Title: Some Grinding Factors Affecting Locally Formulated Silicon Carbide Abrasive Wheels.

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Abstract: A grinding wheel is an expendable wheel which is made of very small, sharp and hard silicon carbide abrasive particles or grits held together by strong porous bond. This paper presents a study on some factors and parameters of silicon carbide abrasive grinding wheels which were developed and formulated from locally sourced raw materials in Nigeria. Six local raw material substitutes were identified through pilot study and a systematic search for an optimal formulation of silicon carbide was conducted using the Taguchi method. The produced silicon carbide abrasive grains were used to manufacture grinding wheels. Some of the grinding factors of locally manufacture grinding wheel include: wheel wear, wheel grinding ratio, wheel hardness, bond strength, size and grade of the manufactured silicon carbide abrasive grains.