

Determination of the mechanical tensile characteristics of some 3D printed specimens from Nylon 12 Carbon Fiber material

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Keywords. (3D printing, tensile test, tensile failure test).

Abstract.

The work presents the manufacturing by 3D printing of the tensile specimens from the Nylon Carbon 12 Fiber material and the static tensile failure tests of these specimens. Three directions are used for printing the samples such as horizontal, vertical and lateral. We presented the steps for 3D printing and the results obtained from static tensile tests. Five samples were used for each printing position, i.e. a total of 15 pieces. All samples were subjected to static tensile failure. The tests were performed using the Instron 8875 electrohydraulic machine. The deformation was recorded using the digital correlation method, on a surface in the calibrated area, painted on a white background and black spots.