ABSTRACT

The present invention provides a reflective photomask using light having a wavelength in an extreme ultraviolet range as a light source, the reflective photomask including an absorption layer having good pattern processability, a reflective photomask blank to be used for producing the reflective photomask, and a method for producing a reflective photomask using the reflective photomask blank. A reflective photomask blank (10) according to an embodiment of the present invention includes a substrate (1), a reflective layer (2), and an absorption layer (4), the absorption layer (4) is formed of a material containing 50 atom% or more of platinum (Pt) and containing tantalum (Ta) in a range of 5 atom% or more and less than 50 atom%, the absorption layer (4) has a film thickness in a range of 17 nm or more and 50 nm or less, the absorption layer (4) has an extinction coefficient of 0.049 or more with respect to EUV light, and the absorption layer (4) has a surface roughness of 0.4 nm or less.

FIG. 1