WHAT IS CLAIMED IS:

1. A chuck table for holding a plate-shaped workpiece under suction, comprising:

a suction plate made of porous ceramics and having a plurality of open pores;

a frame covering a side surface and a reverse side, except an attractive suction surface, of said suction plate and having a plurality of suction grooves defined in an upper surface thereof and a fluid communication passage defined therein that holds said suction grooves in fluid communication with a suction source, said frame supporting said suction plate thereon; and

a support base configured and arranged for supporting said frame, wherein said support base includes a circular recess therein; and

wherein said frame includes a circular boss projecting from a lower surface thereof,

wherein said circular recess of said support base is configured and arranged for receiving said circular boss of said frame therein, and

wherein said suction plate has a porosity in the range from 60% to 70% by volume, and said open pores have diameters in the range from 10 to 25 μm.

2. The chuck table according to claim 1, wherein said plurality of suction grooves includes a plurality of concentric suction

grooves and a plurality of joint suction grooves that interconnect said plurality of concentric suction grooves.

3. The chuck table according to claim 2, wherein said plurality of joint suction grooves extend in the radial direction.

4. The chuck table according to claim 1, further comprising a suction hole defined within said support base, wherein said suction hole is configured and arranged for attracting, under suction, a bottom surface of said circular boss to thereby secure said frame and said support base together under suction.

5. A chuck table for holding a plate-shaped workpiece under suction, comprising:

a suction plate made of porous ceramics and having a plurality of open pores; and

a frame having a plurality of suction grooves defined in a surface thereof and a fluid communication passage defined therein that holds said suction grooves in fluid communication with a suction source, said frame covering a side surface and a reverse side, except an attractive suction surface, of said suction plate, and said frame supporting said suction plate thereon, wherein said plurality of suction grooves includes a plurality of concentric suction grooves and a plurality of joint suction grooves that interconnect said plurality of concentric suction grooves; and

a support base configured and arranged for supporting said frame, wherein said support base includes a circular recess therein; and

wherein said frame includes a circular boss projecting from a lower surface thereof,

wherein said circular recess of said support base is configured and arranged for receiving said circular boss of said frame therein, and

wherein the porosity of said suction plate and the diameters of open pores of said suction plate are set such that when a vacuum pump as said suction source connected to said fluid communication passage through a suction channel is actuated with nothing placed on the attractive suction surface of said suction plate, a pressure gage connected to said suction channel indicates a pressure value in the range from 0.3 to 0.6 atm.

6. The chuck table according to claim 5, wherein said plurality of joint suction grooves extend in the radial direction.

7. The chuck table according to claim 5, further comprising a suction hole defined within said support base, wherein said suction hole is configured and arranged for attracting, under suction, a bottom surface of said circular boss to thereby secure said frame and said support base together under suction.

8. A method of manufacturing a suction plate of porous ceramics, comprising:

a granule producing step for producing granules having diameters equal to or smaller than 200 μm by mixing feldspar, pottery stone, clay, and talc, crushing the mixture with a ball mill, and mixing the crushed mixture with a sizing agent;

a forming step for forming a plate-shaped product by pressing the granules; and

a sintering step for sintering the formed product at a temperature ranging from 800° C. to 1300° C. to produce a suction plate of porous ceramics.

9. The method for manufacturing a suction plate according to claim 8, wherein said suction plate formed by said method has a porosity in the range from 60% to 70% by volume, and said open pores have diameters in the range from 10 to 25 μm.

10. A suction holding system for holding a plate-shaped workpiece under suction, comprising:

a suction plate made of porous ceramics and having a plurality of open pores;

a frame having a plurality of suction grooves defined in a surface thereof and a single fluid communication passage defined therein which has an end held in fluid communication with all of said suction grooves, said frame covering a side surface and a reverse side, except an attractive suction surface, of said suction plate, and said frame supporting said suction plate thereon;

a suction source connected to another end of said single fluid communication passage; and

a support base configured and arranged for supporting said frame, wherein said support base includes a circular recess therein; and

wherein said frame includes a circular boss projecting from a lower surface thereof, and

wherein said circular recess of said support base is configured and arranged for receiving said circular boss of said frame therein,

wherein the porosity of said suction plate, the diameters of open pores of said suction plate, and the pressure of said pressure source are set such that when said suction source is actuated with nothing placed on the attractive suction surface of said suction plate, the pressure from said single fluid communication passage keeps the plate-shaped workpiece held under suction on said attractive suction surface even if the area of said plate-shaped workpiece on said attractive suction surface is smaller than the area of said attractive suction surface.

11. The suction holding system according to claim 10, further comprising a suction hole defined within said support base, wherein said suction hole is configured and arranged for attracting, under suction, a bottom surface of said circular boss to thereby secure said frame and said support base together under suction.

12. The suction holding system according to claim 10, wherein said plurality of suction grooves includes a plurality of concentric suction grooves and a plurality of joint suction grooves that interconnect said plurality of concentric suction grooves.

13. The suction holding system according to claim 12, wherein said plurality of joint suction grooves extend in the radial direction.