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~~,~~.

~~2. The method of evaluating a photomask blank-associated substrate according to claim 1,~~ 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.

~~3~~ 2. The method of evaluating a photomask blank-associated substrate according to claim ~~2~~ 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.

~~4~~ 3. The method of evaluating a photomask blank-associated substrate according to claim ~~2 or 3~~ 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.

~~5~~ 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;~~.~~

~~6. The method of evaluating a photomask blank-associated substrate according to claim 5,~~ 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.

~~7~~ 5. The method of evaluating a photomask blank-

associated substrate according to claim ~~6~~ 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.

~~8~~ 6. The method of evaluating a photomask blank-associated substrate according to claim ~~6 or 7~~ 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.

~~9~~ 7. The method of evaluating a photomask blank-associated substrate according to any one of claims 1 to ~~8~~ 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.