**WEAR RESISTANCE OF DIFFERENT TYPES OF CAST IRON USED IN GLASS BLOW MOULD**

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(Received: 11/03/2014; Accepted: 4/9/2014)

**ABSTRACT: -** The aim of this work is to study the wear characteristics of different cast iron types which might be used as mould materials in glass blow molding. Wear testing rig was designed and developed to carry out the wear tests. Three types of gray cast iron with different chemical compositions were cast and heat treated, as well as samples taken (for comparison) from another two existing mould already being in use.

Samples for wear testing were taken from the prepared materials and abraded against an automobile friction brake pads. Sliding velocity, friction pressure and contact time were taken as test variables. Weight loss of the tested samples was measured after conducting the wear tests at 600 & 800 0C.

Cast iron with (2.98% C, 5.117% Si, and 1.39% Cu) showed the highest hardness in its as cast condition compared to the other types. It showed the best wear resistance after heat treatment (stress relief annealing).

Results also showed that some of the tested materials gave a good wear resistance at low temperature (up to 600 0C) but they lost their resistance at high temperature (up to 800 0C). It was concluded that hardness is not the only parameter that controls the wear resistance at high temperature.

**Keywords**: Cast iron, Wear resistance, Glass blow moulds.