Claims

[Claim 1]

A polysilicon fractured product comprising:

fractured pieces having a ridge portion generated by fracturing a polysilicon rod, wherein

an average radius of curvature (r) at a tip end of a ridge portion having an angle of 70° or less of the fractured pieces is 60 μm or more, and

a ratio of ridge portions having a radius of curvature of 30 μm or less is 20% or less with respect to all measured ridge portions present in the fractured polysilicon pieces.

[Claim 2]

The polysilicon fractured product according to claim 1, wherein

an average particle diameter is 20 mm to 100 mm.

[Claim 3]

A polysilicon package filled with the polysilicon fractured product according to claim 1 in a resin bag.

[Claim 4]

A polysilicon package filled with the polysilicon fractured product according to claim 2 in a resin bag.

[Claim 5]

A method of producing the polysilicon fractured product claimed in claim 1, comprising the steps of:

fracturing a polysilicon rod to obtain fractured pieces; and

etching at an etching speed of 2.5 μm/min or less to achieve an etching depth of 5 μm or more by immersing the fractured pieces obtained in the fracturing step in an etching solution which is a mixed acid aqueous solution consisting essentially of 0.5% by mass to 10% by mass of hydrofluoric acid and 48% by mass to 68% by mass of

nitric acid, while applying vibration with a vibration frequency of 3 times/min to 10 times/min and a vibration amplitude of 5 mm to 1000 mm.

[Claim 6]

The polysilicon fractured product according to claim 1, wherein the pieces have an average particle diameter of 30 mm to 80 mm.

[Claim 7]

The polysilicon fractured product according to claim 1, wherein a fractured piece is in the shape of an irregular polyhedron having a surface that includes the ridge portion.

[Claim 8]

The polysilicon fractured product according to claim 1, wherein the ridge portion comprises a side formed by a fractured surface (3) of a polysilicon rod and a side formed by a polysilicon rod surface (4).

[Claim 9]

The polysilicon fractured product according to claim 1, wherein the ridge portion is a vertex formed by a side formed by a fractured surface (3) of a polysilicon rod and a side formed by a polysilicon rod surface (4) and the angle is formed by the two sides.

[Claim 10]

The polysilicon fractured product according to claim 1, wherein an average radius of curvature at a tip end of a ridge portion having an angle of 20° to 70° of the fractured pieces is 60 μm to 115 μm.

[Claim 11]

The polysilicon package according to claim 3, wherein the resin bag comprises a film having a thickness of 150 μm to 900 μm.

[Claim 12]

The polysilicon package according to claim 3, wherein the resin bag comprises a polyethylene resin.

[Claim 13]

The polysilicon fractured product according to claim 1, wherein a ratio of ridge portions having a radius of curvature of 30 μm or less is 10% or less, with respect to all measured ridge portions present in the fractured polysilicon pieces.

[Claim 14]

The polysilicon fractured product according to claim 1, wherein a ratio of ridge portions having a radius of curvature of 30 μm or less is 8% or less, with respect to all measured ridge portions present in the fractured polysilicon pieces.

[Claim 15]

The polysilicon fractured product according to claim 1, wherein a content of polysilicon fine powder is 200 ppmw or less for a fine powder of 500 μm to 1000 μm.

[Claim 16]

The polysilicon fractured product according to claim 1, wherein a concentration of metal impurities on the surface of the product is 2 ppb or less.

[Claim 17]

The polysilicon fractured product according to claim 1, wherein a concentration of iron, chromium, nickel, copper, zinc, sodium, calcium, and tungsten on a surface of the product is 0.1 ppb or less in terms of element for each metal.