

ABSTRACT OF THE DISCLOSURE

The present invention provides a WC-Co system (the WC-Co system in the present invention means that it comprises not only hard grains composed mainly of WC and iron group metal powder containing Co, but also at least one kind selected from carbide, nitride, carbonitride and boride of elements in Groups IVa, Va and VIa of the Periodic Table, excluding WC, as hard grains) cemented carbide having high strength and high toughness which is excellent in wear resistance, toughness, chipping resistance and thermal crack resistance.

A WC-Co system compact containing an $M_{12}C$ to M_3C type double carbide (M represents one or more kinds selected from the group consisting of Ti, Zr, Hf, V, Nb, Ta, Cr, Mo and W, and one or more kinds selected from the group consisting of Fe, Co and Ni) as a main component of the surface layer portion is subjected to a carburization treatment, and then subjected to liquid phase sintering so as to adjust the mean grain size of the surface layer WC depending on a liquid crystal sintering temperature as an indicator.