



“Gheorghe Asachi” Technical University of Iasi, Romania



SINTERED BASALT AS A PROMISING SUSTAINABLE MATERIAL IN MECHANICAL ENGINEERING

Constantin Gheorghies

*“Dunarea de Jos” University of Galati, Romania, 47 Domneasca Street, 800008 Galati, Romania,
e-mail: cgheorg@ugal.ro; Phone: 0336130100; Fax: 0236461353*

Abstract

This paper presents a series of experimental results on the behavior of sintered basalt during friction process. Sliding-rolling and sliding tribomodells made from sintered basalt were mounted on an Amsler machine and on a custom-built testing machine, respectively. We studied the influence of the loading pressure and sliding speed as well as lubricating conditions on the friction coefficient. The structural changes in the superficial layer of tribomodells during friction process were investigated using X-ray diffractometry techniques. Knowledge of the structural changes could be used to control the sintering process of basalts, allowing for improvements in the structural and dimensional stability of tribomodells.

Key words: basalt, friction, structure, tribomodel

Received: June, 2009; Revised final: July, 2010; Accepted: August, 2010
