

## Toughness and Dielectric Behavior of Polycrystalline Alumina

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### Abstract:

In optics to improve thermal and mechanical properties of briquettes from cocoa pods husks, influence of adding binder was undertaken. With this intention, after having carried out preliminary tests of brickwork where three binders were tested to know the molasses of sugar cane, the gelatinized starch of manioc as well as the skins of manioc, only the starch of manioc and the molasses were selected on the basis of IRI (resistance index), of the Peak Load (PL) and Final Load (FL) of a needle on briquettes. The optimal range of the percentage of binder ratio is between 9.4% and 12.5%, for molasses and gelatinized starch. Thermal properties of the raw materials were studied on the basis of determination of the ash content (AC), volatile mater (VM), fixed carbon (FC) and calorific value (CV). Molasses and starch binder contributes to increase the calorific value ( $16.69 \pm 1.00 - 19.80 \pm 4.69$  MJ/kg).

### Biography:

Paul Nestor DJOMOU DJONGA, Doctor in metallurgy obtained at the University of Maroua in Cameroon. He has worked on the relationships between the Influence of CRT Glass Quantity on the Properties of Red Mud-CRT Glass Ceramics Fired at Different Temperatures. This work was done in collaboration with his colleagues. Currently, he is a Phd student in the University of Maroua, Nigeria.



### Publication of speakers:

1. Zé, Parfait & Tsamo, Cornelius & Kamga, Richard. (2018). Characterization of Minim-Martap Bauxite and Its Extracted Alumina. *Journal of Advanced Chemical Sciences*. 4. 598-600. 10.30799/jacs.198.18040402.
2. Tsamo, Cornelius & Tchouanyo, D & Meali, D. (2017). Treatment of Red Mud with Distilled Water to Improve Its Efficiency to Remove Methylene Blue from Aqueous Solution. *International Research Journal of Pure and Applied Chemistry*. 15. 1-19. 10.9734/IRJPAC/2017/37714.
3. Tsamo, Cornelius & Djonga, P. & Dangwang Dikdim, Jean Marie & Kamga, Richard. (2017). Kinetic and Equilibrium Studies of Cr(VI), Cu(II) and Pb(II) Removal from Aqueous Solution Using Red Mud, a Low-Cost Adsorbent. *Arabian Journal for Science and Engineering*. 43. 10.1007/s13369-017-2787-5.
4. Munishwar, Sudhirkumar & Pawar, Pravin & Ughade, Suresh & Gedam, Rupesh. (2017). Size dependent effect of electron-hole recombination of CdS quantum dots on emission of Dy 3+ ions in boro-silicate glasses through energy transfer. *Journal of Alloys and Compounds*. 725. 10.1016/j.jallcom.2017.07.146.

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