CLAIMS

1. A contact lens comprising an optic zone, a lens periphery, first and second asymmetric stabilization zones within the lens periphery, an edge and having a vertical axis, a horizontal axis, and a geometric center, the first and second asymmetric stabilization zones each comprising thick zones having a profile determined by a relationship between a meridian angle defined as the angle from the horizontal axis to a location in the thick zone, a quadrant start angle defined as the angle between the horizontal axis and a peak meridian corresponding to the thickest point in the thick zone, a total quadrant angle defined as the angle between the peak meridian and a meridian at which the thick zone ends, and a radial distance from the geometric center of the lens.

2. The lens of claim 1, wherein each of the thick zones linearly increases in thickness from an uppermost portion of the zone to a peak thickness and then linearly decrease in thickness towards a lowermost portion of the zone.

3. The lens of claim 1, wherein each of the thick zones non-linearly increases in thickness from an uppermost portion of the zone to a peak thickness and then non-linearly decrease in thickness towards a lowermost portion of the zone.

4. The lens of claim 2, wherein a maximum thickness difference between the thickest portion of a thick zone and a thinnest portions of a thick zone is about 0.1 to about 0.4 mm.

5. The lens of claim 3, wherein a maximum thickness difference between the thickest portion of a thick zone and a thinnest portions of a thick zone is about 0.1 to about 0.4 mm.

6. The lens of claim 2, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

7. The lens of claim 3, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

8. The lens of claim 4, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

9. The lens of claim 5, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

10. The lens of claim 1, having an uppermost portion of said thick zone comprising the portion closest to the top of said lens, and a lowermost portion of said thick zone comprising the portion closest to the bottom of said lens wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees and at least one of said uppermost and lowermost portions lies at the intersection of the wearer's eyelid and the peripheral radial distance.

11. The lens of claim 2, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

12. The lens of claim 3, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

13. The lens of claim 4, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

14. The lens of claim 5, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

15. The lens of claim 6, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

16. The lens of claim 7, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

17. The lens of claim 8, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

18. The lens of claim 9, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

19. The lens of claim 1 wherein the positions corresponding to upper and lower eyelids are determined based on population data.

20. The lens of claim 10 wherein the positions corresponding to upper and lower eyelids are determined based on population data.

CLAIMS

1. A contact lens comprising an optic zone, a lens periphery, first and second asymmetric stabilization zones within the lens periphery, an edge and having a vertical axis, a horizontal axis, and a geometric center, the first and second asymmetric stabilization zones each comprising thick zones having a profile determined by a relationship between a meridian angle defined as the angle from the horizontal axis to a location in the thick zone, a quadrant start angle defined as the angle between the horizontal axis and a peak meridian corresponding to the thickest point in the thick zone, a total quadrant angle defined as the angle between the peak meridian and a meridian at which the thick zone ends, and a radial distance from the geometric center of the lens, the first and second asymmetric stabilization zones being asymmetrically positioned about both the horizontal and vertical axes in the lens periphery.

2. The lens of claim 1, wherein each of the thick zones linearly increases in thickness from an uppermost portion of the zone to a peak thickness and then linearly decrease in thickness towards a lowermost portion of the zone.

3. The lens of claim 2, wherein a maximum thickness difference between the thickest portion of a thick zone and a thinnest portions of a thick zone is about 0.1 to about 0.4 mm.

4. The lens of claim 3, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

5. The lens of claim 3, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

6. The lens of claim 4, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

7. The lens of claim 2, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

8. The lens of claim 7, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

9. The lens of claim 2, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

10. The lens of claim **1**, wherein each of the thick zones non-linearly increases in thickness from an uppermost portion of the zone to a peak thickness and then non-linearly decrease in thickness towards a lowermost portion of the zone.

11. The lens of claim **10**, wherein a maximum thickness difference between the thickest portion of a thick zone and a thinnest portions of a thick zone is about 0.1 to about 0.4 mm.

12. The lens of claim **11**, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

13. The lens of claim **11**, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

14. The lens of claim **12**, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

15. The lens of claim **10**, wherein the peak of thickness in each of the first and second thick zones is about 5 to about 7 mm from a geometric center of the lens.

16. The lens of claim **15**, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

17. The lens of claim **10**, wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees.

18. The lens of claim **1**, having an uppermost portion of said thick zone comprising the portion closest to the top of said lens, and a lowermost portion of said thick zone comprising the portion closest to the bottom of said lens wherein a radial width of each of the thick zones is about 3 and 4 mm and a circumferential length of each of the thick zones subtends an angle between about 30 and 120 degrees and at least one of said uppermost and lowermost portions lies at the intersection of the wearer's eyelid and the peripheral radial distance.

19. The lens of claim **18** wherein the positions corresponding to upper and lower eyelids are determined based on population data.