CLAIMS

1. A method for resin-molding one side face of a work (W) in a molding die set (1), which resin-molds the work (W) in a clamping state and in which the work (W) is sucked and held on at least one of clamping faces and resin-molded in a cavity concave section (4) whose outside dimension is larger than that of the work (W),

said method is characterized by the steps of:

sucking and holding a first release film (12) which covers at least one of the clamping faces of the molding die set (1);

setting the work (W) in the molding die set (1);

sucking the other side face of the work (W) through a work sucking hole (12g) of the first release film (12), which is formed before or after holding the first release film (12), so as to hold the work (W) on the clamping face;

closing the molding die set (1) so as to clamp the work (W); and

pressurizing and heating the resin (24), which has been accommodated in the cavity concave section (4).

2. The method according to claim 1,

further comprising the steps of:

opening the molding die set (1);

removing the first release film (12), which has stuck on a molded product (25), with applying tension to the first release film (12); and

taking out the molded product (25), from which the first

~~release film (12) has been removed, from the molding die set (1).~~

~~3. The method according to claim 1 or 2,~~

~~wherein the work sucking hole (12g) is formed in the first release film (12), by a hole-forming jig (23), after the first release film (12) is sucked and held on one of the clamping faces.~~

~~4. The method according to any one of claims 1-3,~~

~~wherein the work sucking hole (12g) is formed, by inserting a needle (23c) of a hole-forming jig (23) into a work drawing hole (14c) formed in a work mounting face (P), in the molding die set (1).~~

~~5. The method according to claim 4,~~

~~wherein the hole-forming jig (23) includes a guide cylinder (23g), which guides reciprocation of the needle (23c), and~~

~~the guide cylinder (23g) presses the first release film (12) while the work sucking hole (12g) is formed by inserting the needle (23c) into the work drawing hole (14c).~~

~~6. The method according to any one of claims 1-5,~~

~~wherein the first release film (12) having the work sucking hole (12g) is sucked and held on one of the clamping faces, and~~

~~a second release film (18) is sucked and held on the other clamping face, in which the cavity concave section (4) is~~

formed.

7. The method according to any one of claims 1-6,
wherein setting the work (W) is guided by a guide member (10), which is projected from a work mounting face (P) formed in one of the clamping faces, and
the guide member (10) is retracted from the work mounting face (P) when the molding die set (1) clamps the work (W).

8. The method according to any one of claims 1-6,
wherein the work (W) and the resin (24) are conveyed to the molding die set (1) by a loader (20),
the loader (20) is correctly positioned with respect to one of the clamping face, and
the loader (20) sets the work (W) onto a work mounting face (P).

9. The method according to any one of claims 1-8,
wherein the first release film (12), which has stuck on the molded product (25), is removed by a peeling bar (22), which is moved parallel to the work (W), in a state where the first release film (12) covering a work mounting face (P) is sucked and held on the clamping face and the molded product (25) is held and lifted from the work mounting face (P) by an off-loader (21).

10. The method according to any one of claims 1-8,
wherein the first release film (12), which has stuck on

~~the molded product (25), is removed by a peeling bar (22), which is moved parallel to the work (W), in a state where tension is applied to the first release film (12) covering a work mounting face (P) by winding actions of an elongated feed reel (12a) and an elongated collecting reel (12b).~~

~~11. The method according to any one of claims 1-8,~~

~~wherein the first release film (12), which covers a work mounting face (P) and has stuck on the molded product (25), is removed by a peeling chuck (26), which holds and moves the first release film (12) away from the work (W) so as to inflect and remove the first release film (12), in a state where the molded product (25) is held and lifted from the work mounting face (P) by an off-loader (21).~~

~~12. The method according to claim 11,~~

~~wherein a product receiving table is inserted under the work (W) before the first release film (12) is removed by the peeling chuck (26).~~

~~13~~1. A resin molding apparatus for resin-molding one side face of a work ~~(W)~~ in a molding die ~~set (1)~~, which resin-molds the work ~~(W)~~ in a clamping state and in which the work ~~(W)~~ is sucked and held on at least one of clamping faces and resin-molded in a cavity concave section ~~(4)~~ whose outside dimension is larger than that of the work ~~(W)~~,

said resin molding apparatus ~~is characterized by~~comprising:

the molding die set ~~(1)~~ including a film sucking hole ~~(6a)~~,

which is formed in at least one of the clamping faces, a work drawing hole ~~(6c)~~, which is separated from the film sucking hole ~~(6a)~~ and which is communicated with a work sucking hole ~~(12g)~~ of the release film ~~(12)~~ when the release film ~~(12)~~ is sucked and held, and a cavity concave section ~~(4)~~, into which resin ~~(24)~~ for molding the work ~~(W)~~ is supplied;

conveying means ~~(20, 21)~~ for conveying the work ~~(W)~~ into the molding die set ~~(1)~~ so as to suck the other side face of the work ~~(W)~~ through the work sucking hole ~~(12g)~~ of the release film ~~(12)~~ and hold the work ~~(W)~~ on one of the clamping faces, and taking out a molded product ~~(25)~~ from the molding die set ~~(1)~~; and

peeling means ~~(22, 26)~~ for peeling the release film ~~(12)~~, which has stuck on the molded product ~~(25)~~, from the molded product ~~(25)~~ after the molding die set ~~(1)~~ is opened.

~~14~~2. The resin molding apparatus according to claim ~~13~~1,

further comprising a guide member ~~(10)~~ for guiding the outer periphery of the work ~~(W)~~, the guide member ~~(10)~~ being provided in a work mounting face ~~(P)~~ of one of the clamping faces and capable of projecting and retracting from the work mounting face ~~(P)~~.

~~15~~3. The resin molding apparatus according to claim ~~13 or 14~~1,

further comprising a hole-forming jig ~~(23)~~ having a needle ~~(23c)~~,

wherein the work sucking hole ~~(12g)~~ is formed in the release film ~~(12)~~, which has been sucked and held on one of the

clamping faces, by inserting the needle ~~(23c)~~ into the work drawing hole ~~(6c)~~.

~~16~~4. The resin molding apparatus according to claim ~~15~~3,

wherein a guide member ~~(10)~~ is provided to a main body section ~~(23a)~~ of the hole-forming jig ~~(23)~~, and

the guide member ~~(10)~~ includes an extended guide cylinder ~~(23g)~~ so as to press the release film ~~(1)~~ and guide the reciprocation of the needle ~~(23c)~~.

~~17~~5. The resin molding apparatus according to ~~any one of claims 13-16~~claim 1,

wherein the molded product ~~(25)~~, which is held by an off-loader ~~(21)~~, is moved away so as to apply tension to the release film ~~(12)~~ which has stuck on the molded product ~~(25)~~, and

a peeling bar ~~(22)~~ is inserted between the molded product ~~(25)~~ and the release film ~~(12)~~ so as to remove the release film ~~(12)~~ from the molded product ~~(25)~~.

~~18~~6. The resin molding apparatus according to ~~any one of claims 13-16~~claim 1,

wherein the release film ~~(12)~~, which has stuck on the molded product ~~(25)~~, is removed by a peeling bar ~~(22)~~, which is moved parallel to the work ~~(W)~~, in a state where tension is applied to the release film ~~(12)~~ by winding actions of an elongated feed reel ~~(12a)~~ and an elongated collecting reel ~~(12b)~~.

~~19~~7. The resin molding apparatus according to ~~any one of claims 13-16~~claim 1,

wherein the release film ~~(12)~~, which has stuck on the molded product ~~(25)~~, is removed from the molded product ~~(25)~~ by moving a peeling chuck ~~(26)~~ holding both side edges of the release film ~~(12)~~ away from the molded product ~~(25)~~ in a state where the molded product ~~(25)~~ is held and lifted from a work mounting face ~~(P)~~ by an off-loader ~~(21)~~.

~~20~~8. The resin molding apparatus according to claim ~~19~~7,

further comprising a product receiving table, which is inserted under the work ~~(W)~~ before the release film ~~(12)~~ is removed by the peeling chuck ~~(26)~~.