

Target Assembly and Method for Manufacturing Target Assembly

Abstract

To provide a target assembly in which a drop in joining strength between a copper alloy backing plate and an insert material in the form of an aluminum plate or an aluminum alloy plate and between a tungsten target and the insert material is prevented through suppressing formation of an intermetallic compound layer therebetween, and a method for manufacturing the target assembly. The target assembly includes a target formed of tungsten or molybdenum, a backing plate made of copper or a copper alloy, and an insert material which is an aluminum plate or an aluminum alloy plate, the target being diffusion-bonded to the backing plate by the mediation of the insert material which intervenes between the target and the backing plate. Diffusion bonding is achieved by the mediation of a metal thin film layer which is present between the target and the insert material and between the backing plate and the insert material, which is formed of Ti, V, Cr, Nb, Pd, Ir, Pt, or an alloy containing at least one species of the metals, and which has a thickness more than 0.1 μm and 3.0 μm or less.