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(21) International Application Number: PCT/US97/23414 (22) International Filing Date: 4 December 1997 (04.12.97) (30) Priority Data: 08/766,629 13 December 1996 (13.12.96) US (71) Applicant (for all designated States except US): JOHNSON MATTHEY ELECTRONICS, INC. [US/US]; East 15128 Euclid Avenue, Spokane, WA 99216 (US). (72) Inventors; and (75) Inventors/Applicants (for US only): BEIER, Anthony, F. [US/US]; 13518 East 29th Street, Spokane, WA 99216 (US). KARDOKUS, Janine, K. [US/US]; East 18122 Monte Vista Court, Otis Orchards, WA 99027 (US). STROTHERS, Susan, D. [US/US]; North, 12426 Forker Road, Spokane, WA 99207 (US). (74) Agent: GIOIA, Vincent, G.; Christie, Parker & Hale, LLP, P.O. Box 7068, Pasadena, CA 91109-7068 (US).	(81) Designated States: CN, JP, KR, SG, US, European patent (AT, BE, CH, DE, DK, ES, FI, FR, GB, GR, IE, IT, LU, MC, NL, PT, SE). Published <i>With international search report.</i>	
(54) Title: DIFFUSION BONDED SPUTTERING TARGET ASSEMBLY WITH PRECIPITATION HARDENED BACKING PLATE AND METHOD OF MAKING SAME (57) Abstract Described is a method for producing a diffusion bonded sputtering target assembly which is thermally treated to precipitation harden the backing plate without compromising the diffusion bond integrity. The method includes heat treating and quenching to alloy solution and artificially age the backing plate material after diffusion bonding to a target. Thermal treatment of the diffusion bonded sputtering target assembly includes quenching by partial-immersion in a quenchant and is performed after diffusion bonding and allows for various tempers in the backing plate.		