What is claimed is:

1. A substrate cleaning tool comprising a resin material where at least a portion in contact with a substrate to be processed contains fluororesin particles,

wherein the substrate cleaning tool comprises a first substrate cleaning tool and a second substrate cleaning tool each of which comprises a large diameter portion and a small diameter portion that are configured to come into contact with the substrate to be processed;

wherein the first and the second substrate cleaning tools are arranged such that the large diameter portion of the first cleaning tool is engaged with the small diameter portion of the second cleaning tool and that the small diameter portion of the first cleaning tool is engaged with the large diameter portion of the second cleaning tool.

2. The substrate cleaning tool according to claim 1, further comprising:

at least a first region of the portion in contact with the substrate to be processed; and

a second region of the portion in contact with the substrate to be processed,

wherein a distribution density of the fluororesin particles varies between the first region and the second region.

3. The substrate cleaning tool according to claim 1, wherein the fluororesin particles are contained in a surface of the substrate cleaning tool.

4. The substrate cleaning tool according to claim 1, wherein the fluororesin particles are a conductive resin.

5. The substrate cleaning tool according to claim 1, wherein the fluororesin particles are a resin containing carbon nanotubes.

6. A substrate cleaning tool comprising a resin material where at least a portion in contact with a substrate to be processed contains catalyst metal particles,

wherein the substrate cleaning tool comprises a first substrate cleaning tool and a second substrate cleaning tool each of which comprises a large diameter portion and a small diameter portion that are configured to come into contact with the substrate to be processed;

wherein the first and the second substrate cleaning tools are arranged such that the large diameter portion of the first cleaning tool is engaged with the small diameter portion of the second cleaning tool and that the small diameter portion of the first cleaning tool is engaged with the large diameter portion of the second cleaning tool.

7. The substrate cleaning tool according to claim 6, further comprising:

at least a first region of the portion in contact with the substrate to be processed; and

a second region of the portion in contact with the substrate to be processed,

wherein a distribution density of the catalyst metal particles varies between the first region and the second region.

8. The substrate cleaning tool according to claim 6, wherein the catalyst metal particles are contained in a surface of the substrate cleaning tool.

9. A substrate cleaning apparatus comprising:

a holding rotating mechanism configured to hold and rotate a substrate to be processed; and

the substrate cleaning tool according to claim 1 configured to come into contact with the substrate to be processed and clean the substrate,

wherein the substrate cleaning tool comprises a first substrate cleaning tool and a second substrate cleaning tool each of which comprises a large diameter portion and a small diameter portion that are configured to come into contact with the substrate to be processed;

wherein the first and the second substrate cleaning tools are arranged such that the large diameter portion of the first cleaning tool is engaged with the small diameter portion of the second cleaning tool and that the small diameter portion of the first cleaning tool is engaged with the large diameter portion of the second cleaning tool.

10. The substrate cleaning apparatus according to claim 9, wherein the substrate cleaning tool cleans a bevel or a back surface of the rotated substrate to be processed.

11. A substrate processing apparatus comprising:

a substrate polishing apparatus configured to hold a substrate to be processed by a top ring and polish the substrate to be processed by using slurry; and

the substrate cleaning apparatus according to claim 9 configured to clean the substrate to be processed that has been polished by the substrate polishing apparatus.

12. The substrate cleaning apparatus according to claim 9, wherein the first and the second cleaning tools are arranged so as not to be in contact with each other.

13. The substrate cleaning apparatus according to claim 9, wherein the first and the second cleaning tools are configured to come into contact with a peripheral portion of the substrate to be processed;

wherein the first and the second cleaning tools are configured to be swung in a direction parallel to the surface of the substrate to be processed.

14. The substrate cleaning tool according to claim 1, further comprises plural large diameter portions and plural small diameter portions,

wherein the large diameter portions and the small diameter portions are arranged alternately in a longitudinal direction, and

wherein the large diameter portion and the small diameter portion are not overlapped in a short direction perpendicular to the longitudinal direction.

15. A method of manufacturing a substrate cleaning tool, the method comprising:

a first step of attaching fluororesin particles, catalyst metal particles, or abrasive grains to an inner surface of a mold of a substrate processing tool;

a second step of putting a raw material liquid of PVA sponge into the mold after the first step; and

a third step of reacting the raw material liquid of PVA sponge in the mold,

wherein the substrate cleaning tool comprises a first substrate cleaning tool and a second substrate cleaning tool each of which comprises a large diameter portion and a small diameter portion that are configured to come into contact with the substrate to be processed;

wherein the first and the second substrate cleaning tools are arranged such that the large diameter portion of the first cleaning tool is engaged with the small diameter portion of the second cleaning tool and that the small diameter portion of the first cleaning tool is engaged with the large diameter portion of the second cleaning tool.

16. The method of manufacturing a substrate cleaning tool according to claim 15, wherein in the second step, the raw material liquid of PVA sponge containing fluororesin particles, catalyst metal particles, or abrasive grains is put into the mold.

17. The method of manufacturing a substrate cleaning tool according to claim 15, further comprising a fourth step of removing a skin layer of a molded PVA sponge.

18. A substrate processing method comprising:

a polishing step of holding a substrate to be processed by a top ring and polishing the substrate to be processed by using slurry; and

a cleaning step of cleaning the substrate to be processed, which has been polished, by the substrate cleaning tool according to claim 1.

19. The substrate processing method according to claim 18, wherein in the cleaning step, the substrate to be processed is cleaned by a first portion of the substrate cleaning tool, and thereafter, the substrate to be processed is cleaned by a second portion located above the first portion of the substrate cleaning tool.