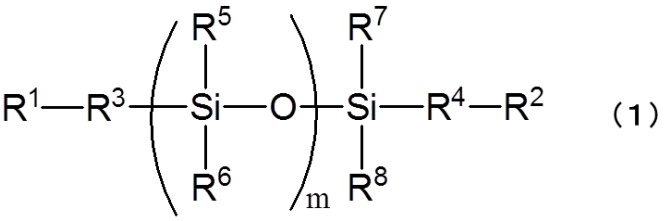
CLAIMS

1. A laminate film for temporary bonding, comprising at least three layers of (A) a protective film layer, (B) an adhesive layer, and (C) a support film layer, wherein the adhesive layer (B) contains at least a siloxane polymer represented by the general formula (1) and a polyimide resin

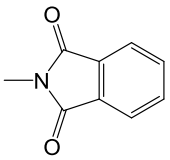
[Chemical Formula 1]



(1)

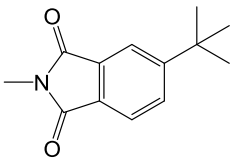
wherein m is an integer of 10 or more and 100 or less, R^1 and R^2 may be the same or different and each represent an amino group or a monovalent organic group represented by the general formula (4) or (5), R^3 and R^4 may be the same or different and each represent an alkylene group having 1 to 30 carbon atoms or a phenylene group, and R^5 to R^8 may be the same or different and each represent an alkyl group having 1 to 30 carbon atoms, an alkenyl group, an alkoxy group, a phenyl group, or a phenoxy group; or

[Chemical Formula 2]



(4)

[Chemical Formula 3]

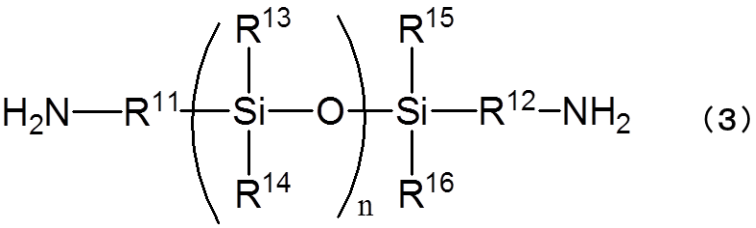


(5)

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2. The laminate film for temporary bonding according to claim 1, wherein the polyimide resin contains a residue of a polysiloxane diamine represented by the general formula (3), and contains 60 mol% or more and 90 mol% or less of the residue of the polysiloxane diamine in all diamine residues:

[Chemical Formula 3]



(3)

wherein n is a natural number, and has an average value calculated from the average molecular weight of the polysiloxane diamine of 1 or more and 100 or less, R^{11} and R^{12} may be the same or different and each represent an alkylene group having 1 to 30 carbon atoms or a phenylene group, and R^{13} to R^{16} may be the same or different and each represent an alkyl group having 1 to 30 carbon atoms, a phenyl group, or a phenoxy

group.

3. The laminate film for temporary bonding according to claim 1 or 2, wherein the siloxane polymer represented by the genral formula (1) accounts for 0.01% by mass or more and 30% by mass or less in components contained in the adhesive layer (B).

4. The laminate film for temporary bonding according to any one of claims 1 to 3, wherein the adhesive layer (B) further contains inorganic fine particles.

5. The laminate film for temporary bonding according to any one of claims 1 to 4, wherein the support film layer (C) has a thermal decomposition temperature of 200°C or higher.

6. The laminate film for temporary bonding according to any one of claims 1 to 5, wherein the support film layer (C) is a polyimide film or a polyphenylene sulfide film.

7. The laminate film for temporary bonding according to any one of claims 1 to 6, wherein the support film layer (C) has a linear expansion coefficient of 10 ppm/°C or less.

8. The laminate film for temporary bonding according to

claim 7, wherein the support film layer (C) is a laminate of films each having a linear expansion coefficient of 10 ppm/°C or less.

9. The laminate film for temporary bonding according to any one of claims 1 to 8, wherein the support film layer (C) has a film thickness of 5 μm or more and 300 μm or less.

10. A method for producing a substrate workpiece including the laminate film for temporary bonding according to any one of claims 1 to 9, the method comprising the steps of:

peeling off the protective film layer (A), and

laminating the laminate film for temporary bonding from which the protective film layer (A) is peeled off on (D) a semiconductor circuit formation substrate with the adhesive layer (B) placed in between.

11. A method for producing a semiconductor device using a substrate workpiece produced by the method according to claim 10, the method comprising at least one of the steps of:

thinning the semiconductor circuit formation substrate (D),

subjecting the semiconductor circuit formation substrate (D) to device processing,

peeling off the support film layer (C) and the adhesive layer (B) from the semiconductor circuit formation substrate (D), and

washing off the adhesive layer attached to the semiconductor circuit formation substrate (D) with a solvent.

12. The method for producing a semiconductor device according to claim 11, further comprising, in the step of subjecting the semiconductor circuit formation substrate (D) to device processing, a step of heating the semiconductor circuit formation substrate (D) at 200°C or higher.

13. The method for producing a semiconductor device according to any one of claims 11 or 12, wherein the step of thinning the semiconductor circuit formation substrate (D) includes a step of thinning the semiconductor circuit formation substrate (D) to 1 μm or more and 100 μm or less.