

## SOME ASPECTS CONCERNING THE PHYSICAL MODELS OBTAINED USING HIGH PERFORMANCE COMPOSITE MATERIAL

Dumitru Nedelcu<sup>1</sup>, Thomas Stöhr<sup>2</sup>, Ciprian Ciofu<sup>1</sup> & Daniel Mindru<sup>3</sup>

<sup>1</sup>Technical University "Gheorghe Asachi" of Iasi-Romania, Department of Machine Manufacturing Technology

<sup>2</sup>University of Erlangen-Nuremberg-Germany

<sup>3</sup>CADWORKS International SRL, Romania

Corresponding author: Dumitru Nedelcu, dnedelcu@tcm.tuiasi.ro

**Abstract:** We all know that 3D printed models are useful for early concept modelling, allowing designers to see a concept in real space and convey their designs to others quickly. With these technologies, the pieces are transected and built using a repeatable process of constructing the piece, section by section (in very thin layers).

The paper presents the aspects and the technological steps for obtaining the complex physical models using rapid prototyping technology with ZPrinter 310 Plus equipment which creates physical models directly from digital data CAD/CAM, quickly and inexpensively. In addition, the versatility of the machine allows users to make the parts quickly for early concept evaluation and testing, painted parts for a finished look, or patterns for casting applications.

**Key words:** rapid prototyping technology, physical model