

**THE WORLD OF TISSUE**

## A tactical approach

**C&S Tissue has come a long way in a decade, and has adapted its production skillfully to meet the demands and challenges of China.**

### Perini Journal

An order for six tissue machines is enough to get people talking, even in China, the destination for so many of the tissue machines ordered in recent years. But this is a country where just a small percentage rise in domestic demand is enough to trigger the need for significant new investment.

C&S Paper will have boosted its capacity by some 134,000 tonnes/yr when the new Toscotec Ahead lines have been installed and started up – a process expected to be complete by the end of this year. Two of the machines will be 3.5-m wide, with design speed of 1,500 m/min and capacity of 25,000 tonnes/yr each. Identical in fact to the single tissue machine installed at C&S's Jiangmen City site in Guangdong near Hong Kong at the end of 2010. The other three machines will be slightly larger and faster at 3.6 m/1,600m/min with capacities of 28,000 tonnes/yr. C&S is the first company in China to purchase a crescent former machine from Toscotec, which is the turnkey supplier for the entire project, and its scope of supply also includes the auxiliary system, approach flow, engineering and electrical installation.

**FIVE LINES, THREE SITES.** Of the 25,000 tonne/yr machines, one will be installed at Jiangmen, along with two of the larger machines. The other 25,000 tonne/yr unit will go to a greenfield plant in the city of Tanghsan in the northern province of Hebei, while the remaining 28,000 tonne/yr machine is destined for C&S's mill in the city of Chengdu in Sichuan, south west China, where demand for tissue is particularly strong.

Ten years ago, C&S operated more than 100 small tissue machines producing the budget-quality product which was typical in the market at the time. But C&S has undergone a transformation in the past 10 years which mirrors the fortunes of China's tissue industry, driven by demands for greater quality, efficiency and environmental performance. An initial public offering of C&S shares on the Shenzhen Stock Exchange at the end of 2010 was successful and gave a vital boost to investment. The company now operates far fewer machines but with much superior capacity, runnability and formation. The raw material is typically high-quality virgin fibre sourced from Brazil, Chile, Canada, Russia, the USA, Finland, which provides the basis for products with the appearance, strength and bulk one would expect from the technology used.

**GROWTH FACTORS IN CHINA.** Tissue consumption in China is around 5kg/person/year compared with European averages of 15-20kg. Clearly this disguises considerable regional variations within China, but the fact remains that the potential for growth in China's tissue consumption is still huge. A C&S spokesman explains the drivers of demand: "As Chinese customers' per capita disposable incomes rise, combined with the further advancement of urbanization, consumption habits will continue to evolve, pushing forward the rise in consumption of household paper." In responding to the demand growth, however, Chinese producers have to do more than just add capacity. "In addition to expanding the scale of production, it is becoming more important to consider environmental and social responsibilities," he said.

C&S is mainly a toilet tissue producer, but also makes a small quantity of facial. The company converts in its own facilities, which include Perini lines. Sold under the C&S (Clean & Soft) brand in bright, floral packaging, the company's products are clearly sold on more than just price.

Like many Chinese producers, C&S has opted for machines of medium size and speed. There are plenty of wide, 2000 m/min tissue machines in China, but many factors have led the country's tissue producers to consider different options which take advantage of state-of-the-art technology, but without viewing speed and out-and-out capacity as

the only goals. Certainly in the many areas of China where gas is in short, or non-existent, supply, the more limited capacity of coal to generate steam means the optimal solution is on a different scale.

**LARGEST EVER SYD.** This has led to some innovative solutions, and C&S has been something of a pioneer in this respect. Local conditions have dictated that none of the new tissue machines has a gas-heated hood. The hood merely sucks out the mist generated by the Steel Yankee Dryer (SYD), so the dryer is effectively doing all the work. Toscotec's answer has been to specify its largest ever SYD at 16ft (4,876 mm) in diameter.

According to Toscotec's General Manager China, Marco Dalle Piagge, "Even though coal cannot produce steam at as high a rate as gas, we believe that with world-class runnability a mill can retain a strong position, by significantly reducing production costs. Our message is that with the right technology, you can still be competitive with coal." C&S has been typical of producers in China who are carefully tailoring production at specific locations. The technology they chose matches the sophistication of the biggest lines, but represents a smaller investment, and might be more suitable to supply just the local population, without having to transport the tissue at great expense to other locations to use up capacity.

**LOCAL CONDITIONS, NEW REALITIES.** C&S has responded to the new realities of China's tissue market with technology well adapted to local conditions but able to produce tissue of the high quality now expected in this most populous of countries. C&S had initially considered more local suppliers, but Toscotec's Steel Yankee Dryer was clearly a critical factor in the choice of supplier, as it enabled C&S to make the most of energy resources available. Energy is becoming more central to any Chinese producer's competitive strategy, not only because of the regional variations in fuel availability, but the sheer cost of running their plants. China still has a considerable competitive advantage in terms of wage costs, but raw materials and energy are as expensive as anywhere else and tissue is, after all, capital intensive to produce.

Following the production consolidations of the past decade, C&S has no further plans to shut down machines. Having culled those units which were no longer viable for environmental and productivity reasons, the focus now is to expand production to meet demand, and to enhance facilities as appropriate. There are plans to upgrade existing machines with Toscotec SYD dryers, for example.

C&S's expansion programme exemplifies how to approach tissue expansion in the expanding but challenging Chinese market. Optimize, rather than simply grow capacity, adapt the technology to the resources available, and exceed your customers' expectations for quality. •