

## THE PRODUCTION OF ALLOYED WHITE CAST IRON FOR USE IN GRINDING OPERATIONS IN SRI LANKA

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This paper describes the production of different types of cast iron grinding media of good wear resistant quality for the local industry. The types produced were low chromium, nickel-chromium, martensitic and high chromium white cast-irons. The castings were carried out at the Ceylon Steel Corporation while the micro-structural examinations and mechanical testings were conducted at the University of Moratuwa.

At present low alloyed cast steel grinding balls are produced at the Ceylon Steel Corporation for local use and they are found to contain defects ranging from shrinkage cavities, sand fusions, blow holes, quench cracks to misruns. It is possible to eliminate most of these defects with certain types of alloyed white cast iron. The grinding balls so produced showed greater resistance to wear and the casting yield was higher when compared with the casting of steel balls. Although the price of alloyed white cast iron is marginally higher than the cast steel balls, the longer life of the former more than compensates the replacement of cast steel balls with the white cast iron balls.