

Product Group: VPG Process Weighing

Reel Optimizing System (ROS)

Burgo Verzuolo Builds a Good Reel Foundation

Application: Motion & Force Control

Industry Sector(s): Paper & Pulp

The Customer

The customer is a major Italian paper manufacturer

Customer Inquiry

Like many mills with older reel building technology based on imprecise pneumatic controls, jumbo reels from the Number 8 line's off-machine coater (OMC) were not uniformly and densely wound near the reel spool. As the jumbo reels were unwound, the supercalenders suffered from sheet breaks caused by wrinkling of the sheet near the end of the reel. Papermakers reacted in a typical way by leaving about 4 cm of waste paper on every roll run through the supercalenders. This waste, which was over 2% of the line's production, represented a significant loss in line efficiency.

Solutions and Equipment

To optimize reel quality and reduce waste, the mill ordered a new reel from Comecart, located in Cuneo, Italy. The new hydraulically-controlled reel (WU-HC ComReel) came equipped with a reel density control system (ROS) provided by Nobel Weighing Systems.

The ROS system is an integral part of the new reel with the necessary measurements engineered into the design. The new reel was fully checked out and the controls verified by Comecart and Nobel Weighing Systems engineers before installation in the Verzuolo mill September 2008.

The positive results were almost immediate. With more uniform paper density at the reel spool, the losses reported by the supercalender operators have been cut dramatically—by over 70%. Only 0.5 cm is left on the spool compared to 4.0 cm before.

The sheet does not wrinkle near the spool as it is being unwound and that has caused an increase in supercalender throughput. Before the new reel, operators decreased the supercalender speed if they knew wrinkles would be coming through. Now, they are sure they can go to the end of the reel without wrinkles and without decreasing speed. Reels now run through the supercalender 15 minutes faster.

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Figure 1: Many enhancements were added to bring the reel design up to modern standards and improve the capability to produce a top-quality paper reel.

Summary of Results

- Waste paper reduced by over 70%
- Supercalender run times down by 15 minutes
- Line efficiency up by 2%
- Finished production up by 10 tpd
- 12-month investment payback.

Customer Comments

With more uniformly reeled paper, the losses reported by the supercalender operators have been cut dramatically—by over 70%.

“Within two weeks we were able to reduce broke,” says Raffaele Marinucci, Production Manager. “We are very satisfied with this investment.”

“Like a building, a good reel of paper must have a good foundation, with a hard core right from the beginning,” says Mr. Massimo Buratti, Number 8 line assistant.

Mr. Marinucci and Mr. Buratti, credit the operator acceptance to the simple, easy-to-understand concept of the control and the fast, effective implementation.

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Figure 2: Waste paper reported by supercalender operators;
Monthly averages August 2008 to January 2010;
New reel and ROS Installed September 2008

“Waste of paper was reduced significantly after the installation of ROS”

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