

Title (en)
ULTRA-HARD CONSTRUCTIONS WITH IMPROVED ATTACHMENT STRENGTH

Title (de)
ULTRAHARTE KONSTRUKTIONEN MIT VERBESSERTER BEFESTIGUNGSSTÄRKE

Title (fr)
CONSTRUCTIONS ULTRA-DURES AVEC FORCE D'ATTACHEMENT AMÉLIORÉE

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Abstract (en)
[origin: US2014069727A1] Ultra-hard constructions comprise a sintered diamond-bonded body comprising a matrix of bonded-together diamond grains and a plurality of interstitial regions substantially free of a catalyst material. A metal material comprising a carbide constituent is disposed on a substrate interface surface of the diamond body. A substrate is attached to the diamond-bonded body through a braze joint interposed between the metal material and the substrate. The braze joint is formed from a non-active braze material that reacts with the substrate and metal material. The braze joint is formed at the melting temperature of the non-active braze material in the absence of high-pressure conditions. In an example embodiment, the non-active braze material reacts with the carbide constituent in the metal material. Example materials useful for forming the non-active braze material include those selected from Cu, Ni, Mn, Au, Pd, and combinations and alloys thereof.

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