CLAIMS

WHAT IS CLAIMED IS:

[Claim 1] A protective film composition, comprising:

a water-soluble resin (A);

a laser light absorbing agent (B); and

a solvent (C), wherein

the water-soluble resin (A) comprises a polyvinylpyrrolidone-based water-soluble resin (A-1) and a polyvinylpyrrolidone-based water-soluble resin (A-2),

a K value of the polyvinylpyrrolidone-based water-soluble resin (A-1) is 75 to 150,

and

a K value of the polyvinylpyrrolidone-based water-soluble resin (A-2) is 5 to 70,

based on 100 parts by weight of the water-soluble resin (A),

a usage amount of the polyvinylpyrrolidone-based water-soluble resin (A-1) is 25 parts by weight to 65 parts by weight,

a usage amount of the polyvinylpyrrolidone-based water-soluble resin (A-2) is 35 parts by weight to 75 parts by weight.

[Claim 2] The protective film composition of claim 1, wherein

the K value of the polyvinylpyrrolidone-based water-soluble resin (A-1) is 80 to 140.

[Claim 3] The protective film composition of claim 1, wherein

the K value of the polyvinylpyrrolidone-based water-soluble resin (A-1) is 80 to 130.

[Claim 4] The protective film composition of claim 1, wherein

the K value of the polyvinylpyrrolidone-based water-soluble resin (A-2) is 10 to 65.

[Claim 5] The protective film composition of claim 1, wherein

the K value of the polyvinylpyrrolidone-based water-soluble resin (A-2) is 15 to 65.

[Claim 6] The protective film composition of claim 1, wherein

based on 100 parts by weight of the water-soluble resin (A),

a usage amount of the laser light absorbing agent (B) is 1 part by weight to 30 parts by weight,

a usage amount of the solvent (C) is 500 parts by weight to 3000 parts by weight.

[Claim 7] The protective film composition of any one of claims 1 to 6, which is used for laser cutting.

[Claim 8] A manufacturing method of a semiconductor device, comprising:

a step of applying the protective film composition of any one of claims 1 to 6 on a substrate to form a protective layer;

a step of irradiating the substrate with a laser light through the protective layer to perform laser cutting; and

a step of washing the substrate with water after laser cutting and removing the protective layer from the substrate.

[Claim 9] A laser cutting method, comprising:

a step of applying the protective film composition of any one of claims 1 to 6 on a substrate to form a protective layer;

a step of irradiating the substrate with a laser light through the protective layer to perform laser cutting; and

a step of washing the substrate with water after laser cutting and removing the protective layer from the substrate.