

ABSTRACT

There is provided a vacuum evaporating apparatus which is suitable for performing a process in which a metal vapor atmosphere is formed in a processing chamber, the metal atoms in this metal vapor atmosphere are caused to be adhered to the surface of an object to be processed, and the metal atoms adhered to the surface of the object to be processed are diffused into grain boundary phases thereof. The apparatus comprises: a processing furnace (11); at least one processing box (4) disposed inside the processing furnace; and a heating means (2) provided inside the processing furnace so as to enclose the processing box. An evacuating means is provided which, after housing the processing box inside the processing furnace in a state in which the object to be processed (S) and the metal evaporating material (V) are disposed in the processing box, reduces the processing furnace and the processing box to a predetermined pressure and keep them at that pressure. The heating means is operated in the reduced pressure to evaporate the metal evaporating material while increasing the object to be processed to a predetermined temperature. The evaporated metal atoms are supplied to the surface of the object to be processed.

【Selected Figure】 Fig. 1