



**“Gheorghe Asachi” Technical University of Iasi, Romania**



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## **RESEARCH ON INCREASING THE REACTION SURFACE OF SELF-REDUCING BRIQUETTES**

**Ana Virginia Socalici\*, Erika Ardelean, Eugen Crişan, Teodor Heput**

*Politehnica University of Timișoara, Faculty of Engineering Hunedoara, Department of Engineering and Management,  
5 Revolutiei Street, 331128 Hunedoara, Romania*

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### **Abstract**

Waste recycling in steel industry by turning grain-size and powdery waste into pellets is a must now more than ever for economical motivation, in order to save raw materials and also for ecological reasons, as it leads to a cut down in the quantity of dumped waste. Industrial practice offers processors various technologies of waste recycling (agglomeration, briquetting, pelleting, mechanical mixture). The optimal variant should be chosen according to waste type, its content of useful elements, the existing processing facilities and also according to the final use of the resulting product. The paper introduces two variants of making briquettes from iron and carbon containing waste, to be further used in feeding the blast furnace in order to obtain cast iron or as charge of the electric arc furnace, in order to obtain steel. The need of optimizing the shape and size of the briquettes results from the direct implications they have upon the increase of the installation productivity by increasing the reaction rate when gaseous reducers are used – in the case of blast furnaces – and by cutting down the time of dissolution into the slag – in the case of arc furnaces. The use of briquettes in feeding the elaboration aggregates has, besides technological effects, positive economical and ecological impacts.

*Key words:* briquettes, environment, productivity, reaction rate, siderurgy, waste

*Received: September, 2013; Revised final: December, 2014; Accepted: January, 2015*

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\* Author to whom all correspondence should be addressed: e-mail: [virginia.socalici@fih.upt.ro](mailto:virginia.socalici@fih.upt.ro); Phone: +4 0254 207530; Fax: +4 0254 207576