

**PROCESS of ALUMINIUM OXIDE, ( $\text{Al}_2\text{O}_3$ ) from MICRON SIZED  
PARTICLE to NANO SIZED PARTICLE by USING HIGH ENERGY  
BALL MILLING**

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**Final Year Project Report Submitted in  
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In the Faculty of Applied Science  
University of Technology MARA**

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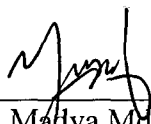
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This Final Year Project Report entitled **“Process of Aluminium Oxide, Al<sub>2</sub>O<sub>3</sub> from Micron Sized Particle to Nano Sized Particle by Using High Energy Ball Milling”** was submitted by Saiful Azlan Bin Ahmad Shahimi, in partial fulfillment of the requirements for the Degree of Bachelor of Science (Hons.) Industrial Physics, in the Faculty of Applied Sciences, and was approved by



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## ABSTRACT

Aluminium oxide,  $\text{Al}_2\text{O}_3$  with micron-sized particle was prepared to obtain nano-sized particle by using high energy ball milling. Increase the milling speed and time led to the smaller crystallite sizes and more agglomerations. The samples before and after milling for various speed and times were characterized by X-Ray Diffraction (XRD) and Scanning Electron Microcopy (SEM) and these results were reported and discussed. The result showed that after 96 hours of milling, the nano-sized particle was obtained.