What is claimed is:

1. A compact production apparatus for producing a compact by compression-molding a resin composition which is a base material of the compact, the compact production apparatus comprising:

a main body formed into a plate shape and configured to be rotatable around a central vertical axis thereof, the main body having at least one molding die in which a cavity having an upper opening and a lower opening vertically opposite to the upper opening is formed, the resin composition being supplied into the cavity,

a first flow passage member formed into a tubular shape and constituting a first flow passage through which the resin composition is supplied into the cavity, the resin composition being supplied into the cavity through the first flow passage at a first position where the main body is rotated around the central vertical axis by a specified angle from an initial position,

an upper compaction member having an upper punch surface to be inserted into the upper opening of the cavity from an upper side thereof at a second position where the main body is rotated around the central vertical axis by a specified angle from the first position, the upper punch surface allowed to compress the resin composition in the cavity,

a lower compaction member having a lower punch surface to be inserted into the lower opening of the cavity from a lower side thereof at the second position, the lower punch surface allowed to compress the resin composition in the cavity in cooperation with the upper punch surface of the upper compaction member to thereby produce the compact, and

a second flow passage member formed into a tubular shape and constituting a second flow passage through which the compact is discharged from the cavity, wherein the compact obtained by compressing the resin composition is separated from the cavity at a third position where the main body is rotated around the central vertical axis by a specified angle from the second position and then the compact separated from the cavity is discharged through the second flow passage,

wherein at least 80% or more of a total surface area of an

upper surface of the main body, an inner circumferential surface defining the cavity, an inner circumferential surface of the first flow passage member, an inner circumferential surface of the second flow passage member, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member is constituted of a nonmetallic material.

2. The compact production apparatus as claimed in claim 1, wherein the nonmetallic material is a ceramic material or a resin material.

3. The compact production apparatus as claimed in claim 2, wherein the ceramic material contains an oxide ceramic.

4. The compact production apparatus as claimed in claim 1, wherein a Vickers hardness Hv defined by JIS Z 2244 of the nonmetallic material measured at a load of 500 gf is equal to or more than 1300.

5. The compact production apparatus as claimed in claim 1, wherein the upper surface of the main body, the inner circumferential surface defining the cavity, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member are constituted of the same nonmetallic material.

6. The compact production apparatus as claimed in claim 1, wherein the inner circumferential surface of the first flow passage member and the inner circumferential surface of the second flow passage member are constituted of the same or different nonmetallic material.

7. The compact production apparatus as claimed in claim 1, wherein the nonmetallic material is formed into a coating film containing the nonmetallic material.

8. The compact production apparatus as claimed in claim 7, wherein a thickness of the coating film is in the range of 0.2 to 1.0

mm.

9. The compact production apparatus as claimed in claim 1, wherein the cavity is formed into a cylindrical shape.

10. The compact production apparatus as claimed in claim 1, wherein each of the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member is formed into a planar shape or a curved concave shape.

11. The compact production apparatus as claimed in claim 1, wherein at least a part of each of the inner circumferential surface of the first flow passage member and the inner circumferential surface of the second flow passage member is inclined downwardly.

12. The compact production apparatus as claimed in claim 1, wherein a releasing agent is previously applied to each of the inner circumferential surface defining the cavity, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member.

13. The compact production apparatus as claimed in claim 1, wherein the resin composition is formed into powder.

14. The compact production apparatus as claimed in claim 1, wherein the resin composition is used as a molding portion constituting an outer packaging of an IC package.

15. A method for producing a compact comprising: compression-molding a resin composition which is a base material of the compact by using the compact production apparatus as claimed in claim 1 to thereby produce the compact.

What is claimed is:

1. A compact production apparatus for producing a compact by compression-molding a resin composition which is a base material of the compact, the compact production apparatus comprising:

a main body formed into a plate shape and configured to be rotatable around a central vertical axis thereof, the main body having at least one molding die in which a cavity having an upper opening and a lower opening vertically opposite to the upper opening is formed, the resin composition being supplied into the cavity,

a first flow passage member formed into a tubular shape and constituting a first flow passage through which the resin composition is supplied into the cavity, the resin composition being supplied into the cavity through the first flow passage at a first position where the main body is rotated around the central vertical axis by a specified angle from an initial position,

an upper compaction member having an upper punch surface to be inserted into the upper opening of the cavity from an upper side thereof at a second position where the main body is rotated around the central vertical axis by a specified angle from the first position, the upper punch surface allowed to compress the resin composition in the cavity,

a lower compaction member having a lower punch surface to be inserted into the lower opening of the cavity from a lower side thereof at the second position, the lower punch surface allowed to compress the resin composition in the cavity in cooperation with the upper punch surface of the upper compaction member to thereby produce the compact, and

a second flow passage member formed into a tubular shape and constituting a second flow passage through which the compact is discharged from the cavity, wherein the compact obtained by compressing the resin composition is separated from the cavity at a third position where the main body is rotated around the central vertical axis by a specified angle from the second position and then the compact separated from the cavity is discharged through the second flow passage,

wherein at least 80% or more of a total surface area of an upper surface of the main body, an inner circumferential surface defining the cavity, an inner circumferential surface of the first flow passage member, an inner circumferential surface of the second flow passage member, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member is constituted of a nonmetallic material, and

wherein the upper surface of the main body is constituted of a coating film containing the nonmetallic material.

2. The compact production apparatus as claimed in claim 1, wherein the nonmetallic material is a ceramic material or a resin material.

3. The compact production apparatus as claimed in claim 2, wherein the ceramic material contains an oxide ceramic.

4. The compact production apparatus as claimed in claim 1, wherein a Vickers hardness Hv defined by JIS Z 2244 of the nonmetallic material measured at a load of 500 gf is equal to or more than 1300.

5. The compact production apparatus as claimed in claim 1, wherein the upper surface of the main body, the inner circumferential surface defining the cavity, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member are constituted of the same nonmetallic material.

6. The compact production apparatus as claimed in claim 1, wherein the inner circumferential surface of the first flow passage member and the inner circumferential surface of the second flow passage member are constituted of the same or different nonmetallic material.

7. The compact production apparatus as claimed in claim 1, wherein the inner circumferential surface defining the cavity, the inner circumferential surface of the first flow passage member, the inner circumferential surface of the second flow passage member, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member are constituted of a coating film containing the nonmetallic material.

8. The compact production apparatus as claimed in claim 7, wherein a thickness of the coating film is in the range of 0.2 to 1.0 mm.

9. The compact production apparatus as claimed in claim 1, wherein the cavity is formed into a cylindrical shape.

10. The compact production apparatus as claimed in claim 1, wherein each of the

upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member is formed into a planar shape or a curved concave shape.

11. The compact production apparatus as claimed in claim 1, wherein at least a part of each of the inner circumferential surface of the first flow passage member and the inner circumferential surface of the second flow passage member is inclined downwardly.

12. The compact production apparatus as claimed in claim 1, further comprising a releasing agent layer, wherein the releasing agent layer is formed by applying a releasing agent to each of the inner circumferential surface defining the cavity, the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member.

13. A method for producing a compact by compression-molding a resin composition which is a base material of the compact using the compact production apparatus defined by claim 1, said method comprising:

supplying the resin composition from the first flow passage of the first flow passage member into the cavity of the molding die of the main body at the first position,

compressing the resin composition in the cavity between the upper punch surface of the upper compaction member and the lower punch surface of the lower compaction member at the second position to thereby produce the compact, and

discharging the compact from the cavity through the second flow passage of the second flow passage member at the third position.

14. The compact production apparatus as claimed in claim 2, wherein the main body, the upper compaction member, the lower compaction member, the first flow passage member and the second flow passage member are constituted of the ceramic material.

15. The compact production apparatus as claimed in claim 7, wherein at least one of the coating films constituting the upper punch surface and the lower punch surface is thicker than the coating films constituting the upper surface of the main body, the inner circumferential surface defining the cavity, and the inner circumferential surfaces of the first flow passage member and the second flow passage member.