



УНИВЕРЗИТЕТ У НОВОМ САДУ  
UNIVERSITY OF NOVI SAD

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## ТЕХНИЧКИ ФАКУЛТЕТ "МИХАЈЛО ПУПИН" У ЗРЕЊАНИНУ

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Experimental study of structural characteristics,  
dimensional change in washing, non-creasing properties  
and air permeability of Swiss double piqué flax knit  
fabrics - Journal of Engineered Fibers and Fabrics

Објављен рад

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The structural characteristics, dimensional change after four washing cycles, non-creasing properties and air permeability of Swiss double piqué knitted fabrics from cotton/flax (70% cotton, 30% flax), PAN/flax (70% PAN, 30% flax) and 100% flax yarns have been investigated. These knitted fabric samples of varying densities were produced on a 10-gauge circular knitting machine. The results of investigation showed that the structural characteristics, dimensional change in washing, non-creasing properties and air permeability are highly dependent on the type of yarn used. Besides the type of yarn, the structural characteristics, such as the number of wales  $W$  and courses  $C$  per centimeter, fabric stitch density  $S$ , weight  $W_s$ , and fabric tightness  $K$ , are also influenced by the average loop length  $l_a$ . The weight  $W_s$  and thickness  $t$  of knitted fabrics are determined by the diameter of the yarn used. Usually, primary dimensional alterations of knitted fabrics of all yarn types occur after the first and second washing cycles. The non-creasing properties of the examined knitted fabrics are mainly affected by the type of yarn, rather than the average loop length  $l_a$ . Lastly, the air permeability  $AP$  of knitted fabrics is affected by the type of yarn, the average loop length  $l_a$ , and fabric density  $S$ .

