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**PRODUCTION OF HARDMETAL BY HPHT USING NB AS A NEW BINDER**

Oliveira, M.P.(1); Barros, R.A.(1); Peçanha Jr, L.A.F.(2); Guimarães, R.S.(1); Filgueira, M.(1); Universidade Estadual Norte Fluminense(1); Universidade Estadual do Norte Fluminense(2); Instituto Federal FLuminense(3); Unoversidade Estadual do Norte Fluminense(4); UENF(5);

Due to the growing metalworking sector, development of new materials for use as cutting tools is necessary, seeking the reduction of energy consumption, as well as the machining time. In this sense, carbide inserts are widely used as tools. Usually, these inserts are manufactured with the use of cobalt as a binder. However, this material is scarce in the market and its cost is very high, and has high toxicity. This paper aims to produce carbide inserts by sintering at high pressure and high temperature (HP-HT), using innovative alloying elements, more easily accessible and at a low cost, such as Nb and Ni. The inserts were produced as follows: powders were sintered under 7,7GPa pressure and temperatures between 1550°C and 1850°C. Excellent results of densification, hardness and fracture toughness of the inserts was achieved. The phases formed in the sintering were analyzed by XRD. Microstructure was studied by scanning electron microscopy (SEM) and laser microscopy (CONFOCAL). Machining tests were carried out according to the ISO-3685 standard, indicating improved performance for the produced inserts.