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**FABRICATION OF GRINDING WHEELS USING LOCALLY
AVAILABLE MINERALS**

A PROJECT REPORT PRESENTED BY

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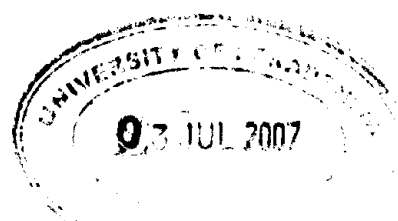
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FABRICATION OF GRINDING WHEEL USING LOCALLY AVILABLE MATERIALS

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Abrasive materials are extensively used in fabricating grinding wheels for industrial purposes. Most of these abrasives said to be industrial abrasives as most of them are artificially produced. Industrial abrasives are costly and not so prominent for developing countries such as Sri Lanka. Corundum and garnet are some of the hardest minerals found in Sri Lanka that can be used as natural abrasives. The main aim of this work is to produce grinding wheels using corundum and garnets. During the fabrication of grinding wheels, binders such as aluminum silicate and China clay were used. Feldspar, MnO_2 , MgO and sodium silicate were used as additives and fluxes.

The fabricated wheels were tested for their physical and mechanical properties. Material Removing Rate (M.R.R) and Grinding Ratio (G-Ratio) were measured to obtain the performance of the fabricated wheels. The results of the performance test indicated that the corundum wheel was suitable for polishing hard materials such as rocks, quartz and porcelain rather than using as a tool sharpener. However, the garnet wheel showed better performance for tool sharpening.

The cost evaluation showed that the production of grinding wheels using locally available corundum and garnets is much cheaper than commercially available grinding wheels.