Burgo Sora PM 1 rebuild

Burgo-Marchi placed the Sora PM 1 rebuild order with Voith Paper Italy in mid January 2005. Only eight months later, involving only 30 days of shutdown, the rebuilt machine started commercial operation again in September 2005. And during the entire period since this rebuild, PM 1 at the Burgo-Marchi Sora mill has met all expectations to the customers' complete satisfaction. As an added reference, this rebuild also incorporates Voith's first transfer belt application in Italy.

The Burgo-Marchi Group was created in mid 2004 by the merger of Cartiere Burgo S.p.A. and Cartiere Marchi S.p.A. With 27 production lines in 14 paper mills in Italy and 1 in Belgium, the group is at present the main producer of graphic paper in southern Europe. The Burgo-Marchi

group produces 3,230,000 t/year of coated paper, base paper and newsprint. 85 percent of total output comprises the Group's specialties of CWF (Coated Woodfree) and CMR (Coated Mechanical Reels) grades for magazines, catalogues, inserts and other commercial print products. In these

two segments the Burgo-Marchi Group commands a European market share of almost 14%.

Located in central Italy, the Burgo Sora mill has two paper machines for producing coated woodfree paper: PM 1 in a basis weight range of 55-93 g/m² and PM 2 in a basis weight range of 100-150 g/m². The paper width at reel is 3,770 mm on both machines.

Voith's scope of supply for the PM 1 rebuild included the following new components:

- 3-stage slotted screening system and 4-stage cleaners
- MasterJet II F headbox with ModuleJet dilution system and screening technology to suit
- DuoSuction NipcoFlex press section with transfer belt
- DuoStabilizer boxes in the first dryer group.

Sora PM 1 has a wire width of 4,270 mm, and the design speed

after rebuild is 1,300 m/min. Currently the machine is only operating at 950 m/min, but the design speed and planned production capacity of 140,000 t.p.a. should be reached after completing the second rebuild phase – on the dryer section and on-line coater – at the end of 2007.

DuoSuction NipcoFlex press

The main portion of the supply was the new press section, with the following rebuild goals:

- PM efficiency enhancement by eliminating free draws and reducing moisture content at the dryer section intake
- Improvement of paper properties thanks to a new concept hardly ever used so far for paper machines with wire width less than 5,000 mm.

The new press section is distinguished by two nips and the absence of free draw. The first nip comprises

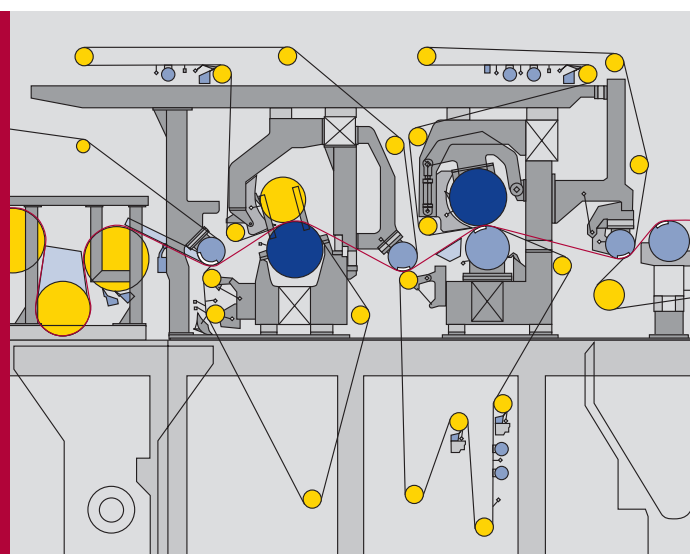
a suction press roll in bottom position with Aqualis polyurethane cover, and a top press roll with grooved stainless steel cover. The second nip comprises a NipcoFlex shoe press, with NipcoFlex roll in top position and a bottom press roll with grooved stainless steel cover. Thanks to Voith's first transfer belt application in Italy, the web is transferred to the dryer section via the suction roll without any free draws.

Three interchangeable suction rolls transfer the web in full width from the forming wire to the first dryer group, without using a tail. After the first dryer cylinder, the whole web width runs into the press rejects pulper. Subsequently, the tail is formed by the tail cutter positioned under the transfer foil at the dryer section inlet.

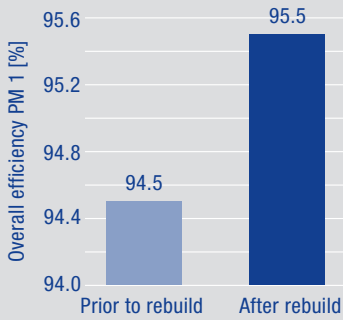
Not only does the transfer belt eliminate free draw between the press section and dryer section, but it also has the advantage of significantly reducing sheet rewetting.

All in all, the rebuild team can justifiably be proud of the results.

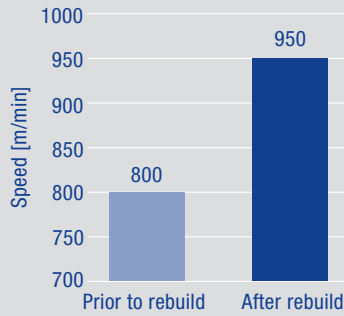
DuoSuction NipcoFlex press.



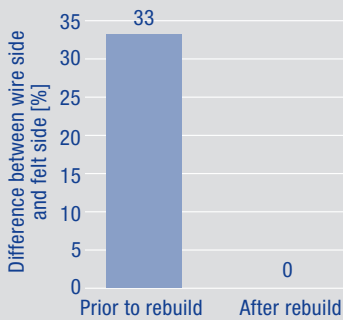
“Perfect Fit” rebuild results – not bad at all!



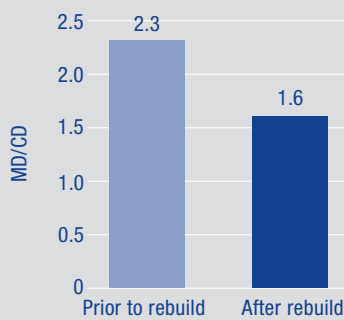
Overall efficiency.



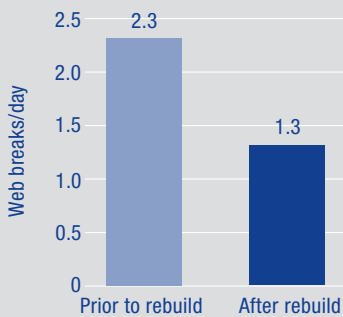
Paper machine speed.



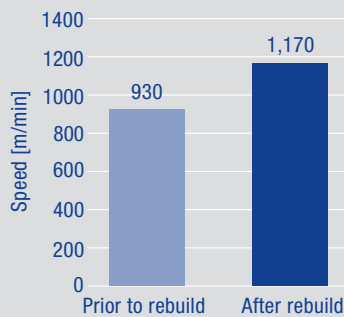
Two-sidedness of smoothness.



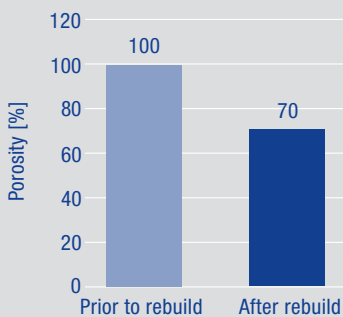
TSO



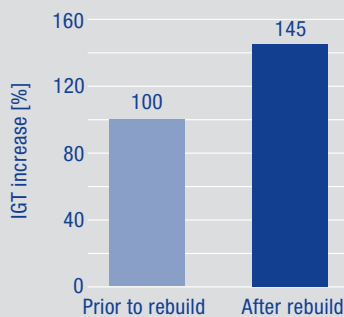
Web breaks per 24 h.



Off-line coater speed.



Porosity improvement.



Printability.

Results

The machine was optimized rapidly, and the advantages of the new press section were obvious right from the beginning of the commissioning phase.

The paper machine efficiency was improved over all speed ranges.

Thanks to the new press section concept, the base paper smoothness now exhibits no two-sidedness. The subsequent optimization phases enabled a reduction of sheet porosity and improvement of fiber orientation. Bulk is now higher than prior to the rebuild, and moisture content at the dryer section intake is no more than 48%.

As confirmed by printing results, the finished sheet surface is more uniform thanks to an optimally blended coating.

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