

ABSTRACT

A mask blank (100) is provided with a phase shift film (2) on a translucent substrate (1), wherein the phase shift film (2) includes a structure in which a bottom layer (21), a middle layer (22), and a top layer (23) are laminated in this order. The bottom layer (21) is formed of a silicon-nitride-based material, the middle layer (22) is formed of a silicon-oxynitride-based material, and the top layer (23) is formed of a silicon-oxide-based material. The nitrogen content of the bottom layer (21) is greater than those of the middle layer (22) and the top layer (23), and the oxygen content of the top layer (23) is greater than those of the middle layer (22) and the bottom layer (21). The ratio of the film thickness of the middle layer (22) with respect to the overall film thickness of the phase shift film (2) is equal to or greater than 0.15, and the ratio of the film thickness of the top layer (21) with respect to the overall film thickness of the phase shift film (2) is equal to or less than 0.10.