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Coated Papers

Lightweight Coated or Mediumweight Coated

Coated papers are high quality magazine papers. They are produced with on-line and off-line coaters for the use in the printing press. The primary end use is applications where the best quality of printing is required, examples are fashion magazines, life style magazines, recreation and other sports publications. Their quality is above the uncoated SC grades and below the tandem and enamel coated grades. They are calendered with on-line multinip calenders or off-line with super or multinip calenders. The calendering process is used to achieve the higher gloss levels required of these grades.

One of the most demanding processes today is on-line LWC (lightweight coated). The requirements are extremely high on achieving process uniformity for basis weight and moisture in both the MD and CD directions. To create a consistent moisture level upstream of the coater for even coating application, there is a need for one or two SteamTech steamshowers in the press section. Uneven pick-up will cause severe runability problems in the supercalenders and reel building.

The steamshowers are engineered with the smallest zones in the industry, 50mm profiles zones, this provides high-definition profile control with maximum energy transfer. These steamshowers can typically increase the sheet dryness 3%, and normally have a profile capability of up to 2.5% moisture. The resulting 2-sigma values are 0.2% and lower.

Due to the large throughput and the high speed of the on-line process, the steamshowers are really high technology tools with steam amounts of up to 10,000 kg/h with high-velocity steam. They have separate zones for heating the web, felt heating, profiling and sealing zones.

This applications-matched configuration is especially critical in on-line LWC, where speeds over 100 km/h are already being achieved.

Mediumweight coating machines are not up to such high process speeds yet. This application is different and requires a different kind of steamshower configuration. The upstream application point is in the Fourdrinier or upstream of the suction roll. This improves the dryness into the press. The second steamshower is used in the press section on the suction roll or blowing directly on the felt transported web. Integrated felt heating is often used in this location to prevent heat losses.

On machines with limited drying this application will produce a 6 to 9% production increase. The profile capabilities are excellent with 2-sigma values around 0.2%.

The gloss level and profile are controlled with VIB Glosstech steamshowers applied in the calenders. Up to four calender steamshowers with profiling are installed in a multinip or super calender. In some applications full-width single zone actuators are installed to increase the gloss level.

In connection with these new calenders and intelligent controls, the speed and production rate can be increased. This increase has reduced the number of calenders required and increased the return achieved on these production processes.

This a clear case of an integrated production solution having greater benefit than the sum of the individual elements normally provides.