pirical k value is determined by the flexibility of the lens material as noted above and is related in general inversely to the equilibriated water content (or swell ratio) although not in a direct linear fashion. Thus, for materials in the upper range of equilibriated water content, the k values will tend toward the lower value of 0.005 whereas the materials of lower equilibriated water content will tend toward the upper value of 0.1.

What is claimed is:

1. A contact lens of hydrophilic, soft, pliable gel ophthalmic plastic material, said lens having a back surface conforming to the corneal surface of the wearer's eye and having an ellipsoidal front surface providing an aspheric optic zone which is a surface of revolution of the curve $\rho=R+kR(1-\cos\theta)/(1+\cos\theta)$ where R is the radius of curvature of a spherical lens whose power is approximately equal to the most hyperopic or least myopic power meridian of the wearer's ametropia plus about one-half of any presbyopic addition required by the wearer, and k is a constant of eccentricity which is within the range of 0.005 to 0.1, said R and k values being such that the visual acuity of the wearer is 20/20 or better both for distance and near vision.

2. A contact lens as defined in claim **1** wherein said value of k is in the order of 0.015 and the lens material has an equilibriated water content of about 35% and a swell ratio of about 1.2.

3. A contact lens of hydrophilic, soft, pliable gel ophthalmic plastic material, said lens having a back surface conforming to the corneal surface of the wearer's eye and having an ellipsoidal front surface providing an aspheric optic zone which is a surface of revolution of the curve $\rho=R+kR(1-\cos\theta)/(1+\cos\theta)$ where k lies within the range 0.005 to 0.1 and k and R are so related that the lens corrects the wearer's ametropia while providing visual acuity of at least 20/20 for near and distance vision.

4. A contact lens as defined in claim **3** wherein said value of k is in the order of 0.015 and the lens material has an equilibriated water content of about 35% and a swell ratio of about 1.2.

5. A contact lens of hydrophilic, soft, pliable gel ophthalmic plastic material, said lens having a back surface conforming to the corneal surface of the wearer's eye and having a front surface providing an aspheric optic zone which is an ellipsoidal surface of revolution of the curve $\rho=R+kR(1+\cos\theta)/(1+\cos\theta)$ where R is the radius of curvature of a spherical lens whose power is approximately equal to the most hyperopic or least myopic power meridian of the wearer's ametropia plus about one-half of any presbyopic addition required by the wearer, and k is a constant of eccentricity dependent upon the hydrophilic properties of the lens material and which has a nominal value of 0.015 for a lens material having an equilibriated water content of about 35% and a swelling ratio of about 1.2.

6. The method of making hydrophilic soft contact lenses for enhancing visual acuity of a presbyopic patient which comprises the steps of:

(a) determining the power of ametropia of the patent;

(b) determining the power of presbyopic addition required by the patient; and

(c) forming contact lenses having an ellipsoidal front surface whose cross section defines a curve expressed in polar coordinates by the equation $\rho=R+kR(1-\cos\theta)/(1+\cos\theta)$ where R is determined by the power of the lens which is approximately equal to the power determined in step (a) plus about half the power determined in step (b) and K is selected from the range k=0.005 to 0.1 dependent upon the hydrophilic properties of the lens material.

7. The material as defined in claim **6** wherein k is about 0.015 when the lens material has an equilibriated water content of about 35% and a swelling ratio of about 1.2.

8. The method according to claim **6** including the additional steps of (d) checking the visual acuity of the wearer as fitted with the lenses to determine whether both near and distance vision is at least 20/20, (e) modifying the value of R and, if necessary, the value of k if the test of step (d) reveals inadequate visual acuity, (f) forming new lens according to the modifications of step (e), and repeating steps (d), (e) and (f) as necessary to achieve the visual acuity specified in step (d).

9. The method as defined in claim **8** wherein k is about 0.015 when the lens material has an equilibriated water content of about 35% and a swelling ration of about 1.2.

10. Contact lenses formed by the method of claim **6.**

11. The method of making hydrophilic, soft contact lenses for a prepresbyopic patient afflicted with astigmatism, which comprises the steps of: p1 (a) determining the power of the most hyperopic or least myopic meridian value of the patient; and

(b) forming contact lenses having an ellipsoidal front surface whose cross section defines a curve expressed in polar coordinates by the equation $\rho=R+kR(1+\cos\theta)/(1+\cos\theta)$ where R is the radius of curvature of a spherical lens whose power is approximately equal to that determined in step (a) and k is selected from the range k=0.005 to 0.1 dependent upon the hydrophilic properties of the lens material.

12. The method as defined in claim **11** wherein k is about 0.015 when the lens material has an equilibriated water content of about 35% and a swelling ratio of about 1.2.

13. The method according to claim **11** including the additional steps of (d) checking the visual acuity of the wearer as fitted with the lenses to determine whether both near and distance vision is at least 20/20, (e) modifying the value of R and, if necessary, the value of k if the test of step (d) reveals inadequate visual acuity, (f) forming new lens according to the modifications of step (e), and repeating steps (d), (e) and (f) as necessary to achieve the visual acuity specified in step (d).

14. The method as defined in claim **13** wherein k is about 0.015 when the lens material has an equilibriated water content of about 35% and a swelling ratio of about 1.2.

15. Contact lenses formed by the method of claim **11.**

16. A contact lens of hydrophilic, soft, pliable gel opthalmic plastic material, said lens having a back surface conforming to the corneal surface of the wearer's eye and having an ellipsoidal front surface providing an optic zone which is a surface of revolution of the curve $\rho=R+kR(1-\cos\theta)/(1+\cos\theta)$ where R is the radius of curvature of a spherical lens of power approximately equal to the most hyperopic or least myopic power meridian of the wearer's ametropia plus about one-half of any presbyopic addition required by the wearer, and k is a constant of eccentricity dependent upon the hydrophilic properties of the lens material and is determined for such lens material such that the visual acuity for distance and near vision is 20/20 or better with said value of R.

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