



“Gheorghe Asachi” Technical University of Iasi, Romania



EXPERIMENTAL TECHNIQUE FOR SAVING ENERGY IN OVAL FURNACES

Alina Adriana Minea

*“Gheorghe Asachi” Technical University of Iasi, Faculty of Materials Science and Engineering,
Department of Plactical Processes and Heat Treatment, 63 Mangeron Blvd., Iasi, Romania, e-mail: aminea@tuiasi.ro*

Abstract

Changing the working space by introducing some radiant panels has the purpose of intensifying the heat transfer by convection and radiation. By centralizing the experimental results, has been obtained an energetic saving of 28.67 – 32.74 % by using radiant panels; the heating speed of the charge raises with almost 50 % and the heating time of the charge decreases. In conclusion, changing the working space by introducing some radiant panels inside the furnace leads to important energy savings in the heating process, by increasing the heating speed of charge and by decreasing its stationary time in the thermal equipment. The paper also presents the algorithm for applying the optimum heating in order to obtain the requested properties for various applications and environments.

Key words: convection, experimental, heating, mathematical model
