CLAIMS

1. A film-like adhesive composite sheet comprising:

a support sheet having a base material; and

curable film-like adhesive provided on said support sheet and having a thickness of 1 to 50 μm,

wherein a peel force at an interface between said support sheet and said film-like adhesive is from 0.02 to 0.2 N / 25 mm,

the curable film-like adhesive comprises a polymer component (a), an epoxy-based thermosetting resin (b) composed of an epoxy resin (b1) and a phenolic curing agent, and a filler,

the epoxy resin (b1) is a bisphenol A type epoxy resin and a polyfunctional aromatic epoxy resin,

the supporting sheet consisting of the base material, and a material of a layer at a side on which the film-like adhesive is provided is polyethylene, or

an adhesive layer is provided on the base material, and the adhesive layer is a layer at a side on which the film-like adhesive is provided,

a proportion of a content of the epoxy-based thermosetting resin (b) in the film-like adhesive is from 500 to 800 parts by mass with respect to 100 parts by mass of the content of the polymer component (a),

a proportion of a content of the filler of the curable film-like adhesive is from 8 to 20% by mass,

the peeling force is a peeling force after irradiating the film-like adhesive composite sheet with ultraviolet rays under conditions of an illuminance of 200 mW/cm^2 and a light amount of 160 mJ/cm^2 when the supporting sheet is the base material on which the adhesive

layer is provided, the film-like adhesive is provided on the adhesive layer, and the adhesive layer comprises a component being polymerized by irradiating with an energy lay,

said film-like adhesive has the following properties:

a breaking elongation of a laminated body obtained by laminating said film-like adhesive before curing so that the total thickness becomes 200 μm is equal to or less than 450%.

2. The film-like adhesive composite sheet according to Claim 1,

wherein the film-like adhesive comprises a coupling agent (e).

3. The film-like adhesive composite sheet according to Claim 1 or 2,

wherein a proportion of a content of the coupling agent (e) in the film-like adhesive is from 0.03 to 20 parts by mass with respect to 100 parts by mass of the total content of the polymer component (a) and the epoxy-based thermosetting resin (b).

4. The film-like adhesive composite sheet according to any one of Claims 1 to 3,

wherein said support sheet composed of said base material, and said film-like adhesive is provided on and in direct contact with said base material.

5. The film-like adhesive composite sheet according to any one of Claims 1 to 4,

wherein a peel force at an interface between said support sheet and said film-like adhesive in a state where said film-like adhesive composite sheet is not irradiated with an energy ray is from 0.02 to 0.2 N / 25 mm.

6. The film-like adhesive composite sheet according to any one of Claims 1 to 5,

wherein the peel force is from 0.02 to 0.1 N / 25 mm.

7. The film-like adhesive composite sheet according to any one of Claims 1 to 6, wherein the breaking elongation is 100% or more and 445% or less.

8. A method for manufacturing a semiconductor device, the method comprising:

a step of adhering the film-like adhesive composite sheet according to any one of Claims 1 to 7 to a plurality of already divided semiconductor chips via the film-like adhesive;

a step of applying a force to a support sheet of said film-like adhesive composite sheet adhered to said semiconductor chip from a side opposite to a side provided with the film-like adhesive, thereby applying a force to the film-like adhesive through the support sheet and cutting the film-like adhesive; and

a step of separating said semiconductor chip and said film-like adhesive after cutting and adhered thereon from said support sheet,

wherein, in the step of cutting the film-like adhesive, the film-like adhesive is cut at a region surrounding only the semiconductor chip to be separated from the supporting sheet in the step of separating from the supporting sheet.