CARTONES PONDEROSA strengthens its competitive advantage

Mexico's leading producer of coated folding boxboard has invested in Valmet's curtain coating and air impingement drying technology to improve board quality, lower costs and boost productivity. 

Mark Williamson

Cortones Ponderosa – the Mexican market leader – is protecting that position by investing in a new Valmet OptiCoat Layer curtain coating station and OptiDry Vertical impingement dryer for its 270,000-ton-per-year folding cardboard mill in San Juan del Río, Querétaro, Mexico. The company produces over 50% of Mexico’s coated folding boxboard and is also the country’s leading exporter. A large part of the mill’s production is used for the production of folding boxes for the food and pharmaceutical industries. The 3,400 mm-wide machine was previously rebuilt by Valmet in 1997.

Saul Guzman Espinoza, Director of Operations, explains the rationale for the current reconstruction project: “Our clients are requesting cardboard with better printing properties that require smoother surfaces and increased resistance, allowing conversion at higher printing press speeds. We set the objective of improving product quality and increasing our market share in the Mexican market, which is growing at 4% a year. We also needed to achieve cost savings in order to be more competitive, while maintaining a good balance with quality. Additionally, the increase in machine speed is intended to lower our cost per ton,” he says. He also

PONDEROSA MANAGEMENT
The management of Ponderosa is keen to maintain the company’s leadership in the Mexican market. From left to right: Jesús Mijares Vélez, Paper Division Deputy Director; Antonio Rodríguez Demelegni, Director, Paper Division; and Saul Guzman Espinoza, Director of Operations.

CUSTOMER’S VOICE
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The company determined that curtain coating would provide better coating and opacity. Being able to apply more than one coating layer simultaneously at the same station would allow higher coating weights to be applied and permit the most cost-effective coating formulation. The OptiCoat Layer curtain applicator design chosen includes the ability to apply two different coatings. The two-coating preparation line was also included in the project. The curtain applicator replaces the former three-layer dosing rod application system in the intermediate part of the coating system, converting it to a four-layer application. The first coating layer is applied by a metering rod system, and the fourth coating is applied by either rod or blade, providing excellent flexibility.

**Complete solution with short downtime for implementation**

The proposals to increase drying capacity were based on different approaches. Valmet’s OptiDry Vertical impingement dryer could be installed beneath the existing drying section, requiring only a few modifications to the machine while retaining the same footprint. The other option was to add one additional section to the drying cylinder train. According to Guzman, “Valmet’s solution was a complete one that required only a very short downtime for implementation.” Valmet also supplied an OptiDry Chill web cooler.

Much of the equipment was installed during 2012 while the machine was in normal operation. In total, the project needed only seven days of machine downtime. According to Guzman, “The quality of the new coating was good from the start, and optimum quality was achieved after just eight hours of operation of the new curtain coater.” Coating recipes developed at the Valmet pilot plant in Järvenpää, Finland, were reproduced successfully on grades above 350 g/m².

**Reduced coating weight, increased opacity and coverage**

Guzman says that a very uniform coating is obtained, better than that applied at the base, resulting in increased opacity and better coating smoothness. “Application of the coating is very clean and the operation is very stable, since there is no dosing element that can cause breakage or mark the web. It is also easy to handle,” he adds.

The mill is now applying a heavier coating weight in the curtain coater than in the previous rod station (13 g/m² compared to 12 g/m²). The chart shows how coating applications have changed in the three stations as well as how the total coating application has reduced from 36 g/m² to 32 g/m². This reduction of 4 g/m² of total coating weight results in annual savings of 2,700 tons of coating material based on a cardboard with a weight of 350 g/m².

**Immediate productivity gains**

The start-up of the OptiDry Vertical units was equally fast and smooth. The team in charge of machine operation was so motivated to make the machine work under the new conditions that they took the initiative to immediately increase the speed of the machine. “They achieved a speed increase of 15% in just one hour, while the Valmet boys were enjoying a coffee break,” joked Guzman. While running a typical 350 g/m² cardboard, the speed increased by 18%, from 410 to 485 m/min.

When asked about the success of the project, Guzman says, “We are very happy with the execution of the project, which was well coordinated. Our company grew by participating in the conceptualization and implementation of this project. We now have the potential to improve our quality, capacity and cost flexibility. Now that there is more competition, we need this to maintain our leadership in the Mexican market.”

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Cartones Ponderosa is a subsidiary of Organización Editorial Mexicana (OEM). In the picture Francisco Vanquez Torres, CEO and Director General, and Paquita Ramos, Vice President and Deputy Director General of OEM.

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