

ABSTRACT

REFLECTIVE MASK BLANK AND METHOD FOR MANUFACTURING REFLECTIVE MASK

A reflective mask blank has a substrate 10; a multilayer reflective film 20 that is provided on the substrate 10 and reflects exposure light; a protective film 50 including a metal oxide film 51 provided on the multilayer reflective film 20; and an absorber film 70 that is provided on the protective film 50 and absorbs exposure light. The multilayer reflective film 20 is configured such that a Mo layer and a Si layer are alternately stacked and a layer on a side farthest from the substrate 10 is the Si layer. The metal oxide film 51 is configured such that an oxygen content in a layer on a side far from the substrate 10 is higher than the oxygen content in a layer on a substrate side.

FIG. 1A