

Traun PM 3 – Special grades for exclusive demands

Trierenberg Holding Group – with the Traun and Wattens mills in Austria, Olsany in the Czech Republic and Tervakoski in Finland – is not only the world's leading producer and supplier of cigarette papers, filter envelope and tipping papers, but also the leading processor of these grades.



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“Voith optimally supported our project team right from the early stages, thus laying solid foundations for a successful outcome. Years of experience in producing our high-quality products on PM 2, paired with the latest technology and innovations, has now led to our state-of-the-art PM 3.

Our management’s ambitious project schedule was only met thanks to the outstanding commitment and capability of all concerned. For me personally, this once again shows that despite all our advanced technology, the human factor is the most important of all. In this connection I would like to thank on behalf of the Feurstein team all our Voith colleagues in the Traun PM 3 project.

The indispensable need of our customers to precisely reproduce the tipping paper qualities so far attained on PM 2 was easily complied with after start-up optimization. Meanwhile this has been confirmed by the complete approval of all customers, and we are also very interested to see what the new machine can do for us in the way of new product developments. There is no doubt that this highly successful commissioning has enabled us to set new product quality benchmarks. Our new PM 3 is perfect proof that a powerful modern paper machine can provide all the flexibility we need for our highly specialized products.”

Not everyone knows that a cigarette is a high-tech product. Apart from the tobacco quality itself, the paper grades in particular influence the taste, strength and brand image of a cigarette. The porosity of the normally white cigarette paper and filter envelope paper makes a cigarette “light” or “heavy”. The printed tipping paper gives the cigarette a certain image, and is perforated to admit exactly the amount of air defining its character.

The new PM 3 at Dr. Franz Feurstein GmbH in Traun mainly produces tipping papers. These very lightweight grades, with basis weights from 28 to 40 g/m², are afterwards rotogravure printed with the cigarette’s exclusive image and perforated to ensure precisely the right ventilation characteristics. Small batches of thin or “bible” printing papers are also produced on PM 3.

This machine was jointly developed based on Feurstein’s experience in tipping paper production and Voith’s specialized papermaking process know-how. The primary focus was on product quality and machine flexibility. Consistently high paper quality is of paramount importance in cigarette-making machines. Furthermore, the paper must be as insensitive as possible to humidity and temperature fluctuations.

Quality first

Quality starts with stock preparation. To this purpose the approach flow section incorporates C-bar screens, EcoMizer cleaners and a HydroMix for efficient water-stock mixing. The result is consistent

Fig. 1: Dr. Franz Feurstein GmbH, Traun, Austria.

Fig. 2: Traun PM 3.

Fig. 3: Cigarette tipping papers also serve another important purpose – Image.

Figs. 4 and 5: The character of a cigarette depends on three different grades of paper.

product characteristics and fast stabilization after product changes – decisive for optimal economy and market success.

Rectifier roll headboxes with ModuleJet are well proven in the Trierenberg Group. Also on the new PM 3, one of these headboxes ensures a uniform basis weight profile in the machine and cross-machine directions. And together with the dandy roll, indispensable for these paper grades in the fourdrinier section, it also guarantees excellent formation.

The press section includes a DuoCentri-I press with separate pick-up, a conventional double-felted first nip, and a single-felted second nip. This is followed by a straight-through press enabling separate smoothness adjustment on the top and bottom sides. Deflection compensation is assured by a newly developed self-loading single-zone Nipco-F1 roll.

A CombiDuoRun pre-dryer section with transfer foil unit, DuoStabilizers and Venti-stabilizers, enables a reduction of web tension for optimal running at low basis weights. Web threading is ropeless.

To ensure perfect printing, tipping papers must have a very homogeneous smooth surface, whether glossy or matt, that is adequately absorbent. The unprinted side must also meet all further processing requirements, such as glue penetration capacity and suitability for adhesion. A Speedsizer between the pre-dryer and after-dryer sections enables 2-sided coating at 1-5 g/m² per side. Airturn with infra-red profiling and hot air dryer ensure contact-free drying prior to the next process step.



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Immediately after the two-tier after-dryer section are two DeltaSoft calenders, with single or dual nip operation and Module-Therm with caliper cross-profile control. This ensures first-class calendering for a wide variety of grades.

Wind-up takes place on the new Master-Reel with oscillation. The axial movement of the web prevents uneven reeling and local overstretching of the web. Thanks to permanent line load measurement on the reel drum and controlled nip load, this system ensures excellent wind-up quality. The parent rolls are cut on the VariFlex M two-drum winder with shortest possible paper runs at speeds up to 2,500 m/min.

For Trierenberg it goes without saying that the paper machine's appearance must match the high quality of its products. The unmistakable Voith design not only appeals to papermakers, but at least as much to Trierenberg's customers.

Customer satisfaction – the key to success

The entire erection and all testing procedures went according to plan, with stock on wire on December 6, 2004, after nearly 5 1/2 months of erection and start-up procedure, and round-the-clock production only 4 days later. After about three weeks of start-up optimization, the first sample rolls were produced in the last week of December. By the end of January 2005, twenty out of the 75 different base paper grades had been produced. Vice-director Andreas Windischbauer, chief engineer at Dr. Franz Feurstein GmbH and PM 3 project manager, was extremely satisfied with the start-up results. Thanks to the customer's valuable teamwork from an early stage, the testing and commissioning phase was relatively short.

The operating team on production line 3, partly comprising experienced members of the line 2 team, is well acquainted with

Technical data

Design width	5,950 mm
Design speed	1,000 m/min
Basis weight range	28-40 g/m ²
Production capacity	122 t/day
Furnish	Chemical pulp

tipping paper requirements – further proof of the successful teamwork between the customer, Voith and engineering partners.

Even happier than project manager Andreas Windischbauer is Trierenberg Group Chairman Ernst Brunbauer. Voith's initiative in identifying additional small improvement possibilities and implementing them to the customer's benefit has fully confirmed his choice of Voith as supplier: *"The relations between Trierenberg and Voith are exemplary."*



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