CLAIMS

1. A protective film for a semiconductor wafer having a base film, and a protect film formed over the base film, wherein the protect film comprises ~~Components (A) to (E) mentioned below:~~

~~(A) 100 parts by mass of at least one selected from the group consisting of a phenoxy resin, a polyimide resin and a (meth)acrylic resin;~~

~~(B) 5 to 200 parts by mass of an epoxy resin;~~

~~(C) 100 to 400 parts by mass of a filler other than fibrous inorganic fillers;~~

~~(D) a catalytic amount of an epoxy resin curing catalyst; and~~

~~(E) 25 to 5,000 parts by mass of a fibrous inorganic filler.~~

~~2. The protective film for a semiconductor wafer according to claim 1, wherein the protect film comprises~~ a reinforcing layer and an adhesive layer,

the adhesive layer comprises the following Components (A) to (D), and the reinforcing layer comprises the following Component (E):

(A) 100 parts by mass of at least one selected from the group consisting of a phenoxy resin, a polyimide resin and a (meth)acrylic resin;

(B) 5 to 200 parts by mass of an epoxy resin;

(C) 100 to 400 parts by mass of a filler other than fibrous inorganic fillers;

(D) a catalytic amount of an epoxy resin-curing catalyst; and

(E) 1,000 to 5,000 parts by mass of a fibrous inorganic filler.

~~3~~. The protective film for a semiconductor wafer according to claim 1 ~~or 2~~, wherein the phenoxy resin of Component (A) is a bisphenol A type phenoxy resin or a bisphenol F type phenoxy resin, and the epoxy resin of Component (B) is a liquid bisphenol A type epoxy resin or a liquid bisphenol F type epoxy resin.

~~4~~. A method for manufacturing a semiconductor chip by dicing a semiconductor wafer, which comprises

attaching the protective film for a semiconductor wafer according to any one of claims 1 to ~~3~~ to the semiconductor wafer, and dicing the same collectively, to manufacture a semiconductor chip having a protect film with the same size as that of the semiconductor chip at the back surface thereof.

CLAIMS

1. A protective film for a semiconductor wafer having a base film, and a protect film formed over the base film, wherein the protect film comprises a reinforcing layer and an adhesive layer,

the adhesive layer comprises the following Components (A) to (D), and the reinforcing layer comprises the following Component (E):

(A) 100 parts by mass of at least one selected from the group consisting of a phenoxy resin, a polyimide resin and a (meth)acrylic resin;

(B) 5 to 200 parts by mass of an epoxy resin;

(C) 100 to 400 parts by mass of a filler other than fibrous inorganic fillers;

(D) a catalytic amount of an epoxy resin-curing catalyst; and

(E) 1,000 to 5,000 parts by mass of a fibrous inorganic filler having a mesh shape.

2. The protective film for a semiconductor wafer according to claim 1, wherein the phenoxy resin of Component (A) is a bisphenol A type phenoxy resin or a bisphenol F type phenoxy resin, and the epoxy resin of Component (B) is a liquid bisphenol A type epoxy resin or a liquid bisphenol F type epoxy resin.

3. A method for manufacturing a semiconductor chip by dicing a semiconductor wafer, which comprises

attaching the protective film for a semiconductor wafer according to any one of claims 1 to 2 to the semiconductor wafer, and dicing the same collectively, to manufacture a semiconductor chip having a protect film

with the same size as that of the semiconductor chip at the back surface thereof.