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UFO helps Lucca increase high-contribution grades

When it was first lifted into position, the oval-shaped, 25 m long SelectaFlot flotation cell reminded Stefano Andreotti of an unidentified flying object (UFO). But no aliens emerged from this UFO and it has a very earthly mission: to help SCA Containerboard's Lucca mill increase its production of higher contribution testliners for European markets.

"The SelectaFlot technology helps us produce a product with stable whiteness, brightness, and control of spots. We get an average of 2.5 to 3.0 point brightness increase without chemicals."
Stefano Andreotti, Technical Manager for SCA Containerboard´s mill in Lucca.

One of the benefits of SelectaFlot is that it is compact, allowing the Lucca mill to save money by lifting the unit into position through second-story openings in an existing building. It was a tight fit. ▶

No doubt about it. With just a little imagination, the oval-shaped advanced SelectaFlot flotation cell can look like an alien spacecraft – especially when hovering from a crane about 15 m off the ground. Just ask Stefano Andreotti.

Andreotti is Technical Manager for SCA Containerboard's mill in Lucca. Coming from Tuscany (Italy's most significant area for paper production and a magnet for lovers of art, history, and wine), he has never seen a UFO in person – only in magazines. "I am a technical person and detail-oriented by nature," Andreotti reveals. "But we technical people can still have an imagination!"

The alien scene took place in 2007 when the ANDRITZ flotation cells were being carefully moved in through the second-story openings of an existing building at the Lucca mill. It was a tight fit, according to Andreotti, but worth the effort by eliminating the need for a new structure.

"One of the benefits of SelectaFlot is that it is compact," says Klaus Peter Janisch, ANDRITZ's Project Manager. "Lucca had an existing building where they did R&D and trials for laser printing deinking in the 1980's. To save money, we were successful in removing old equipment and installing the SelectaFlot there. It was possible to even reuse some of the existing tanks."

The move to Presentation Liner

The arrival of the ANDRITZ SelectaFlot unit, a new disc filter, and other stock preparation components marked the decision by SCA Containerboard to improve the quality of the top layer (white top) for PM2 at Lucca. The mill's products have traditionally been brown linerboard (testliner) and corrugating medium. But the market growth, according to Claudio Romiti, Managing Director of the Lucca mill, is coming from a segment that SCA calls Presentation Liners (white top kraftliner and testliner).

For those readers outside the containerboard field, Linerboard is the part of a corrugated box that we see. It can be brown, bleached white, mottled white, or colored. Corrugating Medium is the interior rippled paper in the box (also called fluting). Linerboard made of virgin pulp is called kraftliner. When it is made from recycled fiber, it is called testliner.

It was 1988 when SCA decided to step into the world of recycled fiber with the acquisition of Italcarta. Part of Italcarta's holdings was the Lucca paper mill, which was built in 1970. SCA Containerboard was formed in 1990 and today has mills in Sweden, the Netherlands, and Germany in addition to Italy. It is the second largest producer of containerboard in Europe.

"Our Presentation Liners are created with three things in mind: to protect the product, to realize the packaging designer's vision, and to express the image for the retailer," Romiti explains. "Protection means strength, design realization means runnability, and image means excellent surface characteristics for ink absorption, printability, and appearance."

Higher contribution

Adding Presentation Liners to the portfolio required investments at Lucca. The payoff is that these higher value products command a higher price in the market. The growth potential and higher financial contribution justifies the investments made at Lucca, according to Romiti.

In preparation, the Lucca team changed the configuration of its PM2 from a traditional two-fourdrinier containerboard machine to a machine with a gap former for the bottom ply, a fourdrinier for the top ply, and a new press section (with a shoe press in the bottom position and a transfer belt on the top position to ensure nice surface properties).

With this in place, Lucca now needed to develop its stock preparation for the white top. "Due to the type and availability of recovered fiber here, we decided to add a flotation plant to remove as much as possible the removable inks and improve the brightness," Andreotti says.

A supplier of choice

Part of SCA Containerboard's branding is to be the supplier of choice for Presentation Liners. "We also needed a supplier of choice for the deinking technology," Romiti says. "Someone who could be a partner as well as a supplier."

Adrien Frediani, ANDRITZ's agent in Italy, explains that during the selection process, yield and ash removal were important technical factors for the Lucca mill. "They wanted a process where rejects were as low as possible," he says. "In Italy today, most mill rejects go to landfill."

The Lucca team selected ANDRITZ, Andreotti says, "because their design was what we wanted and the process guarantees were strong. In talking with other mills within SCA, I learned that ANDRITZ engineers were able to help them solve deinking problems with other suppliers' equipment. This said to me that they understood the process completely and it was a strong reassurance for me."

The results of the product trials at the Graz pilot plant were also promising. "The results showed that SelectaFlot could deliver the results that SCA Containerboard wanted without chemicals, which is an important cost savings," says Janisch. "In practice, we are actually using the rejects in the bottom ply, so we are operating with virtually zero rejects in the overall mill balance," adds Andreotti.

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Claudio Romiti, Managing Director of the Lucca mill

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Klaus-Peter Janisch, Project Manager from ANDRITZ

Stefano Andreotti (left) with Klaus-Peter Janisch in front of the new SelectaFlot flotation.

"Start it and forget it"

"We organized the project using a local company for drawings and piping," Andreotti says. "There was no difficulty at all working with ANDRITZ and the interface was excellent. The project went smoothly. By the end of 2007, we were making customer trials for white top. At the beginning of 2008, the ANDRITZ plant went into full production."

The white top testliner is produced from 100% recovered paper, brown and white grades. "We know what's in our paper," Andreotti says. "All virgin fibers are chain-of-custody certified. All recycled fibers are carefully selected using responsible sourcing principles. Generally speaking, our recipe for the white top has a percentage of unprinted materials and lightly printed raw materials (magazines and clippings)."

The quality specs are standardized across all SCA Containerboard mills to ensure a consistent customer experience. "To deliver quality white top testliner that SCA customers expect requires producing perfect white fiber suspension from recovered fibers," Andreotti says.

From the initial arrival of the UFO at the mill ("Something completely new and strange for our team"), until today has been steady progress. "Today, it is start it and forget it," Andreotti says. "It runs steady with no problems. In terms of performance, we get an average of 2.5 to 3.0 point brightness

A new disc filter (below) was also part of the ANDRITZ delivery. ▼

increase without chemicals. The ANDRITZ deinking technology helps us produce a product with stable whiteness, brightness, and control of spots."

Presentation Liners are now about 15-20% of the output of the Lucca mill, according to Romiti. "This is a relatively new product for this mill and we are finding very good customer feedback," he says. "With ANDRITZ, we were looking for a partner as well as a supplier, and we found it."