What is claimed is:

1. A method of making colored silicone-hydrogel contact lenses, comprising the steps of:
(a) providing a mold assembly comprising a female mold half having a molding surface and a male mold half having a molding surface;
(b) applying at least one color coat to at least a portion of at least one of the female molding surface and the male molding surface with an ink, wherein the ink comprises at least one colorant and a silicone-containing polymer binder;
(c) irradiating the color coat on the molding surface with a first high intensity UV light to at least partially cure the color coat; and then
(d) irradiating the exposed surfaces of the female mold and the male mold with a second high intensity UV light prior to;
(e) filling a lens-forming fluid material comprising at least one silicone-containing vinylic monomer or macromer and at least one hydrophilic vinylic monomer into the irradiated mold assembly from step d);
(f) exposing the mold assembly and the lens-forming fluid material to an energy source, wherein the energy source polymerizes the lens-forming fluid material;
wherein emission spectrum of the first high intensity UV light has a higher intensity in wavelength range 320-390 nm by at least 200 mW/cm^2 and a lower intensity in wavelength range 250-260 nm by at least 10 mW/cm^2 than the second high intensity UV light.
2. The method of claim 1, wherein the intensity of the first high intensity UV light is about 650-750 mW/cm^2 at a wavelength range of about 320-390 nm, and about 35-45 mW/cm^2 at a wavelength of about 250-260nm.
3. The method of claim 1, wherein the first high intensity UV light irradiates the molding surface having the clear coating composition and the colorant coating composition for about from 1 to 25 seconds.
4. The method of claim 1, wherein the first high intensity UV light irradiates the molding surface having the clear coating composition and the colorant coating composition for about from 2 to 10 seconds.
5. The method of claim 1, wherein the intensity of the second high intensity UV light is about 150-600 mW/cm^2 at a wavelength range of about 320-390nm, and about 45-125 mW/cm^2 at a wavelength of about 250-260nm.
6. The method of claim 5, wherein the second high intensity UV light irradiates both of the mold having the partially cured clear coating colorant composition and the colorant coating composition and the other mold for about from 0.1 to 20 seconds.

7. The method of claim 6, wherein the second high intensity UV light irradiates both of the mold having the partially cured clear coating colorant composition and the colorant coating composition and the other mold for about from 0.5 to 5 seconds.
8. The method of claim 1, wherein the energy of the first high intensity UV light is about 400-800 mJ/ cm^2 at a wavelength range of about 320-390 nm.
9. The method of claim 8, wherein the energy of the second high intensity UV light is about 15-75 mJ/ cm^2 at a wavelength range of about 250-260nm.
10. The method of claim 1, wherein the silicone-containing bind polymer in an ink comprises ethylenically unsaturated groups as crosslinkable groups.
11. The method of claim 1, wherein a silicone-containing binder polymer in an ink coat comprises crosslinkable groups selected from the group consisting of hydroxyl group —OH, amino group —NHR (wherein R is hydrogen or C_1 to C_8 alkyl), carboxylic group —COOH, epoxy group, amide group —CONHR, and combinations thereof.
12. The method of claim 1, wherein the time between step (c) and (d) occurs between 0.5 to 96 hours in order to obtain a high-quality color print image on the lens.
13. The method of claim 1, wherein the time between step (c) and (d) occurs between 20 to 26 hours in order to obtain a high-quality color print image on the lens.
14. The method of claim 1, wherein the time between step (c) and (d) occurs between 2 to 4 hours in order to obtain a high-quality color print image on the lens.
15. The method of claim 1, wherein applying at least one color coat to at least a portion of the male molding surface with an ink.

Claims

1. A method of making colored silicone-hydrogel contact lenses, comprising the steps of:

   (a) providing a mold assembly comprising a female mold half having a molding surface and a male mold half having a molding surface;
   (b) applying at least one color coat to at least a portion of at least one of the female molding surface and the male molding surface with an ink, wherein the ink comprises at least one colorant and a silicone-containing polymer binder;
   (c) irradiating the color coat on the molding surface with a first high intensity UV light to at least partially cure the color coat; and then
   (d) irradiating the exposed surfaces of the female mold half and the male mold half with a second high intensity UV light prior to;
   (e) filling a lens-forming fluid material comprising at least one silicone-containing vinylic monomer or macromer and at least one hydrophilic vinylic monomer into the irradiated mold assembly from step d);
   (f) exposing the mold assembly and the lens-forming fluid material to an energy source, wherein the energy source polymerizes the lens-forming fluid material;

   wherein the emission spectrum of the first high intensity UV light has a higher intensity in wavelength range 320-390 nm by at least 200 mW/cm^2 and a lower intensity in wavelength range 250-260 nm by at least 10 mW/cm^2 than the second high intensity UV light.

2. The method of claim 1, wherein the intensity of the first high intensity UV light is about 650-750 mW/cm^2 at a wavelength range of about 320-390 nm, and about 35-45 mW/cm^2 at a wavelength of about 250-260nm.

3. The method of claim 1, wherein the first high intensity UV light irradiates the molding surface having a clear coating composition and the colorant coating composition for about from 1 to 25 seconds.

4. The method of claim 1, wherein the first high intensity UV light irradiates the molding surface having a clear coating composition and the colorant coating composition for about from 2 to 10 seconds.

5. The method of claim 1, wherein the intensity of the second high intensity UV light is about 150-600 mW/cm^2 at a wavelength range of about 320-390nm, and about 45-125 mW/cm^2 at a wavelength of about 250-260nm.

6. The method of claim 5, wherein the second high intensity UV light irradiates both of the mold halves having the partially cured clear coating composition and the colorant coating composition and the other mold half for about from 0.1 to 20 seconds.

7. The method of claim 6, wherein the second high intensity UV light irradiates both of the mold halves having the partially cured clear coating composition and the colorant coating composition and the other mold half for about from 0.5 to 5 seconds.

8. The method of claim 1, wherein the energy of the first high intensity UV light is about 400-800 mJ/cm^2 at a wavelength range of about 320-390 nm.

9. The method of claim 8, wherein the energy of the second high intensity UV light is about 15-75 mJ/cm^2 at a wavelength range of about 250-260nm.

10. The method of claim 1, wherein the silicone-containing binder polymer in an ink comprises ethylenically unsaturated groups as crosslinkable groups.

11. The method of claim 1, wherein a silicone-containing binder polymer in an ink coat comprises crosslinkable groups selected from the group consisting of hydroxyl group -OH, amino group -NHR (wherein R is hydrogen or C_1 to C_8 alkyl), carboxylic group -COOH, epoxy group, amide group -CONHR, wherein R is as defined herein, and combinations thereof.

12. The method of claim 1, wherein the time between step (c) and (d) occurs between 0.5 to 96 hours in order to obtain a high-quality color print image on the lens.

13. The method of claim 1, wherein the time between step (c) and (d) occurs between 20 to 26 hours in order to obtain a high-quality color print image on the lens.

14. The method of claim 1, wherein the time between step (c) and (d) occurs between 2 to 4 hours in order to obtain a high-quality color print image on the lens.

15. The method of claim 1, wherein at least one color coat is applied to at least a portion of the male molding surface with an ink.