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SC Grades

Super Calendered Papers

SC on-line

SC grades, SC A and SC B, are uncoated high-quality magazine papers. Depending on the quality, they have different furnish and ash content. They are used in a color printing press with high throughput and quality. Today, the lower quality is produced with on-line soft calenders or for higher gloss with on-line multinip calenders.

SC on-line is used for low cost magazines, such as TV guides, for example the German TVdirekt, and a variety of magazines as pictured.

This on-line SC B and lower type of SC A grades are made with an extensive spray with micro droplets; the **VIB AirTech^{Plus 6}** is applied just upstream of the on-line calender to control an even moisture level for optimum calendering with high gloss and smoothness.

The moisture in front of the micro droplet spray must be controlled to a specific level. There are typically one or two **VIB SteamTech** steamshowers in the press section to control the moisture level in front of the spray.

The control of the steamshower together with the spray should be decoupled with an intelligent control algorithm. This is required because of the single measurement scanner in front of the on-line calender.

The **VIB SmoothTech** steamshowers in the on-line calender are zone-controlled for even gloss and smoothness from the second measurement scanner after the on-line calender. This guarantees high efficiency in roll building and paper quality.

In this sophisticated on-line process with many different applicators in use, it is of utmost importance to have intelligent control and integration in a unified concept.

This permits the important factor of control of the surface moisture both at the start of and during the process.

SC off-line

The conventional higher quality grades SC A and SC A plus are produced with off-line calenders for magazines such as Stern, Bunte and Hörzu (German magazines).

These medium-priced magazines need extra gloss for their advertisements and their high-quality photos of cars, bikes, scenery etc.

In the paper machine, the SC web is dried down to a moisture content of approximately 2 - 3%. The necessity of good calendering requires that the moisture level in front of the moisture spray is uniform. To guarantee this, steamshowers with narrow zones, for example 50 mm, are used to control the initial moisture prior to the spray. An extra measurement scanner in front of the spray ensures the capability of controlling the process for both initial and surface moisture. The spray system with multi-row spray nozzles adds moisture of approximately 6 - 8% for a total moisture of 10 - 11%.

The zone definition of the **VIB AirTech^{Plus 6}** is between 16 or 25 mm for adding an even moisture layer on fiber walls. After reeling and moisture absorption of the fibers, end of fiber wall expansion (movement) and moisture saturation, the roll can be calendered. In the off-line super calender or multinip calender (example: OptiLoad) the **VIB GlossTech steamshowers** with 100 or 150 mm wide zones are used to control gloss targets in both the MD and CD

direction. Controlling and levelling the gloss with the calender steamshowers improves the roll hardness for improved runability and reel building.

Thanks to the integrated control system, rejects from bad edges or other reeling problems can be reduced by half.

As in the on-line concept, for the off-line process, the integration of the different applicators in one total concept is extremely important. The high speeds and the large throughput of the processes require 100% uptime and on-line hot back-ups.

This means optimum efficiency for the whole paper production line to ensure fast and maximum return on the investment.