CLAIMS

1. A method of inspecting defects in a mask blank or a mask blank substrate, wherein

the mask blank or the mask blank substrate has two opposing main surfaces and a side surface perpendicular to the two opposing main surfaces,

one of the main surfaces has an inside region and a peripheral region,

the boundary between the inside region and the peripheral region is located at a distance d from a plane containing the side surface,

the distance d is such that $d \geq 1$ mm, and,

the method of inspecting defects comprises:

carrying out a defect inspection to the inside region by an optical measurement method in which a working distance (WD) is such that $WD \leq 0.5$ mm, and

carrying out a defect inspection to the peripheral region by an optical measurement method in which the working distance (WD) is such that $WD > 0.5$ mm,

the optical measurement method for the defect inspection to the peripheral region uses a dark field optical system, and

the optical measurement method for the defect inspection to the inside region uses a bright field optical system.

2. The method of inspecting defects according to claim 1, wherein the defect inspection to the inside region inspects the inside region with an optical system having an optical magnification factor of not less than 10X.

3. The method of inspecting defects according to claim 1 or 2, wherein the defect inspection to the peripheral region inspects the peripheral region with an optical system having an optical magnification factor of not more than 5X.

4. The method of inspecting defects according to any of claims 1 to 3, wherein the mask blank or the mask blank substrate further has a chamfered surface between the main surface and the side surface, and a height difference h between a ridgeline of the side surface and the chamfered surface and a ridgeline of the main surface and the chamfered surface in a direction perpendicular to the main surfaces is such that $h \leq 0.5$ mm.

5. The method of inspecting defects according to any of claims 1 to 4, wherein the method of inspecting defects further includes carrying out a defect inspection to at least one of the side surface and the other main surface by an optical measurement method in which the working distance (WD) is such that $WD > 0.5$ mm.

6. The method of inspecting defects according to any of claims 1 to 5, wherein carrying out the defect inspection by the optical measurement method in which the

working distance (WD) is such that WD > 0.5 mm is a final inspection.

7. A method of manufacturing a mask blank, comprising:

preparing a mask blank substrate having two opposing main surfaces and a side surface perpendicular to the two opposing main surfaces,

forming a thin film for forming a pattern on one of the main surfaces of the mask blank substrate, and

carrying out a defect inspection to a surface of the substrate with the thin film having the thin film formed thereon and selecting a mask blank from the substrate with the thin film using the results of the defect inspection; wherein,

one of the main surfaces of the substrate with the thin film has an inside region and a peripheral region,

the boundary between the inside region and the peripheral region is located at a distance d from a plane containing the side surface,

the distance d is such that d ≥ 1 mm, and

carrying out the defect inspection to the surface of the substrate with the thin film comprises:

carrying out a defect inspection to the inside region by an optical measurement method in which working distance (WD) is such that WD ≤ 0.5 mm, and

carrying out a defect inspection to the peripheral region by an optical measurement method in which working distance (WD) is such that WD > 0.5 mm,

the optical measurement method for the defect inspection to the peripheral region uses a dark field optical system, and

the optical measurement method for the defect inspection to the inside region uses a bright field optical system.

8. The method of manufacturing a mask blank according to claim 7, wherein the defect inspection to the inside region inspects the inside region with an optical system having an optical magnification factor of not less than 10X.

9. The method of manufacturing a mask blank according to claim 7 or 8, wherein the defect inspection to the peripheral region inspects the peripheral region with an optical measurement system having a magnification factor of not more than 5X.

10. The method of manufacturing a mask blank according to any of claims 7 to 9, wherein the mask blank or the mask blank substrate further has a chamfered surface between the main surface and the side surface, and a height difference h between a ridgeline of the side surface and the chamfered surface and a ridgeline of the main surface and the chamfered surface in a direction perpendicular to the main surfaces is such that h ≤ 0.5 mm.

11. The method of manufacturing a mask blank according to any of claims 7 to

10, wherein the method of manufacturing mask blank further includes carrying out a defect inspection to at least one of the side surface and the other main surface by an optical measurement method in which the working distance (WD) is such that WD > 0.5 mm.

12. The method of manufacturing a mask blank according to any of claims 7 to 11, wherein carrying out the defect inspection by the optical measurement method in which the working distance (WD) is such that WD > 0.5 mm is a final inspection.

13. A method of manufacturing a transfer mask in which a transfer pattern is formed on the thin film of the mask blank using the mask blank that has been manufactured by the method of manufacturing a mask blank according to any of claims 7 to 12.

14. A method of manufacturing a semiconductor device in which the transfer pattern is exposed and transferred to a resist film on a semiconductor substrate using the transfer mask manufactured by the method of manufacturing a transfer mask according to claim 13.