

ABSTRACT

To provide a reflective photomask blank and a reflective photomask that suppress or reduce a shadowing effect of a reflective photomask for patterning transfer using a light having a wavelength in the extreme ultraviolet region as a light source and have resistance to hydrogen radicals. A reflective photomask blank (10) according to this embodiment is a reflective photomask blank used for manufacturing a reflective photomask for pattern transfer using an extreme ultraviolet light as a light source, and the reflective photomask blank has: a substrate (1); a reflective layer (2) containing a multi-layer film formed on the substrate (1); and an absorption layer (4) formed on the reflective layer (2), in which the absorption layer (4) is formed of a material containing tin (Sn) and oxygen (O) in the proportion of 50 at% or more in total, the atomic number ratio (O/Sn) of oxygen (O) to tin (Sn) in the absorption layer (4) exceeds 2.0, and the film thickness of the absorption layer (4) is within the range of 17 nm or more and 45 nm or less.

Figure 1