

TEXTILE MECHANICAL CHARACTERIZATION BY DIGITAL IMAGE CORRELATION

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Abstract: The jean fabrics based on polyester, cotton and elastane are one of the most used fabrics around the world within the apparel industry. In this study, we characterize the mechanical properties of a jean woven fabric before and after aging by pilling experiments. This aims to deeper understand how the structure of the fabric affects its response under tensile stress, with the goal of opening of new applications in different innovative areas. For this purpose, digital image correlation is used to monitor the tests in order to define the viscoelastic parameters of the textile, as the Poisson's ratio and the Young's modulus.

Keywords: Jean woven fabric, Mechanical properties, Tensile behaviour, Digital imaging correlator (DIC), Pilling

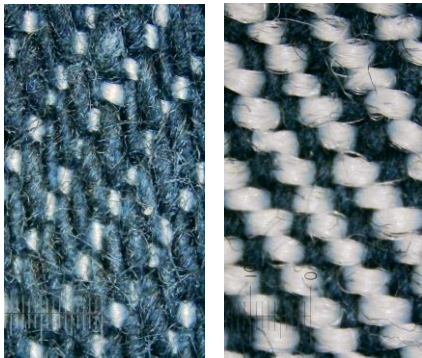


Figure 1 Sample of the textile: face in the left, reverse in the right.

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