

FUSION WELDING METHOD AND WELDED ARTICLE

ABSTRACT

A fusion welding method is provided for fusion welding at juxtaposed interface surfaces (24,28) a first member (22), for example made of a first metal based on at least one of Ru, Rh, Pd, and Pt, with a second member (26) made of a second metal, for example a high temperature alloy based on at least one of Fe, Co, and Ni, including at least one identified element, for example Al, that can form a continuous layer of a brittle intermetallic compound with the first metal that is free of such element. With the interface surfaces (24,28) disposed in contact, energy is generated at the interface surfaces (24,28) in a combination of an amount and for a first time selected to be sufficient to heat the interface surfaces (24,28) to a fusion welding temperature. However, the first time is less than a second time that enables formation at the fusion welding temperature of the continuous layer of the brittle intermetallic compound at the interface surfaces (24,28). A welded article (52) is provided with a fusion weld (50) free of such continuous layer of the brittle intermetallic compound.

FIG. 1