

Research Paper

THE TAILORABILITY OF SOFT SILK FABRICS

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ABSTRACT

Soft silk fabrics in the weight range of 50-60 g/m² were subjected to testing of their physical and low stress mechanical properties using the FAST system with the objective of investigating their tailorability. The instrumentally measured properties of the soft silk fabrics are discussed in terms of fabric weight, thickness, relaxation shrinkage, hygral expansion, extensibility, bending rigidity, shear rigidity and formability. It is observed that the relaxation shrinkage and hygral expansion of these fabrics are under control as per the requirement in garment manufacture according to the standard guidelines. The main problem area is the low extensibility and low formability in both warp and weft direction, which may lead to tailoring problems during laying, cutting, sewing and fabric manipulation. This study is an effort to build up a database of the properties of silk fabrics which can be used to engineer new characteristics or attributes into the silk fabrics and also to provide a basis for appropriate process control during apparel manufacture and hence facilitate the conversion of these fabrics into garments.

Key words: Bending rigidity, extensibility, FAST system, formability, hygral expansion, shear rigidity, soft silk fabrics, tailorability.