CLAIMS

{Claim 1}

A film adhesive comprising:

an epoxy resin (A);

an epoxy resin curing agent (B); and

a phenoxy resin (C),

wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;

wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;

wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%;

wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and T1 < T2 is satisfied; and

wherein the film adhesive does not include a film adhesive comprising a dimer acid modified epoxy resin, a film adhesive comprising a bisphenol F type phenoxy resin, and a film adhesive comprising a solid onium salt with a solubility of 5% or less in methyl ethyl ketone.

{Claim 2}

A film adhesive comprising:

an epoxy resin (A);

an epoxy resin curing agent (B); and

a phenoxy resin (C),

wherein the phenoxy resin (C) is at least one kind of a bisphenol A type phenoxy resin or a bisphenol A/F type copolymerized phenoxy resin;

wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;
wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;
wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%;
wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and T1 < T2 is satisfied; and
wherein the film adhesive does not include a film adhesive comprising a dimer acid modified epoxy resin, and a film adhesive comprising a solid onium salt with a solubility of 5% or less in methyl ethyl ketone.

{Claim 3}

A film adhesive comprising:
an epoxy resin (A);
an epoxy resin curing agent (B); and
a phenoxy resin (C),
wherein the phenoxy resin (C) is a bisphenol A type phenoxy resin;
wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;
wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;
wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%;
wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and T1 < T2 is satisfied; and

wherein the film adhesive does not include a film adhesive comprising a dimer acid modified epoxy resin, and a film adhesive comprising a solid onium salt with a solubility of 5% or less in methyl ethyl ketone.

{Claim 4}

A film adhesive comprising:

an epoxy resin (A);

an epoxy resin curing agent (B); and

a phenoxy resin (C),

wherein the epoxy resin curing agent (B) is at least one kind of a dicyandiamide compound or a hydrazide compound;

wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;

wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;

wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%;

wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and $T1 < T2$ is satisfied; and

wherein the film adhesive does not include a film adhesive comprising a dimer acid modified epoxy resin, and a film adhesive comprising a bisphenol F type phenoxy resin.

{Claim 5}

A film adhesive comprising:

an epoxy resin (A);

an epoxy resin curing agent (B); and

a phenoxy resin (C),

wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;

wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;

wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%;

wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and T1 < T2 is satisfied; and

wherein the film adhesive does not include a film adhesive comprising a solid onium salt with a solubility of 5% or less in methyl ethyl ketone.

{Claim 6}

A film adhesive comprising:

an epoxy resin (A);

an epoxy resin curing agent (B); and

a phenoxy resin (C),

wherein the epoxy resin curing agent (B) is at least one kind of a dicyandiamide compound or a hydrazide compound;

wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;

wherein the epoxy resin curing agent (B) is dispersed in the film adhesive;

wherein a content of the epoxy resin curing agent (B) in the film adhesive is 0.30 to 12.0 mass%; and

wherein a light transmittance T1 of the film adhesive at a wavelength of 400 nm is 90% or less, a light transmittance T2 of a cured product obtained by thermally curing the film adhesive at a wavelength of 400 nm is 85% or more, and T1 < T2

is satisfied.

~~{Claim 2}~~

~~The film adhesive agent according to claim 1,~~

~~wherein the epoxy resin curing agent (B) is a powder having a particle diameter at 90% cumulative distribution frequency (d90) of 10.0 μm or less;~~

~~wherein the epoxy resin curing agent (B) is dispersed in the film adhesive.~~

{Claim ~~3~~7}

The film adhesive agent according to ~~claim 1 or 2~~ any one of claims 1 to 6, having a thickness of 1 to 20 μm.

{Claim ~~4~~8}

The film adhesive according to any one of claims 1 to ~~3~~6, comprising no coloring agent.

{Claim~~ 5~~9}

The film adhesive according to any one of claims 1 to~~ 4~~6, comprising no inorganic filler.

{Claim ~~6~~10}

A laminated film comprising a laminate of the film adhesive according to any one of claims 1 to ~~5~~ 6 and a dicing film.

{Claim ~~7~~11}

A method of producing an electronic component, comprising:

a first step of obtaining a laminate including a transparent film member,

the film adhesive according to any one of claims 1 to ~~5~~6, and a dicing film laminated in this order;

a second step of integrally dicing the transparent film member and the film adhesive to obtain a transparent film chip with an adhesive layer on the dicing film;

a third step of removing the dicing film from the adhesive layer and thermocompression-bonding the transparent film chip with an adhesive layer and another member constituting the electronic component with the adhesive layer interposed between the transparent film chip with an adhesive layer and the another member; and

a fourth step of thermally curing the adhesive layer.

{Claim ~~8~~12}

An electronic component comprising a structural part in which a transparent film chip is incorporated into the electronic component via a thermally cured product of the film adhesive according to any one of claims 1 to ~~5~~6.

{Claim ~~9~~13}

The electronic component according to claim ~~8~~12, which is an image sensor.

{Claim ~~10~~14}

The electronic component according to claim ~~9~~13, wherein the transparent film chip is incorporated as a protective film for a photodiode.