

[DOCUMENT] ABSTRACT

Provided is mask blank for a phase shift mask including an etching stopper film having a high transmittance of 80% or more to an ArF exposure light and which can obtain a transmittance difference of 5% or more at a transparent portion.

The mask blank has a structure where a transparent substrate has stacked thereon an etching stopper film and a phase shift film in this order, in which the phase shift film is composed of a material containing silicon and oxygen, in which the phase shift film has a refractive index n_1 of 1.5 or more to a light of 193nm wavelength and an extinction coefficient k_1 of 0.1 or less to a light of 193nm wavelength, in which the etching stopper film has a refractive index n_2 of 2.5 or more and 3.1 or less to a light of 193nm wavelength and an extinction coefficient k_2 of 0.4 or less to a light of 193nm wavelength, and the refractive index n_2 and the extinction coefficient k_2 satisfy one or more of (Condition 1) to (Condition 5).