

Draw Frame RSB-D 50: Mouse-Free Coiling with CLEANtube



Gupta Threads Ltd. was established in 2012 and is based in Samana, Dist. Punjab, India. In their spinning mill with 3 744 rotor spinning positions, they manufacture 100% cotton yarn with a count range from Ne 7 to Ne 30 with high strength. As raw material, they mainly use a blend of 60 to 70% waste or comber noil along with 30 to 35% cotton. The yarn is used for T-shirts, printed shirts, home textiles and towels. Gupta Threads Ltd. sells in domestic market and also exports to various countries. They use only Rieter draw frames in their mill, one autoleveler draw frame RSB-D 50 and four older RSB double-head models.

The Challenge

Economical yarn production is a major challenge for the spinning industry, as cotton prices have risen sharply and recently there has been a steady increase in short fibers in the cotton traded and supplied. In general, raw material cost accounts for around 55 to 65% of the total yarn manufacturing costs. Even a slight improvement in yarn realization can lead to impressive results. The realization pressure on the spinners results in a higher trash and short-fiber content in the delivered card sliver. When processing such waste- and noil-rich blends on a draw frame, trash particles and short fibers can accumulate in the sliver duct of the coiler during can filling. When the can is full, the draw frame stops and this accumulation, known as “mouse” amongst experts, comes to rest on the top sliver layer.

It is common practice among spinners to remove about half a layer of sliver which contains the mouse during batch creel on a rotor spinning machine. This causes additional work for the

operator and generates soft waste. However, if the mouse is not removed from the sliver, it can cause trash deposits in the rotor groove which in turn result in ends down in spinning. And if the mouse gets into the yarn, it causes significant yarn and fabric defects. In case of a draw frame stop during the can filling, the mouse ends up in the can. Consequently, there is no way for the operator to remove the mouse, which also leads to the problems mentioned.

The Solution

The option CLEANtube is an intelligent control of the coiler speed that prevents trash particles and short fibers from accumulating in the sliver duct. CLEANtube ensures that the sliver touches all coiler tube surfaces and keeps the tube free of accumulations. As a result, a mouse-free sliver is produced which assures constant quality and prevents financial losses.

The Customer's Benefits

With the autoleveler draw frame RSB-D 50 including the option CLEANtube, Gupta Threads achieves a mouse-free sliver. An in-mill study points out various advantages:

- The operator does not have to remove the mouse manually. One autoleveler draw frame fills more than 100 000 cans per year. Therefore, CLEANtube saves about 500 man-hours per year and draw frame. This time can be used for solving additional red lights at the rotor spinning machine which results in additional yarn production.
- When removing the mouse, the operator typically takes away about half a sliver layer, which corresponds to about ten meters in length. This sliver can be re-used as soft waste but leads to additional conversion costs in blowroom, carding and drawing. Additional costs of up to EUR 1 300 per year are avoided with CLEANtube.
- Approximately around every tenth mouse results in an ends down at the rotor spinning machine.
- Furthermore, the study showed that spinning a mouse into yarn leads to yarn mass increases of up to +100%



CLEANtube prevents trash particles and short fibers on the top sliver layer.

with a length of about six meters. Finally, these failures can be clearly seen in the woven fabric with prominent linings which means a high risk of rejection of the fabric. Such financial damages are completely avoided with CLEANtube on the RSB-D 50.

Rieter Machine Works Ltd.
Klosterstrasse 20
CH-8406 Winterthur
T +41 52 208 7171
F +41 52 208 8320
machines@rieter.com
aftersales@rieter.com



The Customer's Statement

"CLEANtube is an excellent feature of the Rieter draw frame RSB-D 50 for mouse-free sliver which results in quality assurance while reducing the operator's work load."

Pratap Singh Chouhan
General Manager, Gupta Threads Ltd.

The CLEANtube function of the RSB-D 50 thus ensures consistent sliver quality, saves working time, and keeps the spinning process at a high efficiency level. Finally, it ensures the quality of yarn and fabric and avoids expensive rejects.

Gupta Threads Ltd.
Bhawanigarh Road
Samana 147101
Punjab, India
Mobile +91 84274 55100
www.guptathreads.com

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