CLAIMS

1. A reflective photomask blank for producing a reflective photomask for pattern transfer using extreme ultraviolet light as a light source, the reflective photomask blank comprising:

a substrate;

a reflective layer including a multilayer film and formed on the substrate; and

a light absorbing layer formed on the reflective layer,

wherein the light absorbing layer includes a tin oxide film with an atomic ratio (O/Sn) of oxygen (O) to tin (Sn) being more than 1.50 and equal to or less than 2.0, and with a film thickness of 32 nm or more and 45 nm or less, and

wherein the light absorbing layer forms the light absorbing pattern layer having line edge roughness of 3.4 nm or less.

2. The reflective photomask blank according to claim 1, wherein a material forming the tin oxide film contains 80 at% or more of tin (Sn) and oxygen (O) in total.

3. The reflective photomask blank according to claim 1 or 2, further comprising a capping layer formed between the light absorbing layer and the reflective layer.

4. A reflective photomask comprising:

a substrate;

a reflective layer formed on the substrate; and

a light absorbing pattern layer formed on the reflective layer and patterned, the light absorbing pattern layer including a tin oxide film with an atomic ratio (O/Sn) of oxygen (O) to tin (Sn) being more than 1.50 and equal to or less than 2.0, and with a film thickness of 32 nm or more and 45 nm or less,

wherein a pattern having layer having line edge roughness of 3.4 nm or less is formed.