

عنوان مقاله:

EFFECTS OF DIFFERENT THICKNESSES OF FILLER METAL, ON MECHANICAL AND METALLURGICAL PROPERTIES OF BRAZED JOINTS OF TUNGSTEN CARBIDE AND CARBON STEEL

محل انتشار:

سومین کنفرانس بین المللی مواد فوق ریزدانه و نانوساختار (سال: 1390)

تعداد صفحات اصل مقاله: 6

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خلاصه مقاله:

Joining of hard metals such as, cemented tungsten carbides, to structural steels received much attention due to its compensatory properties. The most important problem is their different atomic structure which leads to high induced thermal stresses. Vacuum brazing is one of the choices that provide most of the desired characteristics. This study focused on vacuum brazing of WC-Co hard metal to carbon steel in an electrical tube furnace using Ag-Cu-Ti as filler material. The process has been conducted using various filler metal thicknesses (100, 250 and 500pm) at a constant temperature of 850 °C. The effect of process parameters on the joint microstructure has been investigated using optical microscopy and scanning electron microscopy (SEM). Moreover, the shear strength of the joints has been determined.

کلمات کلیدی:

vacuum brazing, active filler metal, cemented carbides, WC-Co, hard metal

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<https://civilica.com/doc/613254>

