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Moving to a higher level of tissue making

To qualify for the ultra-premium bath tissue and paper towel market, Orchids Paper equipped their new greenfield plant in Barnwell, South Carolina, with an Advantage QRT tissue line - technology that is new to the market. **TEXT AND PHOTOS** Katarina Åhsberg

Orchids Paper, an American manufacturer of both branded and private label tissue products, set a target to be a national supplier of paper towel, bath tissue and napkins and qualify for tissue products in the near ultra-premium segment. A significant part of their strategy was the new greenfield plant in Barnwell, South Carolina, equipped with a new Advantage QRT tissue line from Valmet. Having a tissue line that enables sustainable and cost-efficient production of bath and towel tissue helped them to land a contract with a major customer club.

Planning a new facility includes hundreds of different decision points. To have a smooth project, Orchids Paper decided to go with one main supplier for the complete package, which included mill engineering, stock prepa-

ration, automation and the tissue machine, as well as training, start-up and commissioning.

“It was very important for us to have a supplier capable of turnkey projects. In my view, Valmet is clearly the world leader in terms of design and execution. They pay attention to the details, are proud of what they do, and care about the well-being of our company,” says **Jeffrey S. Schoen**, CEO of Orchids Paper.

A new technology for tissue making

As Advantage QRT technology was new to the market, pilot trials in Valmet's Tissue Technology Center in Sweden played a major role in Orchid Paper's decision.

“The pilot trial was important in demonstrating that we could make towel and bath tissue from recycled fiber. We tested different products and furnish with up to 100



The Advantage QRT line in Barnwell will have a capacity to produce 5-6 million case units with 35 – 38 000 tonnes of tissue.

percent recycled fiber, and it convinced us that it was the machine we needed,” explains **Eric Diring**, Vice President of Operations at Orchids Paper.

The new machine is an integral part of Orchid’s strategy to penetrate the ultra-premium bath tissue and paper towel market. “One of the reasons for buying a QRT line was its low operating cost relative to other related tissue processes. In private label production, it is very important to be viewed as a low-cost producer, so this is a competitive advantage,” Diring says.

Outstanding start

The start-up of the new tissue line went very well, and the machine produced sellable paper from the first roll. The high tissue quality was the reason why Orchids Paper qualified to deliver bath products to Sam’s Club only two weeks after starting the machine. Sam’s Club is an American membership-only retail warehouse club owned and operated by Walmart, and named after Walmart’s founder, **Sam Walton**.

Building on that success, Orchids qualified for kitchen towel in August and started shipping in December. Today,

Orchids is delivering ultra-premium bath tissue and kitchen towel products to customers in the warehouse club, dollar store, and grocery store channels, and it expects to add more.

“What impressed me most with the QRT machine is the quality of the paper. It has helped us sell to new ultra-premium customers in a tough market. The machine has delivered the quality I expected and continues to improve as we continue to maximize its capabilities,” says Diring.

“The support from Valmet was outstanding. Their dedication and focus to get the paper machine started up on time was impressive. Even when we had issues, everybody was quick to rally around and solve the problem. All worked with the same dedication, and you couldn’t tell the difference between the mill team and the Valmet team except by the green shirts,” says **Brian S. Merryman**, Site Manager at Orchids Paper.

“It’s unique; it’s different”

“Absorbent rate is a key selling point and differentiator for tissue products. This product has higher stretch, and



Jeffrey S. Schoen,
CEO of Orchids Paper



Brian S. Merryman,
Site Manager at
Orchids Paper



Eric Diring, Vice
President of Operations
at Orchids Paper

the absorbency is great. The machine makes exactly what we were told it would. It's unique; it's different. There are qualities that are superior to anything out there. We are constantly learning and making things better," Merryman says.

"It also makes life in converting much easier. We get the caliper without too much embossing. The big difference with the QRT machine is that the more you rush to get the caliper, the more stretch you get in the product".

Also with recycled fibers

The QRT line is handling recycled fibers very well. Orchid Paper's target is to use 25 percent broke – the cleanest fibers, coming directly for the converting lines. But they also want to produce tissue with other types of recycled fibers. A de-inking line allows them to run premium and ultra-premium products with different types of fiber streams than just virgin fiber. The optimization of the de-inking line is still ongoing, which includes running in continuous mode. However, once the recycled fibers get into the machine, it runs fantastically.

The Barnwell team is convinced that the QRT technology is the technology of the future: a new way to help people get access to better paper products at a reasonable cost.

Schoen summarizes it for us: "We have achieved the goals we set before start-up, and we are looking forward to future achievements and learnings from QRT. We have met the expectations we had: to become a national player, to supply a larger percentage of our business in the premium and ultra-premium product segments, and to be a low-cost producer. QRT technology positions us well to increase our market share and achieve our long-term goals." ■

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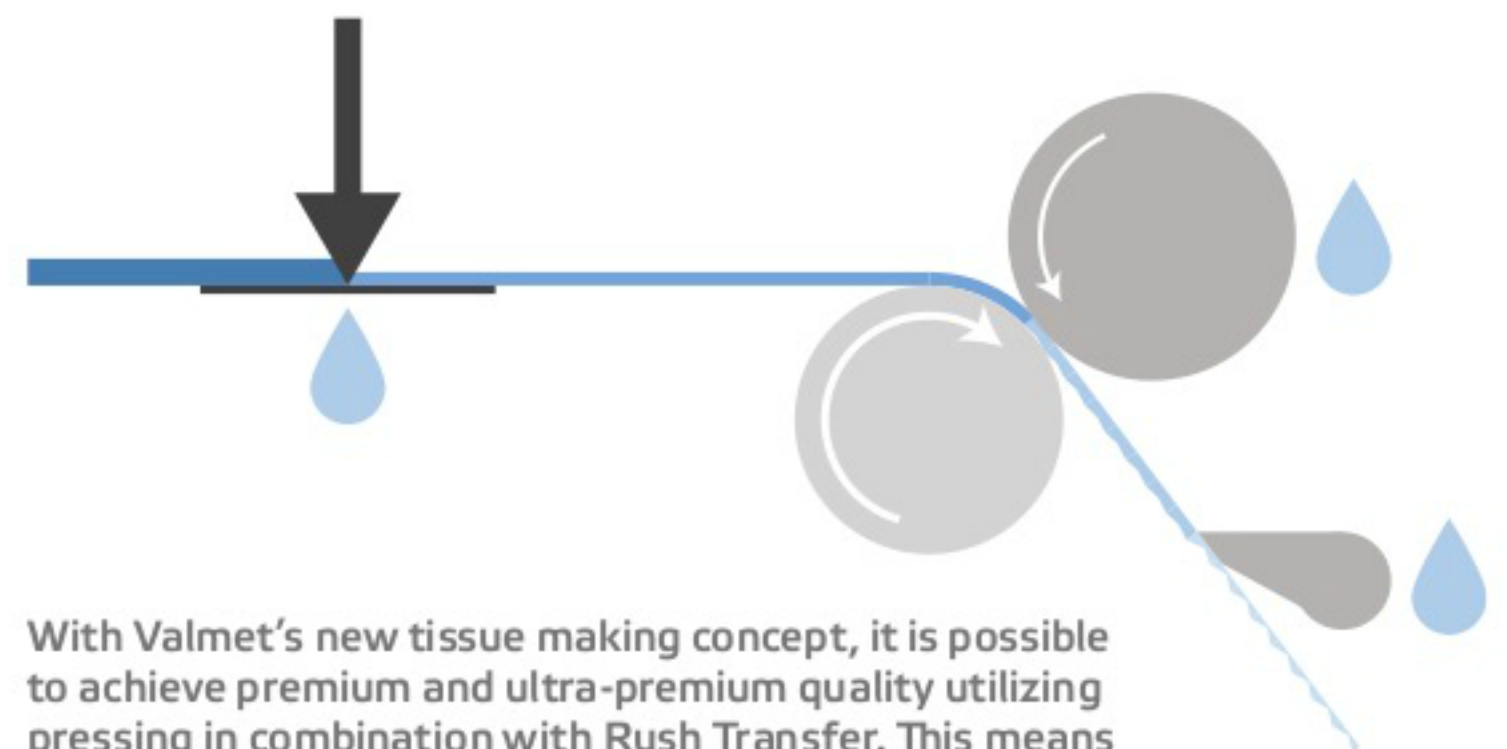


Premium products at a reasonable cost

"Normally, the recipe to reach the highest bulk and absorbency is to avoid pressing and to use hot air through the web for drying. However, Advantage QRT uses a combination of wet pressing, a structured fabric and Rush Transfer to achieve premium and high-premium products with high bulk and absorbency. The process uses a significantly lower amount of energy than comparable structured processes with through-air drying," explains **Hans Ivarsson**, Project Manager at Valmet R&D.

Scope of the delivery

- Mill Engineering
- Advantage QRT tissue line
- Valmet DNA automation system with quality control system
- Stock-preparation system including de-inking line
- Training, start-up and commissioning



With Valmet's new tissue making concept, it is possible to achieve premium and ultra-premium quality utilizing pressing in combination with Rush Transfer. This means significantly lower energy consumption compared to other structured tissue processes.