

CLAIMS

1. A semiconductor manufacturing part comprising a SiC deposition layer, the semiconductor manufacturing part comprising:

a base material; and

a SiC deposition layer formed on a surface of the base material,

wherein a thickness ratio of the base material and the SiC deposition layer is 1:1 to 100:1,

wherein one surface of the base material comprises a stepped structure having a step,

wherein, in a cross-sectional view of the stepped structure, a curved surface is formed between two surfaces related to the step, or a plane forming an obtuse angle with each of the two surfaces is formed,

wherein a thickness of the SiC deposition layer formed on the one surface of the base material is 1.5 to 3 times compared to a thickness of a SiC deposition layer formed on a surface opposite to the one surface, and

wherein the thickness of the SiC deposition layer formed on the one surface is greater than the thickness of the SiC deposition layer formed on the surface opposite to the one surface.

2. A semiconductor manufacturing part comprising a SiC deposition layer, the semiconductor manufacturing part comprising:

a base material; and

the SiC deposition layer formed on a surface of the base material,

wherein a thickness ratio of the base material and the SiC deposition layer is 1 : 1 to 100 : 1,

wherein the base material comprises a stepped structure having one flat surface, a parallel surface parallel to the one surface on an opposite side to the one surface, and a perpendicular surface perpendicular to the one surface,

wherein, in a cross-sectional view of the stepped structure, a curved surface is formed between the parallel surface and the perpendicular surface, or a plane forming an obtuse angle with the parallel surface and the perpendicular surface is formed,

wherein a thickness of the SiC deposition layer uniformly formed on the parallel surface and the perpendicular surface of the base material is 1.5 to 3 times compared to a thickness of a SiC deposition layer uniformly formed on the one surface of the base material,

and

wherein the thickness of the SiC deposition layer formed on the parallel surface and the perpendicular surface is greater than the thickness of the SiC deposition layer formed on the one surface.

23. The semiconductor manufacturing part of claim 1 or 2, wherein the base material comprises at least one selected from a group consisting of graphite, reaction sintered SiC, pressureless sintered SiC, hot press SiC, recrystallized SiC, and CVD SiC.

~~3. The semiconductor manufacturing part of claim 1, wherein the base material is in a stepped structure having a step, and a cross-section of the step comprises a curved surface or surfaces of the step form an obtuse angle.~~

4. The semiconductor manufacturing part of claim 1 or 2, wherein a thickness of

the SiC deposition layer is 2 mm to 20 mm.

5. The semiconductor manufacturing part of claim 1 or 2, wherein the SiC deposition layer comprises a plurality of layers.

~~6. The semiconductor manufacturing part of claim 1, wherein a thickness of the SiC deposition layer formed on at least one surface of the base material is 1.5 to 3 times compared to that of the SiC deposition layer formed on a surface opposite to the one surface of the base material.~~

76. A method of manufacturing a semiconductor manufacturing part comprising a SiC deposition layer, the method comprising:

preparing a base material that is a semiconductor product material comprising at least one selected from a group consisting of graphite, reaction sintered SiC, pressureless sintered SiC, hot press SiC, recrystallized SiC, and CVD SiC; and

forming the SiC deposition layer on the base material;

wherein the base material is mounted to a jig, one surface of the base material on which the SiC deposition layer is formed is in contact with an end surface of the jig, and the jig has a tapered shape with a width increasing toward the end surface, and

wherein an obtuse angle is formed between the one surface of the base material and a tapered surface adjacent to the end surface of the jig.

87. The method of claim 76, wherein a thickness ratio of the base material and the SiC deposition layer is 1:1 to 100:1.

98. The method of claim 76, wherein the forming of the SiC deposition layer is performed using a chemical vapor deposition (CVD) method.

5 109. The method of claim 76, wherein the forming of the SiC deposition layer is performed at a temperature of 1000 °C to 1900 °C.

10 110. The method of claim 76, wherein the forming of the SiC deposition layer is performed under condition in which a temperature at a start of deposition is higher than a temperature at an end of deposition.

1211. The method of claim 76, wherein the forming of the SiC deposition layer is performed with sequentially increasing a temperature while forming the SiC deposition layer.

15 1312. The method of claim 76, wherein the forming of the SiC deposition layer is performed a plurality of number of times.

1413. The method of claim 76, further comprising:
performing a residual stress removal operation of performing heat treatment at
20 1500 °C to 2000 °C after forming the SiC deposition layer.

~~15. The method of claim 7, wherein the base material is mounted to a jig and the jig is in a tapered shape and has a width extending in a direction in which the jig contacts with a surface of the base material.~~