Claims

We claim:

1. A contact lens stabilized with a design made by providing a lens design with a nominal set of stabilization zone parameters improved by characterizing the lens design parameters as a mathematical construct, modeling the design with a model that balances moments of momentum, and selecting the design based on the results of the modeling.

2. A contact lens made according the method of claim 1 wherein the construct is a Bezier function.

3. The contact lens of claim 1 wherein the angular profile of stabilization zone is defined by one or more sections with negative thickness.

4. The contact lens of claim 3 wherein the maximum negative thickness value along the angular profile containing maximum thickness of the stabilization zones is between 0.010mm to 0.060mm and preferably around 0.025mm.

5. The contact lens of claim 4 wherein the thickest portion of the stabilization zone is located between 15 degrees and 35 degrees below the horizontal axis of the lens.

6. The contact lens of claim 5 wherein the thickest portion of the stabilization zone is located between at least 25 degrees below the horizontal axis of the lens

7. A contact lens of claim 1 having stabilization zones that differ in thickness from one another.

8. The contact lens of claim 7 wherein the thickness difference between the stabilization zones is from 0.020mm to 0.045mm.

9. The contact lens of claim 8 wherein the thickness difference between the stabilization zones is at least 0.030mm.

10. The contact lens of claim 1 having stabilization zones of variable thickness within each zone.

11. The contact lens of claim 10 wherein said zones have a nonuniform slope from their peak to their thinnest dimension.

12. A contact lens having stabilization zones wherein the angular profile of the stabilization zones is defined by one or more sections with negative thickness.

13. The contact lens of claim 12 wherein the maximum negative thickness value along the angular profile containing maximum thickness of the stabilization zones is between 0.010mm to 0.060mm and preferably around 0.025mm.

14. The contact lens of claim 4 wherein the thickest portion of the stabilization zone is located between 15 degrees and 35 degrees below the horizontal axis of the lens.

15. The contact lens of claim 5 wherein the thickest portion of the stabilization zone is located between at least 25 degrees below the horizontal axis of the lens

16. A contact lens having stabilization zones that differ in thickness from one another.

17. The contact lens of claim 16 wherein the thickness difference between the stabilization zones is from 0.020mm to 0.045mm.

18. The contact lens of claim 17 wherein the thickness difference between the stabilization zones is at least 0.030mm.

19. A contact lens having stabilization zones having stabilization zones of variable thickness within each zone.

20. The contact lens of claim 19 wherein said zones have a nonuniform slope from their peak to their thinnest dimension.

Claims:

1. A contact lens stabilized with a design made by providing a lens design with a set of stabilization zone parameters improved by characterizing the lens design parameters as a mathematical construct, modeling the design with a model that balances moments of momentum, and selecting a new design based on the results of the modeling, wherein the stabilization zone is defined by one or more sections thinner than the thickness of the lens outside of the stabilization zone, and the thickness of the thinner section of the stabilization zones is between 0.010 mm and 0.060 mm.

2. A contact lens made according the method of claim 1 wherein the construct is a Bezier function.

3. The contact lens of claim 1 wherein the thickest portion of the stabilization zone is located between 15 degrees and 35 degrees below the horizontal diameter of the lens when the lens is stabilized on the eye of a patient.

4. The contact lens of claim 3 wherein the thickest portion of the stabilization zone is located between at least 25 degrees below the horizontal diameter of the lens.

5. A contact lens having a stabilization zone wherein the stabilization zone is defined by one or more sections thinner than the thickness of the lens outside the stabilization zone, wherein the maximum thickness of the one or more thinner sections is between 0.010 mm and 0.060 mm.

6. The contact lens of claim 5 wherein the thickest portion of the stabilization zone is located between 15 degrees and 35 degrees below the horizontal axis of the lens.

7. The contact lens of claim 5 wherein the thickest portion of the stabilization zone is located between at least 25 degrees below the horizontal axis of the lens.