Title: Manufacture of Abrasive Grains from Locally Sourced Raw Materials in Nigeria.

Author(s): A. O. Odior and F. A. Oyawale


Date: 2010

Abstract: The manufacture of abrasive grains in Nigeria has been severely impeded by the difficulty of identifying suitable local raw materials and the associated local formulation for abrasives with global quality standards. This paper presents a study on the formulation and manufacture of silicon carbide abrasives using locally sourced raw materials in Nigeria. Five local raw material substitutes were identified through pilot study and with the initial mix of the identified materials; a systematic search for an optimal formulation of silicon carbide abrasive grains was conducted. The mixture was fired in a furnace to 1600oC for 6 hours forming silicon carbide chunks, which were crushed and sieved into coarse and fine grades of abrasive grains of international standard.