CLAIMS

1. A method of forming a Multi-Piece Insert for an Ophthalmic Lens, the method comprising:

forming at least a first insert Back Curve Piece;

forming at least a first insert Front Curve Piece;

depositing a conductive material onto one or both of the first insert Front Curve Piece and the first insert Back Curve Piece;

attaching an electronic Component to one or both of the first insert Front Curve Piece and the first insert Back Curve Pieces, wherein the attachment is made to the conductive material;

placing a first material to form a first seal upon a surface of either or both of the first insert Front Curve Piece and the first insert Back Curve Piece;

combining the first insert Back Curve Piece with the first insert Front Curve Piece to form a first ophthalmic insert piece, wherein the combining causes the first material to seal a first cavity interior to the combination of the first Back Curve Piece and the first Front Curve Piece.

2. The method of Claim 1 additionally comprising the steps of:

forming at least a second insert Back Curve Piece;

placing a second material to form a second seal upon either or both of the first insert Front Curve Piece and second insert Back Curve Piece;

combining the first ophthalmic insert piece with the second insert Back Curve Piece to form a second ophthalmic insert piece, wherein the combining causes the first material to seal a second cavity interior to the combination of the first ophthalmic insert piece and the second insert Back Curve Piece.

3. The method of Claim 1 wherein:

the first cavity contains the electronic Component.

4. The method of Claim 1 wherein:

the electronic Component is exterior to the sealed first cavity.

5. The method of Claim 1 additionally comprising:

at least a partial filling of the first cavity with at least a first liquid before it is sealed or during the sealing process.

6. The method of Claim 1 additionally comprising:

at least a partial filling of the first cavity with at least a first a liquid after it is sealed.

7. The method of Claim 1 wherein:

the first material is an epoxy adhesive.

8. The method of Claim 1 wherein:

the first material is preformed into a shape to form the seal.

9. The method of Claim 1 wherein:

the first seal is formed by the physical contact of at least a portion of either or both the first insert Back Curve Piece and the first insert Front Curve Piece to the first material.

10. The method of claim 9 wherein:

a second material forms an second material adhesive seal between at least a portion of both the first insert Front Curve Piece and first insert Back Curve Piece, wherein the second material adhesive seal maintains the physical contact of at least a portion of either or both the first insert Back Curve Piece and the first insert Front Curve Piece to the first material.

11. The method of claim 9 wherein:

a first self-locking feature maintains the physical contact of at least a portion of either or both the first insert Back Curve Piece and the first insert Front Curve Piece to the first material.

12. The method of Claim 1 wherein:

during the combining, a self-locking feature fixedly holds the first insert Back Curve Piece in a relative position to the first insert Front Curve Piece.

13. The method of Claim 1 additionally comprising:

applying a sealing agent to at least a portion of the electronic Component after attachment of the electronic Component is made to the conductive material.

14. The method of Claim 1 additionally comprising :

applying a sealing agent to at least a portion of the conductive material.

15. The method of Claim 2 additionally comprising :

applying a sealing agent to at least a portion of the conductive material.

16. The method of Claim 1 additionally comprising the steps of:

depositing a Reactive Mixture on a concave surface that is included in a first Ophthalmic Lens Mold part;

positioning the first ophthalmic insert piece in contact with the Reactive Mixture;

positioning a second Ophthalmic Lens Mold part proximate to the first Ophthalmic Lens Mold part to form an Ophthalmic Lens cavity, wherein the Reactive Mixture and the first ophthalmic insert are located within the cavity;

polymerizing the Reactive Mixture to form an Ophthalmic Lens;

removing the Ophthalmic Lens.

17. A method of forming an Ophthalmic Lens wherein the method of Claim 2 additionally comprises :

depositing a Reactive Mixture on a surface that is upon a first Ophthalmic Lens Mold part;

positioning the second ophthalmic insert of Claim 2 in contact with the Reactive Mixture;

positioning a second Ophthalmic Lens Mold part proximate to the first Ophthalmic Lens Mold part to form an Ophthalmic Lens cavity, wherein the Reactive Mixture and the second ophthalmic insert piece are located within the cavity;

polymerizing the Reactive Mixture to form an Ophthalmic Lens;

removing the Ophthalmic Lens.

18. The method of claim 16 wherein:

the Reactive Mixture comprises or forms a hydrogel.

19. The method of claim 18 wherein:

the second ophthalmic insert includes an energization Component.

20. The method of claim 19 wherein:

the second ophthalmic insert includes a liquid meniscus Ophthalmic Lens.

CLAIMS

1. A method of forming a multi-piece insert for an ophthalmic lens, the method comprising:

forming at least a first insert back curve piece;

forming at least a first insert front curve piece;

wherein one of the first insert front curve piece and the first insert back curve piece has a groove and an adjacent depression formed therein, and the other has a corresponding sealing feature formed therein to register with the groove;

depositing a conductive material onto one or both of the first insert front curve piece and the first insert back curve piece;

attaching an electronic component to one or both of the first insert front curve piece and the first insert back curve piece, wherein the attachment is made to the conductive material;

placing a first material within the groove and/or upon the sealing feature to form a first seal upon registry of the sealing feature within the groove;

placing an adhesive material into the depression adjacent to the groove to lock the sealing feature into the groove, wherein the adhesive material is different than the first material; and

combining the first insert back curve piece with the first insert front curve piece to form a first ophthalmic insert piece, wherein the combining causes the sealing feature to register within the groove, the first material to seal a first cavity interior to the combination of the first insert back curve piece and the first insert front curve piece, and the adhesive material to lock the sealing feature into the groove.

2. The method of claim 1 additionally comprising the steps of:

forming at least a second insert back curve piece;

placing a second material to form a second seal upon either or both of the first insert front curve piece and second insert back curve piece; and

combining the first ophthalmic insert piece with the second insert back curve piece to form a second ophthalmic insert piece, wherein the combining causes the second material to seal a second cavity interior to the combination of the first ophthalmic insert piece and the second insert back curve piece.

3. The method of claim 1 wherein:

the first cavity contains the electronic component.

4. The method of claim 1 wherein:

the electronic component is exterior to the sealed first cavity.

5. The method of claim 1 additionally comprising:

at least partially filling the first cavity with a first liquid before it is sealed or during the sealing process.

6. The method of claim 1 additionally comprising:

at least partially filling the first cavity with a first liquid after it is sealed.

7. The method of claim 1 wherein:

the first material is an epoxy adhesive.

8. The method of claim 1 wherein:

the first material is preformed into a shape to form the first seal.

9. The method of claim 1 wherein:

the first seal is formed by the physical contact of at least a portion of either or both of the first insert back curve piece and the first insert front curve piece to the first material.

10. The method of claim 9 wherein:

the adhesive material maintains the physical contact of at least a portion of either or both of the first insert back curve piece and the first insert front curve piece to the first material.

11. The method of claim 9 additionally comprising:

forming a first self-locking feature in one or both of the first insert front curve piece and the first insert back curve piece that maintains the physical contact of at least a portion of either or both of the first insert back curve piece and the first insert front curve piece to the first material.

12. The method of claim 1 wherein:

during the combining, a self-locking feature fixedly holds the first insert back curve piece in a relative position to the first insert front curve piece.

13. The method of claim 1 additionally comprising:

applying a sealing agent to at least a portion of the electronic component after attachment of the electronic component to the conductive material.

14. The method of claim 1 additionally comprising:

applying a sealing agent to at least a portion of the conductive material.

15. The method of claim 2 additionally comprising:

applying a sealing agent to at least a portion of the conductive material.

16. The method of claim 1 additionally comprising the steps of:

depositing a reactive mixture on a concave surface that is included in a first ophthalmic lens mold part;

positioning the first ophthalmic insert piece in contact with the reactive mixture;

positioning a second ophthalmic lens mold part proximate to the first ophthalmic lens mold part to form an ophthalmic lens cavity, wherein the reactive mixture and the first ophthalmic insert are located within the cavity;

polymerizing the reactive mixture to form an ophthalmic lens; and

removing the ophthalmic lens.

17. A method of forming an ophthalmic lens wherein the method of claim 2 additionally comprises:

depositing a reactive mixture on a surface that is upon a first ophthalmic lens mold part;

positioning the second ophthalmic insert in contact with the reactive mixture;

positioning a second ophthalmic lens mold part proximate to the first ophthalmic lens mold part to form an ophthalmic lens cavity, wherein the reactive mixture and the second ophthalmic insert piece are located within the cavity;

polymerizing the reactive mixture to form an ophthalmic lens; and

removing the ophthalmic lens.

18. The method of claim 16 wherein:

the reactive mixture comprises or forms a hydrogel.

19. The method of claim 18 wherein:

the second ophthalmic insert includes an energization component.

20. The method of claim 19 wherein:

the second ophthalmic insert includes a liquid meniscus ophthalmic lens.