

WC-Co계에서 코발트와 탄소의 확산

Carbon and Cobalt diffusion in WC-Co system

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In WC-Co system, former researchers presented the phenomenon that cobalt diffuse to same direction with carbon independent of the content gradient of cobalt during sintering. This phenomenon is similar to the atomic migration occurred in high energy potential of thermal, electric and radial. Namely, direction of atomic migration is same as flow of thermal, electric and radial direction. The former researcher insisted this phenomenon occurred by the reaction of diffused carbon and η phase formed due to deficient of carbon in WC-Co system.

In this study, the diffusion phenomenon for carbon and cobalt in WC-Co system without η phase were studied in material pair which carbon and cobalt have an opposite gradient of content respectively.

After sintering, carbon and cobalt was diffused independently and respectively. Same results were found in observation of micro-structure and analysis of phase and physic properties.

Keywords : Diffusion ; WC-Co ; Dual phase