What is claimed is:

1. A polishing method comprising:

polishing a plurality of substrates including at least one post-measurement substrate designated as a substrate whose film thickness is to be measured after polishing and at least one non-measurement substrate designated as a substrate whose film thickness is not measured;

measuring a film thickness of the at least one post-measurement substrate after polishing of the at least one post-measurement substrate;

detecting that a polishing error has occurred during polishing of the at least one non-measurement substrate;

thereafter, measuring a film thickness of the at least one non-measurement substrate after polishing of the at least one non-measurement substrate; and

determining whether re-polishing is necessary.

2. The polishing method according to claim 1, further comprising:

cleaning the plurality of substrates that have been polished; and

drying the plurality of substrates that have been cleaned.

3. The polishing method according to claim 1, wherein whether or not the polishing error has occurred is judged after the at least one non-measurement substrate is polished.

4. A polishing apparatus comprising:

a polishing unit configured to polish a plurality of substrates, including at least one post-measurement substrate designated as a substrate whose film thickness is to be measured after polishing and at least one non-measurement substrate designated as a substrate whose film thickness is not measured;

a film-thickness measuring device configured to measure a film thickness of the at least one post-measurement substrate that has been polished;

a polishing error detector configured to detect that a polishing error has occurred during polishing of the at least one non-measurement substrate;

a transporting device configured to transport the plurality of substrates successively to the polishing unit, and further transport the at least one post-measurement substrate to the film-thickness measuring device, the transporting device being configured to transport the at

least one non-measurement substrate to the film-thickness measuring device after the polishing error detector detects that a polishing error occurred; and

determining whether re-polishing is necessary.

5. The polishing apparatus according to claim 4, further comprising:

a cleaning unit configured to clean a substrate; and

a drying unit configured to dry a substrate.

6. The polishing method according to claim 1, further comprising:

designating each one of the plurality of substrates as a pre-measurement substrate, a post-measurement substrate, or a non-measurement substrate, the pre-measurement substrate being a substrate whose film thickness is to be measured before polishing, the post-measurement substrate being a substrate whose film thickness is to be measured after polishing, and the non-measurement substrate being a substrate whose film thickness is not measured.

7. The polishing method according to claim 1, further comprising:

determining whether a measured value of the film thickness of the at least one post-measurement substrate is valid or not.

8. The polishing method according to claim 7, further comprising:

if the measured value is not valid, measuring the film thickness of the at least one post-measurement substrate again.

9. The polishing method according to claim 1, further comprising:

determining whether a measured value of the film thickness of the at least one non-measurement substrate is valid or not.

10. The polishing method according to claim 9, further comprising:

if the measured value is not valid, measuring the film thickness of the at least one non-measurement substrate again.

11. The polishing method according to claim 1, wherein the polishing error includes at least one of an abnormal load of pressing the at least one non-measurement substrate against

a polishing pad, an abnormal flow rate of a polishing liquid supplied onto the polishing pad, and a detection failure of a polishing end point of the at least one non-measurement substrate.

12. The polishing method according to claim 4, wherein the polishing error includes at least one of an abnormal load of pressing the at least one non-measurement substrate against a polishing pad, an abnormal flow rate of a polishing liquid supplied onto the polishing pad, and a detection failure of a polishing end point of the at least one non-measurement substrate.