CLAIMS

WHAT IS CLAIMED IS:

1. A method of preparing a laminate comprising:

preparing a process target, which is a laminate before being processed, where a light-shielding film has been disposed; and

preparing a cleaned laminate through a first cleaning comprising applying UV rays and carbonated water to the process target,

wherein the light-shielding film comprises a transition metal and an element selected from the group consisting of oxygen, nitrogen, and carbon,

wherein the laminate comprises residual ions measured by ion chromatography, and wherein the residual ions comprise sulfur-based ions and nitric acid-based ions,

wherein an amount of the sulfur-based ions is more than 0 ng/cm^2 and less than or equal to 0.1 ng/cm^2 and an amount of the nitric acid-based ions is more than 0 ng/cm^2 and less than or equal to 0.1 ng/cm^2.

2. The method of claim 1, wherein the light-shielding film is manufactured by a sputtering method,

wherein the sputtering method comprises:

disposing a target including the transition metal; and performing the sputtering while allowing a reactive gas comprising a gas containing oxygen atoms, a gas containing nitrogen atoms, or a gas containing carbon atoms to be injected.

3. The method of claim 1, wherein the UV rays have a wavelength ranging 190 nm to 290 nm with an intensity of 1 mW/cm^2 to 11 mW/cm^2.

4. The method of claim 1, wherein the carbonated water has an electric conductivity of 1 μS/cm to 10 μS/m.

5. The method of claim 1, wherein the UV rays are irradiated before applying the carbonated water, and wherein a wavelength of the UV rays is equal to or more than 120 nm and less than 190 nm.

6. The method of claim 1, wherein the carbonated water is applied with megasonic.

7. The method of claim 1, further comprising a second cleaning, wherein the second cleaning comprises applying carbonated water and hydrogen water together as a cleaning solution to the process target to which the first cleaning has been performed.

8. A laminate where a light-shielding film is disposed,

wherein the light-shielding film comprises a lower layer and a surface layer disposed on the lower layer,

wherein the surface layer has a thickness of 30nm to 80nm,

wherein the light-shielding film comprises a transition metal and an element selected from the group consisting of oxygen, nitrogen, and carbon, and

wherein a reflectivity of the light-shielding film is 35 % or less with respect to a light having a wavelength of 193 nm,

wherein the laminate comprises residual ions measured by ion chromatography, and wherein the residual ions comprise sulfur-based ions and nitric acid-based ions,

wherein an amount of the sulfur-based ions is more than 0 ng/cm^2 and less than or equal to 0.1 ng/cm^2 and an amount of the nitric acid-based ions is more than 0 ng/cm^2 and less than or equal to 0.1 ng/cm^2.

9. The laminate of claim 8, wherein the residual ions comprise ionic impurities including sulfur-based ions, nitric acid-based ions, halogen ions, and ammonia ions, and an amount of the ionic impurities is more than 0 ng/cm^2 and less than or equal to 1.5 ng/cm^2.

10. The laminate of claim 8, wherein the residual ions comprise sodium ions, phosphoric acid ions, potassium ions, magnesium ions and calcium ions, and a sum of an amount of the sodium ions, an amount of the phosphoric acid ions, an amount of the potassium ions, an amount of the magnesium ions, and an amount of the calcium ions is equal to or more than 0 ng/cm^2 and less than or equal to 0.01 ng/cm^2.