



Unique challenges, special solutions

How USTER® can contribute to the Bangladesh spinning industry's need to protect its most precious resource

Producing high-quality yarns at the lowest possible cost and with minimum waste levels is the challenge facing spinners everywhere. For cotton spinners in Bangladesh, this goal is even more critical, as they have the potential for significant profitability gains if they can overcome a unique set of challenges, for which Uster Technologies AG is proposing effective and unique solutions.

The special situation facing the Bangladesh spinners arises from a combination of contrasting factors. On the positive side, demand for yarns is high, and although raw material costs are increasing, good-quality yarns attract higher prices from an eager fabric-making sector – especially in knitted end-uses such as t-shirts. There is also plenty of potential for new investment in the industry, so that, in theory, spun yarn capacities could rise to meet domestic and international demand. The Bangladesh textile industry also benefits from able and knowledgeable leadership from its management, while both labor and energy costs are currently said to be lower than those of China. It all points to a strong sector with lots of opportunity for growth and increased profitability.

So what's the problem? In a word, energy – or rather the lack of it in sufficient quantities to allow the industry to power its spinning machines to anything like full capacity. Most spinners are able to run their machines at only 80% of potential, and the required licenses are difficult to obtain for new energy users wishing to buy gas and electricity.

The Bangladesh spinners are keen to take advantage of the great potential for improved profitability presented by the strong demand levels for yarn from downstream processors, and the consequent possibility of selling their yarns at good prices. The restricted possibility to increase actual output, either in existing or new mills, in the current situation means the spinners must focus on the twin aims of good quality yarn and lowest-possible production costs. The quality control processes they employ must also ensure that waste of cotton fiber and yarn is minimized by allowing mill management to set and monitor accurately the most effective parameters for achieving the ideal quality-cost profile to suit the needs of the yarn end-use. That's where USTER® can help, with its unrivalled global reputation for expertise in textile quality control and its 'Total Quality' approach to the supply of both laboratory and in-process equipment and technology.

USTER® is appreciated in Bangladesh, where its products can be found in virtually every spinning mill, and its world-famous USTER® STATISTICS benchmarking data is universally used.

The upcoming USTER® seminar, in May 2010 will be attended by more than 400 participants, and ahead of that, the 7th Dhaka International Textile & Garment Machinery Exhibition 2010 was viewed by USTER® as an ideal platform to outline how it can address the key challenges detailed previously and solutions USTER® offers to the Bangladesh industry.

Reduction of fiber waste

Combing is a critical process stage in yarn manufacturing: to a great extent, this is where the final quality of the yarn is determined. However, combing also contributes significantly to the production cost of the yarn, so accurate control of this operation is vital to both quality and cost.

The level of comber noil is an important parameter here, and the common belief that 'combing out more leads to better quality' is only partially true. Practical tests have proved that beyond a certain level, higher comber noil does not actually increase quality – at least not to a degree that can be measured in the yarn properties or even seen in the fabric.

Therefore, it is essential to find a way to determine accurately the optimum comber noil range, within which the contribution to quality is significant. USTER® AFIS is the solution used by leading spinning mills, as it enables them to determine the appropriate comber noil level through measurements of the short fiber content, neps and trash of the sliver produced. By optimizing this parameter, the best possible quality can be produced at the minimum cost.

The USTER® AFIS as the standard nep measurement system, offers comprehensive fiber process control system, it employs a unique measuring technology to check every fiber, nep and trash particle individually, providing detailed, precise data on all essential fiber characteristics. It allows spinners to analyze not only the combing operation, but the entire yarn-making process, from fiber to roving.

Increasing efficiency at winding

In yarn clearing, one of the most serious concerns is about the effectiveness of the clearing curve. This is because the clearing curve will determine the final quality of the yarn in terms of the level of non-frequent faults. On the other hand, how the clearing curve is set will also

affect the productivity of the winding machine. It is evident, therefore, that determination of the clearing limits is a delicate issue and requires careful attention.

The USTER® QUANTUM 2 yarn clearer is the core of a comprehensive Yarn Quality Assurance System. USTER® QUANTUM 2 is the only clearer offering the full range of fault detection and measuring technologies, covering every quality requirement of the modern spinning mill. Both capacitive and optical sensors can be applied, taking care of all the required applications in both winding machinery after ring spinning and in open-end rotor spinning. Special features and options cover detection of foreign fibers – even single fibers of very low visibility – and the widest color spectrum, as well as white and colored polypropylene defects. With the application of USTER® QUANTUM 2, mills will be able to optimize the number of cuts while still achieving the required yarn quality. This means that splice levels for contamination can be minimized without affecting the final quality of the yarn.

In the process of measuring and monitoring the running yarn, the USTER® QUANTUM 2 also collates vital quality data – such as CV, imperfections, classification and hairiness – which is then readily analyzed and interpreted, since this information is totally compatible with the entire range of USTER® quality hardware and software, both online and laboratory. For example, the data from the USTER® QUANTUM 2 closely correlates with the USTER® TESTER evenness testing range and with the USTER® CLASSIMAT QUANTUM, allowing a continuous assessment of quality for 100% of the production.

Today, the USTER® QUANTUM 2 is among the best-selling yarn clearers, and its widening application is testament to the growing demand in the industry for continuous, on-machine quality monitoring that matches laboratory standards. Its range of quality assurance possibilities makes it an indispensable tool in spinning plants all over the world.

For Bangladesh, the future may hold a solution to the power supply problems, opening the door to much-needed investment in greater cotton yarn capacity. USTER® will continue to play a vital role in helping the industry achieve its quality and profitability goals. ♦