CLAIMS

1. A method of evaluating a photomask blank-associated substrate, the method comprising the steps of:

taking an image of a surface of the photomask blank-associated substrate to acquire a surface image;

acquiring a contrast of the surface image from the acquired surface image; and

evaluating the photomask blank-associated substrate on the basis of the acquired contrast of the surface image,

wherein the evaluation of the photomask blank-associated substrate comprises the steps of:

acquiring a standard contrast previously, comprising:

preparing a standard photomask blank-associated substrate, and

acquiring a contrast of a surface image of the standard photomask blank-associated substrate as the standard contrast;

acquiring an evaluation-target contrast, comprising:

preparing an evaluation-target photomask blank-associated substrate other than the standard photomask blank-associated substrate, and

acquiring a contrast of a surface image of the evaluation-target photomask blank-associated substrate as the evaluation-target contrast using an optical system identical with that used in the step of acquiring the standard contrast; and

comparing contrasts to evaluate the evaluation-target photomask blank-associated substrate by comparing

the evaluation-target contrast and the standard contrast.

2. The method of evaluating a photomask blank-associated substrate according to claim 1, wherein the evaluation-target photomask blank-associated substrate is evaluated as a non-defective when the evaluation-target contrast is within a range of a predetermined percentage relative to the standard contrast in the step of comparing contrasts.

3. The method of evaluating a photomask blank-associated substrate according to claim 1 or 2, wherein the evaluation-target photomask blank-associated substrate is evaluated as a non-defective when the evaluation-target contrast is within a range of ±10% relative to the standard contrast in the step of comparing contrasts.

4. A method of evaluating a photomask blank-associated substrate, the method comprising the steps of:

taking an image of a surface of the photomask blank-associated substrate to acquire a surface image;

acquiring a contrast of the surface image from the acquired surface image;

calculating a contrast amplification factor to set the acquired contrast of the surface image to a predetermined value; and

evaluating the photomask blank-associated substrate on the basis of the calculated contrast amplification factor;

wherein the evaluation of the photomask blank-associated substrate comprises the steps of:

calculating a standard contrast amplification factor previously, comprising:

preparing a standard photomask blank-associated substrate, and

calculating a contrast amplification factor of a contrast of a surface image of the standard photomask blank-associated substrate as the standard contrast amplification factor;

calculating an evaluation-target contrast amplification factor, comprising:

preparing an evaluation-target photomask blank-associated substrate other than the standard photomask blank-associated substrate, and

calculating a contrast amplification factor of a contrast of a surface image of the evaluation-target photomask blank-associated substrate as the evaluation-target contrast amplification factor using an optical system identical with that used in the step of calculating the standard contrast amplification factor; and

comparing contrast amplification factors to evaluate the evaluation-target photomask blank-associated substrate by comparing the evaluation-target contrast amplification factor and the standard contrast amplification factor.

5. The method of evaluating a photomask blank-associated substrate according to claim 4, wherein the evaluation-target photomask blank-associated substrate is evaluated as a non-defective when the evaluation-target contrast amplification factor is within a range of a predetermined percentage relative to the standard contrast amplification factor in the step of comparing

contrast amplification factors.

6. The method of evaluating a photomask blank-associated substrate according to claim 4 or 5, wherein the evaluation-target photomask blank-associated substrate is evaluated as a non-defective when the evaluation-target contrast amplification factor is within a range of ±10% relative to the standard contrast amplification factor in the step of comparing contrast amplification factors.

7. The method of evaluating a photomask blank-associated substrate according to any one of claims 1 to 6, wherein the image of the surface of the photomask blank-associated substrate is taken under a confocal optical system and a bright-field in acquiring the surface image.