

Synthèse et Caractérisation des mélanges de poudres céramiques à base de TiC-Al₂O₃, destinés à la compaction à chaud.

Hadda REZZAG

Soutenue en: 2010

Abstract : The ceramic base TiC-Al₂O₃, also known as the "black pottery" which finds wide use as materials for cutting tool especially for the finishing of cast iron and steel disks. Our study focused on the development of the black ceramic processes by metallothermal followed by sintering under load. This technology significantly reduces the duration of the process, and therefore the cost of production materials. For this purpose, several mixtures of powders were prepared by the techniques of powder metallurgy. Combustion was used for the direct mixing TiC-Al₂O₃. Our purpose is to understand the influence of parameters such as particle size and sintering temperature under load on the properties of the tablet. The additions of Mg, SiO₂, B₂O₃, boron introduced into the basic mixture, have implications for the formation of new phases and significant changes in the morphology of the ceramic and the properties.

Keywords : céramique, poudre, réduction, frittage