Defining parameters of apertures moulding in the uncured woven composite using the technique of puncturing with the pointed indentor

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We introduce experimental research of the alternative approach to obtaining cylindrical holes in the uncured woven composite, i.e. the puncturing technique. Apertures moulding in the woven prepreg was performed with the pointed metal core (indentor). The article provides numeric values for the duration and feed rate of the indentor in the multilayered woven bags depending on the diameter of the tool, the thickness of the specimen and the viscosity of the bonding material. We have developed a mathematical model and a procedure for calculating the strain-stress state of the shoot and the basis of the fiberglass cloth T-13 in the area of indentor. It has been established that for the test specimens of the given thickness the maximum values of the obtained holes fall within the limits corresponding to the area of practical diameters dimensions of the rivets, screws and bolts used in the assembly joints of the rocket and space equipment.

Keywords: *fiberglass cloth, woven prepreg, apertures moulding, puncturing technique, indentor*

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