

CLAIMS

1. Method of dosing a lens forming material into a mold (1;21), which comprises dosing a metered amount of a lens forming material (P) including a volatile solvent into a mold cavity (4) enclosed by a male mold half (3) and a female mold half (2) of the mold (1; 21), where lens forming material (P) is subsequently polymerized and/or cross-linked to form an ophthalmic lens, in particular a contact lens, wherein dosing of the lens forming material (P) into the mold cavity (4) is accomplished while the male and female mold halves (2, 3) are associated with each other substantially gas-tight.
2. Method according to claim 1, wherein the male and female mold halves (2, 3) are held in a closed or nearly closed position.
3. Method according to claim 1 or 2, wherein the mold cavity (4) is connected with a dosing channel (8), which is accessible from the outside of the mold (1; 21) and wherein dosing of the lens forming material (P) is accomplished through this dosing channel (8).
4. Method according to claim 3, wherein the dosing channel (8) is provided radially in vicinity of a separation plane of the male and female mold halves (2, 3) and extends through a guide sleeve (7) which holds the male and female mold halves (2, 3).
5. Method according to claim 3 or 4, wherein the dosing is accomplished with a dosing needle (11) which, for the dosing process, is attached to and sealingly received by the dosing channel (8).
6. Method according to claim 5, wherein during the dosing of the lens forming material (P) air contained in the mold cavity (4) is expelled through at least one venting opening (10) which is provided in the guide sleeve (7) and is connected with the mold cavity (4).
7. Method according to any one of the preceding claims, wherein the dosing of the lens forming material (P) is accomplished with pressure above ambient conditions.

8. Method according to any one of claims 2 - 7, wherein the lens forming material (P) is dosed into the mold cavity (4) with the male and female mold halves (2, 3) being held in the nearly closed position, and wherein the male and female mold halves (2, 3) are completely closed during the polymerization and/or cross-linking of the lens forming material (P).

9. Method according to any one of claims 2 - 7, wherein the lens forming material (P) is dosed into the mold cavity (4) with the male and female mold halves (2, 3) being held in the completely closed position, and wherein during polymerization and/or cross-linking of the lens forming material (P) additional lens forming material (P) may be introduced into the mold cavity (4) for compensation of shrinkage.

10. Method according to any one of the preceding claims, wherein a silicone hydrogel (SiHy) material comprising propanol as a solvent is used as the lens forming material.

11. Apparatus for forming an ophthalmic lens, in particular a contact lens, from a lens forming material which is dosed into a mold cavity (4) that is enclosed by molding surfaces (5, 6) of a male mold half (3) and a corresponding female mold half (2), which are slidably held in a guide sleeve (7) that forms a nearly gas-tight sealing for the associated male and female mold halves (2, 3), wherein the apparatus comprises a dosing channel (8) which extends substantially radially from the mold cavity (4) and through the guide sleeve (7), the dosing channel being adapted to sealingly receive the tip of a dosing needle (11).

12. Apparatus according to claim 11, wherein the guide sleeve (7) is provided with at least one venting opening (10) which is connected with the mold cavity (4).

13. Apparatus according to claim 12, wherein the at least one venting opening comprises a number of venting slots (10) which are distributed about the circumference of the guide sleeve (7) and are connected with the mold cavity (4).

CLAIMS

1. A method of forming a contact lens, which comprises dosing a metered amount of a contact lens forming material including a volatile solvent into a mold cavity enclosed by a male mold half with a second molding surface and a female mold half with a first molding surface of the contact lens mold, the mold cavity in a closed state of the contact lens mold corresponding to the shape of the contact lens to be manufactured, wherein the contact lens forming material is subsequently polymerized and/or cross-linked to form a contact lens, and wherein dosing of the contact lens forming material into the mold cavity is accomplished while the male and female mold halves are associated with each other substantially gas-tight to prevent evaporation of the solvent; and

wherein the mold cavity is connected with a dosing channel, which is accessible from the outside of the contact lens mold and wherein dosing of the lens forming material is accomplished through this dosing channel, the dosing channel extending through a guide sleeve which holds the male and female mold halves; and

further wherein during the dosing of the contact lens forming material, air contained in the mold cavity is expelled through at least one venting opening which is provided in the guide sleeve, and which venting opening is connected with the mold cavity by an annular channel which is from about 5 μm to about 15 μm wide.

2. The method according to claim 1, wherein dosing of the contact lens forming material into the mold cavity is accomplished while the male and female mold halves are held in a closed or nearly closed position.

3. The method according to claim 1, wherein the dosing channel is provided radially in vicinity of a separation plane of the male and female mold halves.

4. The method according to claim 3, wherein the dosing is accomplished with a dosing needle which, for the dosing process, is attached to and sealingly received by the dosing channel.

5. The method according to claim 2, wherein the dosing of the contact lens forming material is accomplished with pressure above ambient conditions.

6. The method according to claim 5, wherein the contact lens forming material is injected into the mold cavity with a pressure above ambient conditions of about 0.1 bar to about 5 bar.

7. The method according to claim 1, wherein the contact lens forming material is dosed into the mold cavity with the male and female mold halves being held in the nearly closed position, and wherein the male and female mold halves are completely closed during the polymerization and/or cross-linking of the contact lens forming material.

8. The method according to claim 1, wherein the contact lens forming material is dosed into the mold cavity with the male and female mold halves being held in the completely closed position, and wherein during polymerization and/or cross-linking of the contact lens forming material additional contact lens forming material may be introduced into the mold cavity for compensation of shrinkage.

9. The method according to claim 1, wherein the contact lens forming material is a silicone hydrogel lens forming material comprising propanol as a solvent.