WHAT IS CLAIMED IS:

1. A method, comprising:
forming a first substrate;
forming a second substrate comprising a surface relief diffractive structure, an electro-active material seal structure and an adhesive seal structure;
positioning the first substrate and the second substrate to form an adhesive cavity and to contain electro-active material over the surface relief diffractive structure;
filling the adhesive cavity with an adhesive; and
curing the adhesive to adhere the first substrate to the second substrate to form a lens.

2. The method of claim 1, further comprising forming the first substrate to comprise a progressive addition optical power region.

3. The method of claim 1, further comprising dispensing electro-active material onto the surface relief diffractive structure prior to positioning the first substrate and the second substrate.

4. The method of claim 1, wherein positioning further comprises forming the adhesive cavity between the front substrate, the back substrate, the electro-active material seal structure and the adhesive seal structure.

5. The method of claim 1, wherein positioning further comprises containing the electro-active material between the surface relief diffractive structure, the front substrate and the electro-active material seal structure.

6. The method of claim 1, wherein forming the first substrate comprises forming the first substrate to have a radius of curvature that is at least 2 mm larger than a radius of curvature of the second substrate.

7. The method of claim 1, further comprising edging the lens to expose one or more electrical contacts on an edge of the lens and positioned between the first and second substrates.

8. A lens, comprising:

a first substrate;

a second substrate comprising a surface relief diffractive structure, an electro-active material seal structure around the surface relief diffractive structure, and an adhesive material seal structure around a periphery of the second substrate;

electro-active material contained by the surface relief diffractive structure, the first substrate and the electro-active material seal structure; and

adhesive material adhering the first substrate to the second substrate and contained by the first substrate, the second substrate, the electro-active material seal structure and the adhesive material seal structure.

9. The lens of claim 8, wherein the first substrate comprises a progressive addition optical power region.

10. The lens of claim 8, wherein the first substrate is in physical contact with the second substrate only at the electro-active material seal structure and the adhesive material seal structure.

11. The lens of claim 8, wherein one of the first and second substrates comprises one or more fill ports.

12. The lens of claim 8, wherein a radius of curvature of the first substrate is at least 2 mm larger than a radius of curvature of the second substrate.

13. The lens of claim 8, wherein the lens comprises one or more electrical contacts on an edge of the lens positioned between the first and second substrates.

14. An electro-active lens, comprising:

an electro-active element providing a first incremental add power; and

a progressive addition optical power region providing a second incremental add power region, wherein the electro-active element and the progressive addition optical region are in optical communication and wherein the electro-active element transitions from an on-state to an off-state in less than approximately 250 milliseconds (ms).

15. The electro-active lens of claim 14, wherein the off-state is substantially free of haze.

16. The electro-active lens of claim 14, wherein the electro-active element provides a first optical power in the off-state and a second optical power in the on-state.

17. The electro-active lens of claim 14, wherein the electro-active lens comprises:
electro-active material,
one or more transparent electrodes;
a substrate; and
one or more alignment layers.

18. The electro-active lens of claim 17, wherein the substrate comprises a surface relief diffractive structure, an electro-active seal structure and an adhesive seal structure.

19. The electro-active lens of claim 18, wherein a diffraction efficiency of the substrate in the off-state is approximately 0% and a diffraction efficiency of the substrate in the on-state is approximately 100%.

20. The electro-active lens of claim 17, wherein the electro-active material is a cholesteric liquid crystal.

21. The electro-active lens of claim 14, wherein the electro-active element transitions from the off-state to the off-state in less than approximately 100 milliseconds (ms)

What is claimed is:

1. A method, comprising:

forming a first transparent substrate;

forming a second transparent substrate comprising a surface relief diffractive structure and an electro-active material seal structure;

positioning the first substrate and the second substrate to form an adhesive cavity and to contain electro-active material over the surface relief diffractive structure;

filling the adhesive cavity with an adhesive; and

curing the adhesive to adhere the first substrate to the second substrate to form a lens.

2. The method of claim 1, further comprising forming the first substrate to comprise a progressive addition optical power region.

3. The method of claim 1, further comprising dispensing electro-active material onto the surface relief diffractive structure prior to positioning the first substrate and the second substrate.

4. The method of claim 1, wherein positioning further comprises forming the adhesive cavity between the first substrate, the second substrate, the electro-active material seal structure and the adhesive seal structure.

5. The method of claim 1, wherein positioning further comprises containing the electro-active material between the surface relief diffractive structure, the first substrate and the electro-active material seal structure.

6. The method of claim 1, wherein forming the first substrate comprises forming the first substrate to have a radius of curvature that is at least 2 mm larger than a radius of curvature of the second substrate.

7. The method of claim 1, further comprising edging the lens to expose one or more electrical contacts on an edge of the lens and positioned between the first and second substrates.

8. A lens, comprising:

a first transparent substrate;

a second transparent substrate comprising a surface relief diffractive structure, and an electro-active material seal structure around the surface relief diffractive structure;

electro-active material contained by the surface relief diffractive structure, the first substrate and the electro-active material seal structure; and

adhesive material adhering the first substrate to the second substrate and contained by the first substrate, the second substrate, the electro-active material seal structure.

9. The lens of claim 8, wherein the first substrate comprises a progressive addition optical power region.

10. The lens of claim 8, wherein the first substrate is in physical contact with the second substrate only at the electro-active material seal structure and the adhesive material seal structure.

11. The lens of claim 8, wherein one of the first and second substrates comprises one or more fill ports.

12. The lens of claim 8, wherein a radius of curvature of the first substrate is at least 2 mm larger than a radius of curvature of the second substrate.

13. The lens of claim 8, wherein the lens comprises one or more electrical contacts on an edge of the lens positioned between the first and second substrates.

14. The method of claim 1, wherein the method forms a lens that is configured to allow light to pass fully therethrough.

15. The method of claim 1, wherein the method forms an ophthalmic lens.

16. The lens of claim 8, wherein the lens is configured to allow light to pass fully therethrough.

17. The lens of claim 8, wherein the lens is an ophthalmic lens.

18. The lens of claim 8, wherein the lens is configured such that there is no refractive power provided when power is not applied to the lens.