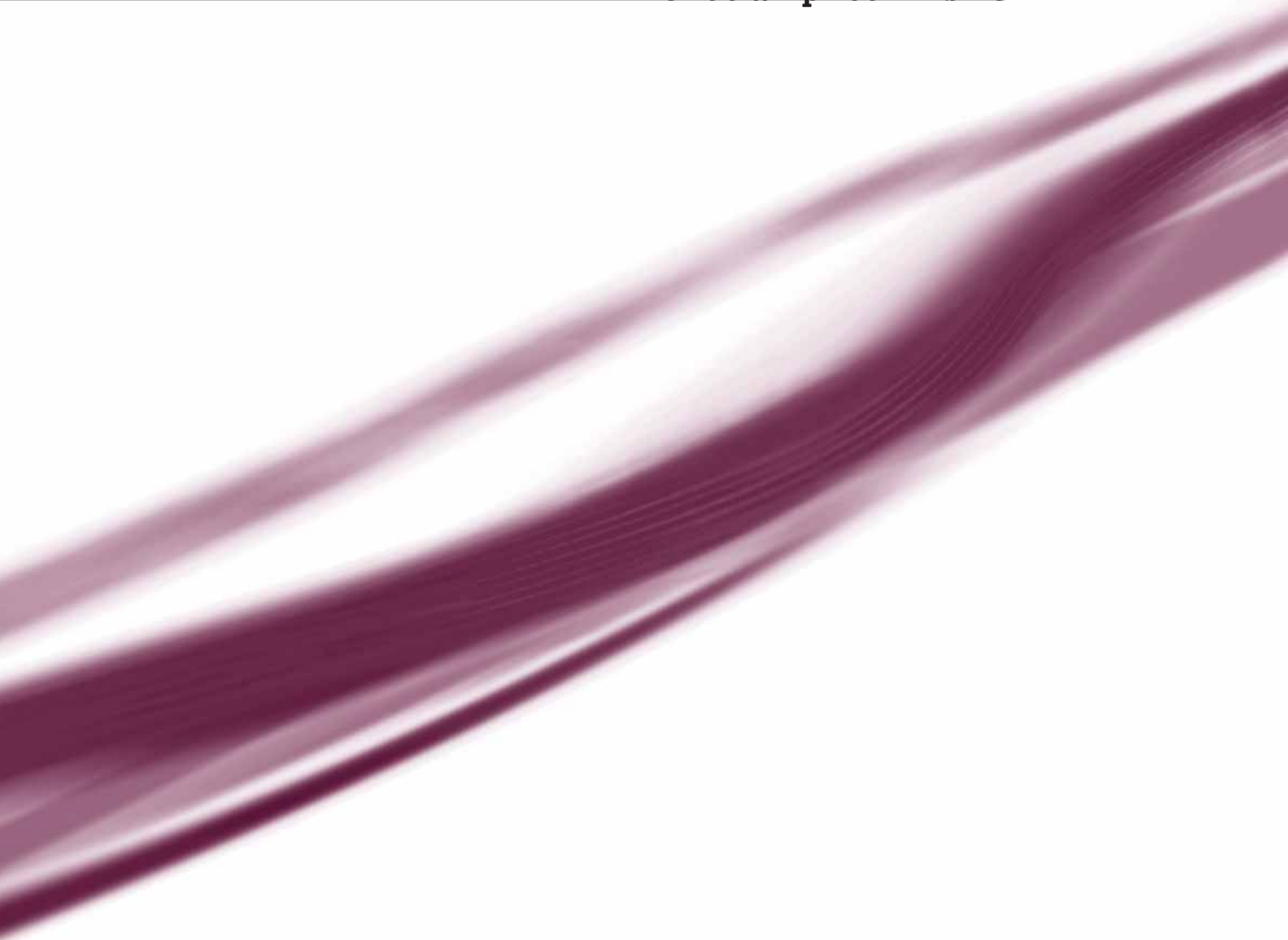




Trevira 350

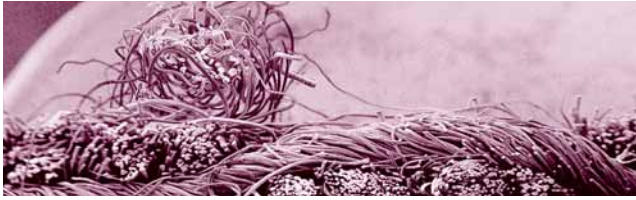
The low-pill fibre



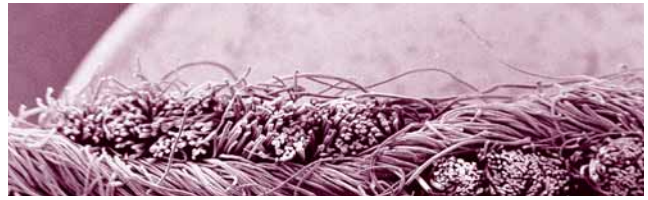
Trevira 350

Trevira three hundred and fifty

{ *the low-pill fibre* }



Pills-they build up with use and rapidly make a garment look unsightly.



With Trevira Perform the fibres break off before the tiny pills can form.

TREVIRA 350 – THE LOW-PILL FIBRE

Even following periods of intensive wear a garment should maintain a well-groomed appearance. It is in every-day use that balanced qualities show their strengths and that one can make a decisive assessment of the garment. Only in daily performance do the qualities of the fibres reveal themselves, with all their advantages and disadvantages.

When a fabric is subjected to rubbing, bending and twisting, the fibre ends become exposed first. They then form tiny knots: pills.

Whilst with natural fibres their properties are set by nature, it is possible with synthetic materials to control these and produce them to order.

This helps attain the desired goal to develop materials with wear properties that are second to none in terms of wearer comfort and ease of care. In the classic blend, 55% Trevira and 45% wool, the properties of the natural fibre are decisively enhanced by the excellent wear and care characteristics of Trevira fibres.

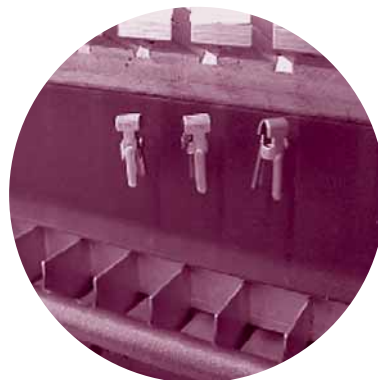
THE SPECIAL FIBRE FOR LOW-PILL QUALITY

Trevira 350 is a low-pill polyester fibre for the weaving and knitting sectors. The special characteristics of Trevira 350 are embedded in the chemically modified polymer, which has hydrolysable bonds in the polyester chain.

The bonds dissolve during the dyeing process, substantially reducing the transverse strength of the fibre. This reduction in tenacity is intended to lead to any pills that form with wear breaking off. This occurs early in their development.

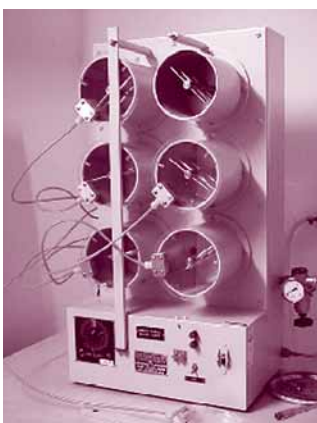
The great advantage of our Trevira 350 is this: in the raw white state it possesses adequate longitudinal and transverse tenacity to emerge unscathed from the processing stages in spinning, weaving and knitting (provided the information on processing is observed). It only takes on its low-pill properties in the final finished article.

This effect fundamentally distinguishes Trevira 350 from the traditional low-pill polyester from competitors.



FLEX TESTING AND RANDOM TUMBLE PILLING TESTS

The flex test is a measure of the pilling behaviour of individual fibres. *The sooner the fibre breaks, the less its tendency to pill!* To ascertain the number of flexes, separate fibres are rubbed against a wire until they break. The fibre clamp moves up and down while the wire remains stationary. When a fibre breaks and falls with its own weight, the precise number of flexes completed is recorded in that instant. The process is repeated until all the fibres (approx. 50 in total) have been rubbed through. The arithmetic mean is then calculated from the fifty values obtained.

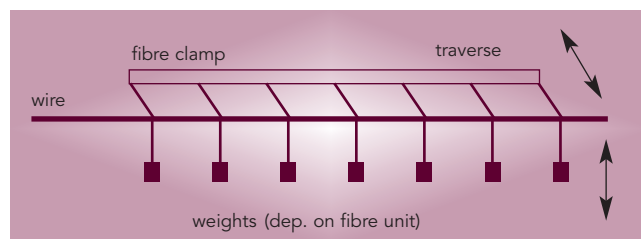


RTPT Pilling test



Flex test carried out on fibres with the FT apparatus

Flex test results



Flex test e.g. worsted types

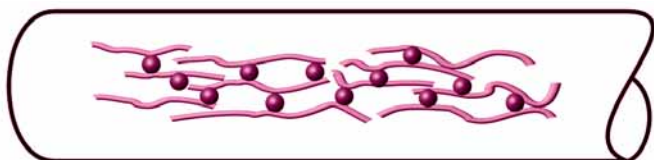
TYPE	RAW WHITE	DYED
Normal types	4000 – 5000	4000 – 4500
Low-pill types (competition)	1000 – 2500	600 – 2500
Trevira 350 low-pill	600 – 800	100 – 200

Advantages & Applications

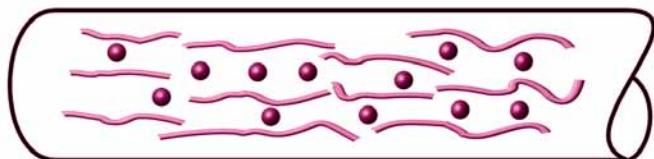


ADVANTAGES OF TREVIRA 350

As a result of the polymer modification, fabrics containing Trevira 350 take on a softer handle. The outstanding low-pill properties make it possible to manufacture yarns and twists that are softer and fabrics that are lighter. In addition to reducing costs, this also produces materials with softer handle. At the finishing stage there is no requirement for additional measures to avoid pilling. Furthermore, Trevira possesses very good dye affinity, in that the same depth of shade can be attained as with traditional low-pill types. However this can be done using some 10% less dye and at dye temperatures that are also 5% lower.



The short molecular chains are connected to each other by means of a special chemical modification.



The subsequent dyeing results in hydrolysis, which dissolves the links. Short molecular chains are formed. The result is less transverse tenacity in the fibre, giving the low-pill properties desired.

Trevira 350 – Product hallmarks

- ◆ Very good low-pill fibre properties
- ◆ Pleasant soft feel
- ◆ Higher dye yield than with traditional PES types
- ◆ Suited to all types of fabric manufacture
- ◆ Particularly suited to blends with wool
- ◆ Very low absorption of moisture

Information on processing

WORSTED SPINNING

Due to its lower transverse tenacity our Trevira 350 is somewhat more sensitive to heavy stress than normal polyester.

◆ CONDITIONS

For processing in blends with wool, the temperature should ideally be at 22°C and relative air humidity at 60 – 65 %

◆ LUBRICANT

With wool blends it is essential that post-lubrication should take place at the blend drafting stage (approx. 0.2 – 0.3 % active ingredient. Product: e. g. fatty acid ester/antistatic).

◆ RECOMBING

It is normal practice to recomb Trevira 350 in blends, including coarser yarn counts.

◆ RING SPINNING

Depending on spinning geometry, the traveller speed with Trevira/wool blends should be between 29 – 31 m/sec.

◆ WINDING

Speed: 1000 m/min.

◆ TWISTING

Rev/min: 6000 – 7000 (dep. on blend proportions).
Use of twist lubricant is recommended.
(Active ingredient: 0.6 – 1 %)

COTTON SYSTEM SPINNING

◆ CONDITIONS

The Ideal conditions for processing are a temperature of 22°C and 50 % air humidity.

◆ CARDING

Actual settings depend on the particular type of machine. However, carding can proceed with the normal settings for polyester. The process should be as gentle as possible (number of revs/min, flat adjustment, delivery speed). Sliver weight should not exceed 5 ktex. Drafting in excess of 80:1 should be avoided.

◆ RING SPINNING

On no account should the traveller speed exceed 25 m/sec. In processing 100 % Trevira we recommend dispensing with balloon rings.

◆ WINDING

Modern machines can wind at 800 m/min. Older machines may be limited to a max. 600 – 700 m/min.

◆ TWISTING

In doubling a spindle revolution of 700 m/min. should not be exceeded.
The process requires inclusion of a finish with twist lubricant.

