

AN APPLICATION OF NEURAL NETWORKS IN MODELLING

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***Summary:** An approach to modelling behaviour of powder metallurgy parts dimensions at sintering process for the prediction of the dimensional changes is given. The model is developed on the base of significant process factors applying multilayer neural network architecture with backpropagation learning algorithm. Results of the simulation in the form of the diagrams and tables are presented. Obtained model gives better results than the one of statistical procedure of the experimental data, i.e. less total mean approximation errors of the part dimensions for 11.4%. Practical effects of the modelling is in determination of compact dimensions in accordance with dimensional changes during sintering.*

***Keywords:** Modelling, Sintering process, Dimensional changes, Neural network, Model error.*