

Study of compressibility of materials used in three-dimensional printing using synchrotron radiation

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In this work, the results of a study of the shock wave compressibility of acrylonitrile butadiene styrene (ABS), fluoroplastic and photopolymer resin from Formalabs “ClearResin” are presented. Compression of samples was carried out using a charge of plastic explosive. The process of compression was recorded using radiography by synchrotron radiation. The study was conducted for purposes of validation of equations of state for materials used in three-dimensional printing.