19A03

직물구조인자와 공정특성이 신합섬 폴리에스테르 직물의 물성에 미치는 영향

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The New Synthetic PET Fabrics which is high value added fabrics in Korea are made by applying various technologies in the textile processing such as polymer synthesis, spinning, yarn finishing, weaving preparatory, weaving and dyeing and finishing. Manufacturing technology of high and low shrinkable fibres is referred to polymer synthesis and spinning process. Interlacing and air jet texturing technologies are referred to yarn finishing. Especially, Drying temperature in yarn sizing included in weaving preparatory and various processing conditions in dyeing and finishing are very important factors in characterizing shrinkage property of fibres and determining fabric hand.

In addition to these processing factors, fabric structural parameters such as yarn twist, fabric density and optimum process shrinkage in the finishing can be affected in hand of New Synthetic Fabrics. The objective in this study is to investigate the way to improve current quality of the New Synthetic PET Fabrics which is high-value added fabrics in KOREA. For this purpose, we made the specimens shown in next Table 1, and analysed the effects of fabric density to the mechanical properties and hand of fabrics in relation with sizing condition and processing shrinkage in finishing process.

The main conclusions from this study are as follows.

1. The hand of New Synthetic Fibre Fabrics is affected by heat temperature of sizing process, and processing condition in the finishing has to be determined with relation to the shrinkage characteristics of constituent fibres
2. The change of fabric mechanical properties with various weft density shows some propensity, and these changes affect fabric hand
3. Warp shrinkage in the finishing process is affected by weft density and shrinkage characteristics of constituent fibres.