

ABSTRACT

Provided is a mask blank substrate whose surface shape as of the time after the substrate is set on a mask stage of an exposure apparatus can be accurately calculated.

- 5 A mask blank substrate 10 includes a first main surface 12a on which a transfer pattern is formed and a second main surface 12b that is opposed to the first main surface 12a and is to be electrostatically chucked to a mask stage of an exposure apparatus. The first main surface 12a includes a first area 20a located around the center and a second area 20b located outside the first area 20a. The second main surface 12b
- 10 includes a third area 20c located around the center and a fourth area 20d located outside the third area 20c. The angle α formed between the least squares plane of the first area 20a and the least squares plane of the third area 20c is less than 1.2° . The PV value of a surface of each of the second area 20b and the fourth area 20d is 400 nm or less.