

عنوان مقاله:

Evaluating Pile Yarn Characteristics in Hand Woven Carpet using Stress-Strain Behavior in Compression

محل انتشار:

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خلاصه مقاله:

Many factors such as production methods and structural parameters have distinctive influence on the quality and performance of a hand woven carpet. To investigate the effects of some variables, eighteen samples of carpet vary, in knot density, pile height and percentage of slipe wool, were manufactured. Pile yarn performance was assessed by using load-displacement compression curve, obtained from Zwick tensile tester under cyclic loading, up to ۳۰ kPa. Based on the results, compression and matting of the pile yarn decreased and its elastic recovery increased with the increase in knot density. Increase in pile height caused an increase in the degree of variation for carpet samples. Matting of samples decreased with increase in pile height to certain level, but further increase caused increased reduction in matting. Elastic recovery of pile yarn had a reverse trend as the pile height changed. Consequently, increase in percentage of slipe wool caused an increase in compression and matting, and also reduction in elastic recovery of pile yarn.

کلمات کلیدی:

Slipe Wool, Virgin Wool, compression, Elastic Recovery, Matting, Stress, Strain Compression Curves

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