SYSTEM EFFICIENCY OF THE TLS PROCESS

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ABSTRACT

In recent years, Cetex devoted comprehensive research to a travellerless spinning process (TLS process) in which was meanwhile reached a yarn quality that is equivalent to a ring spun yarn. On the basis of these results, in this research project the TLS process was optimised with regard to process technology in order to guarantee an acceptable handling of the new spinning process for industrial applications.

In this research project, in addition to control equipment measures for the stabilisation of the fibre tension during the spinning process and measures for the elimination of cockling, opportunities for a safe start-up and shutdown respectively of a TLS machine were identified. In addition to algorithms for the elimination of yarn breakages, a process and an apparatus for the automatic cop change were developed. A patent application was filed for this process.

Design features in the area of the rotating thread guide and the winding prevent the dirtying of the spinning station and, thereby, minimise the risk of yarn breakages further. Furthermore, in addition to the tests already made with cotton, a high flexibility of the TLS process could be proved for spinning polyester fibres, too.

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