

## EFFECT OF MERCERIZATION UNDER TENSION ON THE DRAPABILITY AND STRENGTH OF COTTON KHADI FABRIC

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### ABSTRACT

Present study was aimed at assessing the effect of mercerization under tension on physical properties (drapability and tensile strength) of gray cotton khadi fabric. Different parameters of mercerization treatment such as conc. of sodium hydroxide palates and time duration of the treatment were optimized. Two methods of the treatment were given (slack mercerization and mercerization under tension) at 40°C with different concentrations (5%, 15% and 25%) for different time periods (10min, 20min and 30min). The treated cotton khadi fabric was evaluated in terms of tensile strength and drapability of cotton khadi fabric. Mercerization under tension gave the best results with 25% concentration of NaOH for 30min at 40°C followed by the fabric, with different time (10min and 20min) duration of the treatment. The results showed that as the time and concentrations were increased, the tensile strength was also increased of mercerization under tension as compare to the controlled and slack mercerization samples. Some properties were decreased after mercerization treatment for example %drape co-efficient was decreased and drape area also decreased means andanother mode of subjective expression of drapability i.e. higher the no. of nodes betters the drape quality. Thus the Drapability was increased.

**KEYWORDS:** Cotton Khadi Fabric, Drapability, Mercerization under Tension, Slack Mercerization and Tensile Strength