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(54) **CERAMIC CUTTER MATERIAL WITH A PIEZOELECTRIC EFFECT AND PREPARATION METHOD THEREOF, AND CUTTING TOOL**

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(57) **ABSTRACT**

A ceramic tool material, in particular with piezoelectric effect and a preparation method thereof, and a cutting tool. The ceramic tool material includes the following raw materials by weight: 30-70 parts of matrix material, 30-70 parts of piezoelectric material, 5-10 parts of binder, and 10-20 parts of reinforcing phase and can be made into cutting tools. The cutting tool has a piezoelectric effect and excellent mechanical properties and can convert the cutting force signal into the charge signal during machining. By collecting charge signals, a cutting force can be measured and ceramic cutting tool condition can be monitored. Cutting force measurement function and high mechanical properties are integrated. A ceramic tool material with piezoelectric effect can measure the cutting force on the premise by meeting the cutting performance requirements.