Claims

1. Use of an adhesive composition in debonding through irradiation with an infrared ray, wherein the composition comprises

a component (A) which is cured through hydrosilylation and

a component (B) which is at least one species selected from the group consisting of a component containing an epoxy-modified polyorganosiloxane, a component containing a methyl group-containing polyorganosiloxane, and a component containing a phenyl group-containing polyorganosiloxane.

2. The use according to claim 1, wherein the component (A) comprises a polysiloxane (A1) having one or more units selected from the group consisting of a siloxane unit represented by SiO_2 (unit Q), a siloxane unit represented by $R^1R^2R^3SiO_{1/2}$ (unit M), a siloxane unit represented by $R^4R^5SiO_{2/2}$ (unit D), and a siloxane unit represented by $R^6SiO_{3/2}$ (unit T) (wherein each of R^1 to R^6 is a group or an atom bonded to a silicon atom and represents an alkyl group, an alkenyl group, or a hydrogen atom) and a platinum group metal catalyst (A2); and

the polysiloxane (A1) comprises

a polyorganosiloxane (a1) having one or more units selected from the group consisting of a siloxane unit represented by SiO_2 (unit Q'), a siloxane unit represented by $R^1'R^2'R^3'SiO_{1/2}$ (unit M'), a siloxane unit represented by

$R^4'R^5'SiO_{2/2}$ (unit D'), and a siloxane unit represented by $R^6'SiO_{3/2}$ (unit T'), and at least one unit selected from the group consisting of unit M', unit D', and unit T' (wherein each of R^1' to R^6' is a group bonded to a silicon atom and represents an alkyl group or an alkenyl group, and at least one of R^1' to R^6' is an alkenyl group), and

a polyorganosiloxane (a2) having one or more units selected from the group consisting of a siloxane unit represented by SiO_2 (unit Q''), a siloxane unit represented by $R^1''R^2''R^3''SiO_{1/2}$ (unit M''), a siloxane unit represented by $R^4''R^5''SiO_{2/2}$ (unit D''), and a siloxane unit represented by $R^6''SiO_{3/2}$ (unit T''), and at least one unit selected from the group consisting of unit M'', unit D'', and unit T'' (wherein each of R^1'' to R^6'' is a group or an atom bonded to a silicon atom and represents an alkyl group or a hydrogen atom, and at least one of R^1'' to R^6'' is a hydrogen atom).

3. The use according to claim 1 or 2, wherein the epoxy-modified polyorganosiloxane has an epoxy value of 0.1 to 5.

4. The use according to any one of claims 1 to 3, wherein the phenyl group-containing polyorganosiloxane has a phenylmethylsiloxane unit structure or a diphenylsiloxane unit structure (b1), and a dimethylsiloxane unit structure (b2).

5. Use of an adhesive layer in debonding with infrared radiation, wherein the layer is used in a laminate comprising a first substrate formed of a semiconductor-forming

substrate, and a second substrate formed of a support substrate which allows passage of infrared laser light, the first substrate being joined to the second substrate by the mediation of an adhesive layer, wherein the adhesive layer is a cured film obtained from the adhesive composition as defined in any one of claims 1 to 4.

6. A debonding method comprising irradiating the laminate as defined in claim 5 produced through a laminate production method comprising

a first step of applying the adhesive composition for use in debonding with infrared radiation onto a surface of the first substrate or the second substrate, to thereby form an adhesive coating layer; and

a second step of bonding the first substrate to the second substrate by the mediation of the adhesive coating layer; applying a load to the first substrate and the second substrate in a thickness direction, to thereby closely bind the first substrate, the adhesive coating layer, and the second substrate, while at least one of a heat treatment and a reduced pressure treatment is performed; and then performing a post-heat treatment

with the infrared laser light from the second substrate side, to thereby debond the second substrate.

7. A debonding method according to claim 6, wherein the infrared laser light has a wavelength of 1 to 20 μm.

8. A debonding method according to claim 7, wherein the wavelength is 9.2 to 10.8 μm.