CLAIMS

1. Apparatus for manufacturing a contact lens, the apparatus comprising:
- a tray made of metal, the tray having a fixation opening for a thermal curing of a lens-forming material contained in a lens mold to form the contact lens,
- a mold support made of plastic,
wherein the mold support has a fastener fixed to the tray at the fixation opening and fixing the mold support to the tray,
wherein the mold support further has a positioning guide configured to guide the lens mold onto the mold support and into a predetermined position relative to the tray and wherein the mold support further has a support surface, wherein the fastener is a resilient latch removably fixing the mold support to the tray at the fixation opening and
- the lens mold arranged on the mold support, the lens mold having a bearing surface resting on the support surface of the mold support, wherein the lens mold comprising both a mold base part and a mold top part,
wherein the lens mold is arranged spaced apart from the tray by a clearance distance (C, T), wherein the mold support is a ring (20) comprising an annular ring body (21) and the latch (25), the latch (25) extending from the annular ring body (21) into the fixation opening (31) of the tray (30) and fixedly engaging the tray (30).

2. Apparatus (1) according to claim 1, wherein the annular ring body (21) has a height (H) and a bottom surface (22) resting on an upper surface (32) of the tray (30), wherein the lens mold (10) has a base surface (12) facing the tray (30), and wherein the bearing surface of the lens mold (10) is arranged at a predetermined distance (D) above the base surface (12), with the height (H) of the annular ring body (21) being greater than the predetermined distance (D) by the clearance distance (C).

3. Apparatus (1) according to anyone of claims 1 or 2, wherein the support surface is an annular top surface (23) of the annular ring body (21), the annular top surface (23) having a top surface inner diameter (DI) and a top surface outer diameter (DO), and wherein the bearing surface of the lens mold (10) is an annular abutment surface

(11) arranged on an underside of the lens mold (10), the annular abutment surface (11) having an abutment surface inner diameter (AI) and an abutment surface outer diameter (AO), with the abutment surface inner diameter (AI) of the lens mold (10) being smaller than the top surface inner diameter (DI) of the annular ring body (21) and the abutment surface outer diameter (AO) of the lens mold (10) being larger than the top surface outer diameter (DO) of the annular ring body (21).

4. Apparatus (1) according to claim 3, wherein the positioning guide comprises a conical surface (27) arranged at an outer peripheral portion of the annular ring body (21), the conical surface (27) tapering inwardly with increasing distance from the tray (30), and wherein the lens mold (10) further comprises a centering flange (13) for engaging the conical surface (27) of the annular ring body (21) in order to align the annular abutment surface (11) of the lens mold (10) with the annular top surface (23) of the annular ring body (21) during arrangement of the lens mold (10) on the ring (20).

5. Apparatus (1) according to claim 4, wherein the upper end of the conical surface (27) merges with the annular top surface (23) at an outer edge (28) thereof having the top surface outer diameter (DO), wherein the lower end of the conical surface (27) has a lower end conical surface diameter (DR) larger than the top surface outer diameter (DO), and wherein the centering flange (13) of the lens mold (10) has a flange inner diameter (FI) larger than the lower end conical surface diameter (DR).

6. Apparatus (1) according to anyone of claims 1 to 5, wherein the fixation opening of the tray (30) is a disk-shaped mounting hole (31), and wherein the annular ring body (21) defines a central hole (24) surrounded by the annular ring body (21), the central hole (24) of the annular ring body (21) being aligned with the disk-shaped mounting hole (31) of the tray (30).

7. Apparatus (2) according to claim 1, wherein the mold support comprises a plate (50) having a plate base surface (51) resting on an upper surface (42) of the tray (40)

and the latch (53), the latch (53) extending from the plate (50) into the fixation opening (41) of the tray (40) and fixedly engaging the tray (40).

8. Apparatus (2) according to claim 7, wherein the plate (50) has a plate thickness (T) and comprises a plate top surface (52) being arranged opposite to the plate base surface (51), wherein the plate top surface (52) forms the support surface of the mold support, and wherein the bearing surface of the lens mold (60) is a base surface (61) of the lens mold (60) resting on the plate top surface (52), the plate thickness (T) thus representing the clearance distance (C).

9. Apparatus (2) according to claim 8, wherein the lens mold (60) comprises a mold base part (600) and a mold top part (601), the assembled mold base part (600) and mold top part (601) together forming the lens mold (60), wherein the mold base part (600) comprises a centering flange (64) projecting radially outwardly and forming the outer boundary of the mold base part (600), and wherein the positioning guide comprises at least three centering pins (55) arranged on the plate top surface (52) at different locations such that they enclose the centering flange (64) of the mold base part (600), thereby defining the predetermined position of the lens mold (60) relative to the tray (40).

10. Apparatus (2) according to claim 9, wherein the mold base part (600) further comprises a tab (65) extending radially outwardly from the centering flange (64), and wherein the positioning guide further comprises at least one pair of positioning pins (57) arranged at predetermined positions on the plate top surface (52) to determine the angular position of the tab (65) of the mold base part (600).

11. Apparatus (2) according to claim 10, wherein the at least one pair of positioning pins (57) comprises two pairs of positioning pins (57) arranged at different predetermined positions on the plate top surface (52) to determine a first angular position and a second angular position of the tab (65) of the mold base part (600), the second angular position being angularly displaced relative to the first angular position by an angle of 90°.

12. Apparatus (2) according to anyone of claims 7 to 11, wherein the fixation opening of the tray (40) is a disk-shaped mounting hole (41) and the tray (40) further comprises an additional disk-shaped passage hole (44), and wherein the plate (50) comprises a first and second disk-shaped passage holes (54, 58), with the first passage hole (54) of the plate (50) being aligned with the passage hole (44) of the tray (40) and the second passage hole (58) of the plate (50) being aligned with the mounting hole (41) of the tray (40).

13. Apparatus (1, 2) according to any one of claims 1 to 12, wherein the apparatus comprises a stack of trays (30, 40) with mold supports (20, 50) fixed to the respective trays (30, 40) and with lens molds (10, 60) arranged on the mold supports (20, 50), the trays (30, 40) being arranged one above the other in the stack and being separated by spacers (38, 43).