

Osthoff hairiness tester

The hairiness tester consists of a light source (LED) and a monochrome CCD camera. The light source is slightly tilted and illuminates the fabric surface tangentially, so that the camera does not register the shadows of the protruding fibers, but the refracted light. This type of measurement is called dark field measurement, because the background remains black, whereas the objects are shown bright.



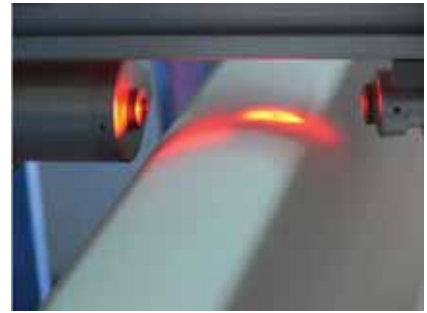
Camera and light source are installed in a dust and water proof enclosure (IP67). The lenses of the camera is protected by scratch-resistant sapphire glass. Both parts of the unit feature air nozzles which keep the optics dust-free.

The camera signal (up to 2 cameras configuration is possible) is sent to an industrial PC via G bit Ethernet cable. The industrial PC is located in the main cabinet and runs an analysis program, which determines the bottom limit (fabric surface) and top limit (topmost visual point of hairs) of the fibers.

The distance in-between is the length of the hair. After this, a variety of statistical data is calculated, where for the evaluation of the hairiness the mean value and the standard deviation are used. The mean value reflects the grade (how short are the hairs in general), the standard deviation reflects the quality (the constancy of the hair length) of the hairiness. We define hairiness as the sum of the mean value and the standard deviation.

The picture shows the screen of the PC where the signal coming from the camera is evaluated. The important values are Hn (mean value) and Sn (standard deviation). Top right is the camera picture, below is a histogram showing the distribution of the hair lengths. The above example shows hairs between approx. 0.15 mm and 1.8 mm length, the major part of them being approx. 0.3 mm long.

The second picture shows the operating panel of a singeing unit (our laboratory machine) consisting of a centre unwinding device, dedusting unit, singeing machine (for woven fabrics and knitwear), two more dedusting units and a big batching device with centre winding. The hairiness tester is located behind the dedusting unit following



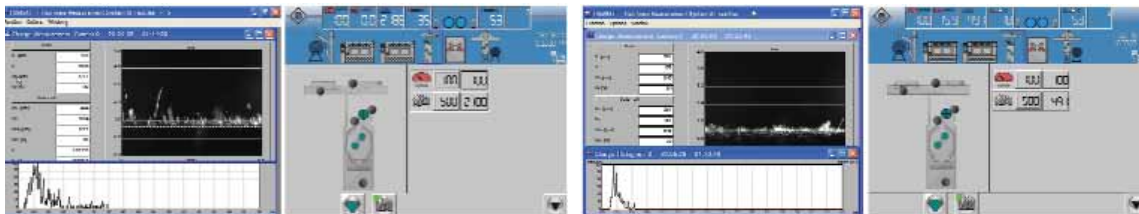
Osthoff Senge hairiness tester.

the singer. The right-hand side shows a pre-set hairiness value of 205, the actual value being 2188.

By means of Osthoff Senge hairiness tester, we are - for the first time - able to measure and influence the important variable, i.e. the hairiness, directly. The measured value is used to control the process parameters, or in more detail: intensity of the burners is adjusted depending on pre-selected hairiness value.

Advantages:

- ❖ It is ensured, that the whole batch has the same hairiness value.
- ❖ In the future, similar articles will be singed with the same parameters (repeatability).
- ❖ The gas consumption is only as high as necessary. If the desired hairiness is achieved with a lower intensity, the settings are adjusted accordingly. ♦



Unsinged fabric.

Singed fabric.

Outlook positive for 2010 - Rotorcraft will bring further innovations to the ring spinning market

After disappointing sales in 2008 and 2009, things are looking up for Rotorcraft AG of Switzerland. "We are confident that the upturn in business which we have registered since late summer of 2009, will continue in 2010" said Dr. Andreas Fischer, the company's Managing Director. Order volume is up substantially. "Most notably, in addition to profiting from the upturn in the Chinese and Indian markets, which are traditional points of focus for Rotorcraft, we have also been successful in extending our reach into up-and-coming South East Asian countries", Dr. Fischer continued.

"For example, we concluded a contract for delivery of 35,000 spindles of our RoCoS compact spinning system to Budi Texindo of Indonesia. More than 27,000

spindles of that order have already been delivered, with the rest due to be commissioned in the next few months. The customer Budi Texindo has been able to fully capitalize on the advantages of RoCoS, namely lower power consumption and reduced maintenance efforts as compared to competing pneumatic systems".

Hans Stahlecker, Chairman of Rotorcraft, added: "We have been anything but idle during the crisis in the textile industry. On the contrary, we intensified our research and development efforts." As a result, he said, Rotorcraft is now able to introduce a range of novelties to the market as the business outlook improves. Mr. Stahlecker specified: "For one, we are updating our RoCoS compact spinning system, starting at the end of the 1st quar-

ter of 2010. Simultaneously, we are introducing to ring spinners our spindle with insert MM52A. The reduced wharve diameter is now only 15 mm, as compared to 19 mm with conventional spindles. This results in substantial power savings and therefore operating cost savings for the customer. This is cash to the mill."

Rotorcraft has also recently entered the market for top arms with its' ST-1 model. "We have done our homework during the bad times, and are now ready to grow with new products as times get better", Dr. Fischer concluded.

Rotorcraft AG will participate in the Textile Asia Exhibition 2010 in Karachi, from 10 to 13 April 2010 and is represented in Pakistan by Industrial Trading Impex. ♦