

AERODYNAMIC TREATMENT OF RAW VISCOSE FABRICS TO IMPROVE THEIR DRAPEABILITY

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In the initial stages of the ennoblement of woollen fabrics, an age-old technique has been preserved - the felting process. The felting is based on the porous cork substance in the inner part and the scaly surface of the wool fibres.

Under the influence of weak alkaline solutions, hot water and intense mechanical pressure, the keratin plates open, the cork substance swells and the plates of neighbouring fibres interlock into an inseparable mass.

As a result, the wool fabric becomes uniform and stable.

Consumer expectations from cellulose fabrics, especially viscose, are exactly in the opposite direction. Inherent properties of outerwear are softness and smoothness to the touch, flexibility and agility under load, as well as overall high drapeability as a general quality indicator.

These properties are achieved with minimal adhesion between the threads and fibres, without changing the torsion structure of the threads or the cross-linking and density of the woven fabric. Such freedom and independence of textile elements requires a passive agent, such as air.

An aggregate for air ennoblement of cellulose woven fabrics, mainly viscose rayon, has been built in a constructive and functional manner.

Stitched like an endless rope, the fabric moves cyclically in the technological channel.

The source of movement is pulling cylinders. The fabric falls into a conical chute, where it folds and meets the transverse grid with force.

In addition, high-velocity air jets emerge from multiple radially arranged nozzles with microscopic cross-sections.

This results in the specified separation of the contact between the fibres and filaments and achieves the expected properties.

The subject of the article is the aerodynamic and mechanical processing of cellulose fabrics to acquire enhanced consumer properties of refinement.

Keywords: textiles, fabrics, ennoblement, aerodynamic opening.

