WHAT IS CLAIMED IS:

1. A removal method of a support plate, comprising:

a curing step of irradiating with ultraviolet an adhesion layer that contains a curing material that cures when being irradiated with ultraviolet and is in an uncured state and bonds the support plate that allows the ultraviolet to be transmitted through the support plate to a plate-shaped member, from a side of the support plate to cure the curing material of the adhesion layer;

a void forming step of forming a plurality of voids in a surface in contact with the support plate in the adhesion layer through irradiating the adhesion layer with a laser beam with such a wavelength as to be transmitted through the support plate and be absorbed by the curing material from the side of the support plate, after the curing step, wherein the plurality of voids are formed sequentially from an end part of the surface in the void forming step; and

a support plate removal step of separating the support plate from the adhesion layer with the surface being a border to remove the support plate from the adhesion layer bonding to the plate-shaped member, after the void forming step.

2. The removal method of a support plate according to claim 1, wherein

irradiation with the laser beam in a pulsed form is executed in such a manner that adjacent irradiated regions do not overlap in the surface in the void forming step.

3. The removal method of a support plate according to claim 1 or claim 2, further comprising:

an adhesion layer removal step of separating the adhesion layer from the plate-shaped member to remove the adhesion layer, after the support plate removal step.

4. A processing method of a plate-shaped member, comprising:

a curing step of irradiating with ultraviolet an adhesion layer that contains a curing material that cures when being irradiated with ultraviolet and is in an uncured state and bonds a support plate that allows the ultraviolet to be transmitted through the support plate to the plate-shaped member, from a side of the support plate to cure the curing material of the adhesion layer;

a void forming step of forming a plurality of voids in a surface in contact with the support plate in the adhesion layer through irradiating the adhesion layer with a laser beam with such a wavelength as to be

transmitted through the support plate and be absorbed by the curing material from the side of the support plate after the curing step, the plurality of voids are formed sequentially from an end part of the surface in the void forming step;

a support plate removal step of separating the support plate from the adhesion layer with the surface being a border to remove the support plate from the adhesion layer bonding to the plate-shaped member, after the void forming step; and

a processing step of processing the plate-shaped member before the void forming step.

5. The processing method of a plate-shaped member according to claim 4, wherein

irradiation with the laser beam in a pulsed form is executed in such a manner that adjacent irradiated regions do not overlap in the surface in the void forming step.

6. The processing method of a plate-shaped member according to claim 4 or claim 5, further comprising:

an adhesion layer removal step of separating the adhesion layer from the plate-shaped member to remove the adhesion layer, after the support plate removal step.