

## Study the effect of air pressure reduction on some properties of fabric made from metallic yarns on air – jet looms

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### **Abstract:**

Recently, woven fabrics based on the creation of motifs have been spread through the use of metallic yarns as wefts of this type of fabric. At present, there is a high dependence on air-jet looms because of their great potential and speeds compared to other types of textile machines such as elastic bayonet machines. however, we find that labor is not prepared to deal with this kind of weft when produced on such machines. Their solution is to use high pressures to produce these fabrics to ensure that these wefts are easily passed through the breath. This is accompanied by the consumption of a large amount of air, which increases the cost of operation. therefore, through this research we have reached the technical and scientific basis for the production of these types of fabrics using metallic yarns as wefts on air-jet looms taking into account reducing the operating cost The production of woven fabrics suitable for use as curtains with 9 samples produced on air – jet looms using 3 air pressures for auxiliary technologies (3,5 .3.2,5) bar without affecting the physical and mechanical properties of fabrics produced on these machines.the most important results obtained were that the fabric produced at 2.5 bar had the highest readings of the tensile strength in the direction of the weft - the weight of the square meter - the thickness - the relative elongation in the direction of the weft - the resistance of the fabrics to abrasion abrasion - of fabrics produced at a pressure of 3 bar. Finally, 3.5 bar, which have the same operational specifications and we conclude that there is an inverse relationship between the amount of air pressure and auxiliary technologies and these properties. fabrics produced at a pressure of 3.5 bar had the highest readings for each coefficient of hardness in the direction of the weft - air permeability - of fabrics produced at a pressure of 3 bar and finally 2.5 bar which have the same operational specifications Characteristics .as well as we conclude and the presence of an inverse relationship between the thickness and air permeability of produced fabrics that have the same executive specifications and the presence of a direct relationship between the tensile strength and the relative elongation of the produced fabrics that have the same operational specifications.

**Key world:** Air jet looms - metallic yarns - air pressure reduction