ROVING FRAME WITH LEADING FLYER

Project Manager:	Dipl.-Ing. S. Theilig	Duration: 05/95 - 09/96
Authority responsible for the project:	BMWi - Gewiplan	
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Initial situation

With the leading flyer improvements of productivity from 15 % to 25 % are realistic - according to the technological circumstances. The mechanically possible revolutions of flyer can technologically be used much better. Within the establishment of the new principle there are problems of an increased hairiness in the procedure.

Research target

There are to find out such circumstances which guarantee the usual quality of the roving frame and allow a further increasing of the revolutions of the bobbins and the flyers.

Research result

In textile technological tests with leading flyer it was possible to prove that a roving with the same resp. Less hairiness as it was usual until now can be produced. This can be reached by the right actions at the flyer of the roving frame and at the finger as far as by the corresponding material selection of the finger. The hairiness of the roving has no or only a very small influence to the hairiness of the yarn. Other factors of the spinning process as like as the environmental factors, state of the whole spinning machine and of the single spinning positions have an important influence to the hairiness.

The improvement of the hairiness of the roving consequently doesn not bring an improvement of the hairiness of the yarn automatically. Influences by the flyer turns, the bobbin diameter and the bobbin line exist, but they are hardly to avoid - both textile technologically and constructively.

Not all knowledge and indications can be settled at the moment and need further researches.

Application and economic advantages

The knowledge learnt form the assignment slip in to the current construction. Special knowledge and developments - as like as the test of a finger which allows Z-turns with leading flyer - will not be used at the moment, because till the introduction of the leading flyer principle there are further developments and researches necessary.

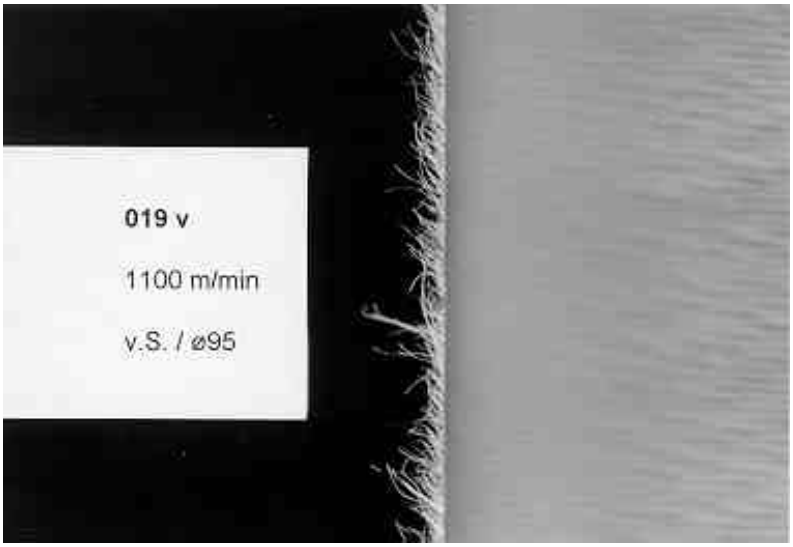

Fig. 1:
Surface area by using leading bobbin principle and normal finger

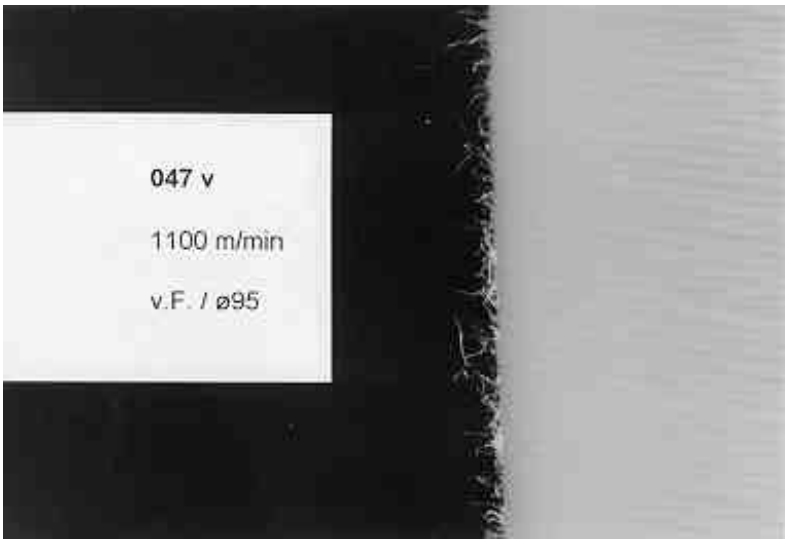

Fig. 2:
Surface area by using leading flyer principle with Z-Twist and cromium-plated finger

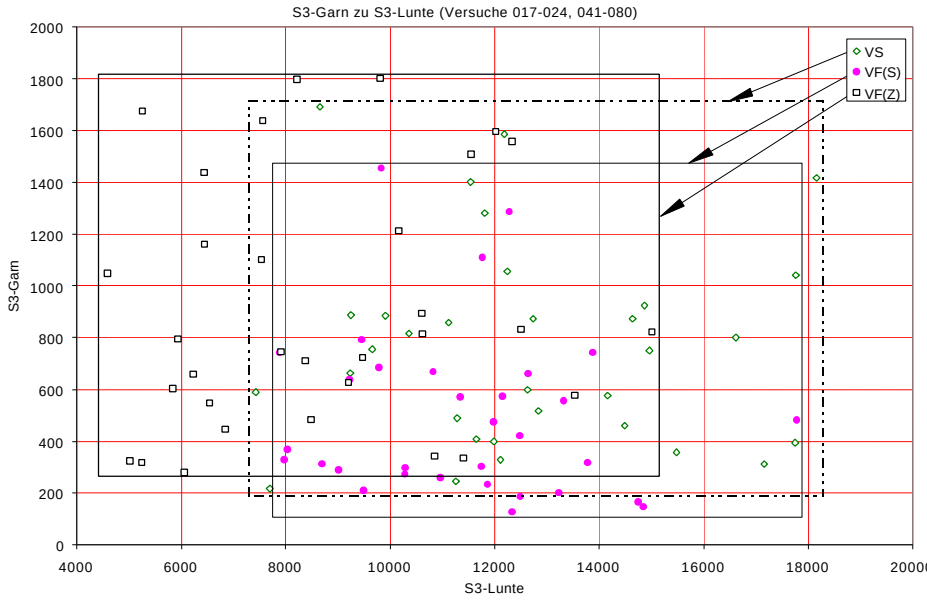

Fig. 3:
Relation of S3 values between roving and yarn