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Evaluating the Tensile Strength and Elongation Properties of Produced Yarns Using Direct Twist Technique

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Abstract:

The twisting stage is one of the most important preparatory stages for the yarn it begins with the Doubling process in preparation for giving it the suitable twists. A twisted yarn is formed by twisting together two or more singles yarns. The purpose of twist is Increase the specific durability of the yarn, Increase the C.V of the yarn, Production of yarns from mixing two or more yarns together and Production of Fancy yarn. A modern technology was developed in the twist process, achieving advantages at the technical and economic levels, which is the Direct Twist. It has many different twisted techniques, and the aim of the research is to show the best of them in tensile strength and elongation. The mechanical property of the yarn is one of the factors affecting the functional performance of it. This study aims to compare the tensile strength and elongation of yarns with different techniques of direct twist. The results of these tests illustrated that the direct twist technique of covering yarn has better strength than direct twist spun yarn, especially in the technique of covering group 2:2. While the best elongation is due to the technique of covering group 3:1.

Keywords:

Yarn twist, tensile, elongation, direct twist.

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