What is claimed is:

1. A spray-applied conformal coating comprising:

a conductive component;

a reducer solvent component;

a high-dielectric pigment component;

an electroluminescent pigment component;

a film-forming binder component;

an inherently conductive and substantially transparent outer layer comprising

said conductive component,

said reducer solvent component,

and said film-forming binder component;

an inherently conductive inner layer comprising

said reducer solvent component,

said binder component,

and said conductive component;

a first intermediate layer, being disposed between the inner and outer layers, and further comprising,

said reducer solvent component,

said binder component,

and said high-dielectric pigment component,

said first intermediate layer being adapted to insulate said outer layer from said inner layer, where the film flows to a smooth film that completely covers the inner layer so as not to allow a direct electrical connection between conductive layers;

a second intermediate layer, being disposed between the inner and outer layers, and further comprising

said reducer solvent component,

said binder component,

and said electroluminescent pigment component;

said second intermediate layer being adapted to flow after deposition in a manner where the electroluminescent pigment is dispersed in an even and uniform layer as the film cures to provide a uniform lighting effect when energized.

2. A spray-applied conformal coating comprising:

an inherently conductive and substantially transparent outer layer comprising

2-12% by weight of an outer layer conductive component,

55-80% by weight of a reducer solvent component to assist in the deposition and post-deposition flow of the outer layer

and 10-30% by weight of a film-forming binder component that forms a film that flows evenly and consistently when atomized onto the surface of an object;

an inherently conductive inner layer comprising

40-75% by weight of said reducer solvent component,

20-35% by weight of said binder component,

20-50% by weight of an inner layer conductive component;

a first intermediate layer, being disposed between the inner and outer layers, and further comprising,

45-80% by weight of said reducer solvent component,

10-35% by weight of said binder component,

20-50% by weight of a high-dielectric pigment component,

said first intermediate layer being adapted to insulate said outer layer from said inner layer, where the film flows to a smooth film that completely covers the inner layer so as not to allow a direct electrical connection between conductive layers;

a second intermediate layer, being disposed between the inner and outer layers, and further comprising

40-80% by weight of said reducer solvent component,

10-35% by weight of said binder component,

20-50% by weight of an electroluminescent pigment component,

said second intermediate layer being adapted to flow after deposition in a manner where the electroluminescent pigment is dispersed in an even and uniform layer as the film cures to provide a uniform lighting effect when energized.

3. A spray-applied conformal coating comprising:

an inherently conductive and substantially transparent outer layer comprising

2-12% by weight of an outer layer conductive component,

55-80% by weight of a reducer solvent component to assist in the deposition and post-deposition flow of the outer layer, said reducer solvent component including any one or more of,

toluene, xylene, acetone, naphtha, mineral spirits, methyl ethyl ketone, acetone, water, ethanol, isopropyl alcohol, n-butyl alcohol, methanol, ethyl benzene, cumene, Solane, n-propyl acetate, methyl acetate, methyl cyclohexane, p-Trifluoromethylphenyl chloride, and p-Chlorobenzotrifluoride, or other volatile solvent, typically in the ratio of 15-%30% by weight ethanol, 15-25% by weight methyl acetate, 15-25% by weight p-Chlorobenzotrifluoride, and 15-25% by weight water

and 10-30% by weight of a film-forming binder component that forms a film that flows evenly and consistently when atomized onto the surface of an object,

said outer layer having a thickness in the range of .0002” to .0006”,

said outer layer having a resistivity of less than 2000 ohm/square meter;

an inherently conductive inner layer comprising

40-75% by weight of said reducer solvent component,

20-35% by weight of said binder component,

20-50% by weight of an inner layer conductive component

said inner layer having a thickness in the range of .0005" to .002";

said ~~inner~~ outer layer having a resistivity of less than 20 ohm/square meter;

a first intermediate layer, being disposed between the inner and outer layers, and further comprising

45-80% by weight of said reducer solvent component,

10-35% by weight of said binder component,

20-50% by weight of a high-dielectric pigment component, said high-dielectric pigment component including any one or more of

barium titanate, strontium titanate, titanium dioxide, lead zirconate titanate, tantalum oxide, aluminum oxide, or other high-dielectric solids,

said first intermediate layer having a thickness in the range of .0005" to .002",

said first intermediate layer being adapted to insulate said outer layer from said inner layer, where the film flows to a smooth film that completely covers the inner layer so as not to allow a direct electrical connection between conductive layers;

a second intermediate layer, being disposed between the inner and outer layers, and further comprising

40-80% by weight of said reducer solvent component,

10-35% by weight of said binder component,

20-50% by weight of an electroluminescent pigment component, said electroluminescent pigment component including any one or more of

metal-doped zinc sulfide phosphors, metal-doped zinc selenide phosphors, metal-doped or native crystalline oxides such as

Ga2O3, ZnGa2O4, CaGa2O4, Zn2SiO7, Zn2SiO4, Y2SIO5, and oxide phosphors of Sr, Ga, Ba, and Eu in some combination, or other electroluminescent phosphors,

said second intermediate layer being adapted to flow after deposition in a manner where the electroluminescent

pigment is dispersed in an even and uniform layer as the film cures to provide a uniform lighting effect when energized.

4. The spray-applied conformal coating of Claim 3 further comprising:

said outer layer conductive component comprises

a conductive pigment component;

said inner layer conductive component comprises

an inherently conductive polymer component.

5. The spray-applied conformal coating of Claim 4 further comprising:

the inherently conductive polymer component comprises PEDOT:PSS;

said conductive pigment component includes any one or more of

silver flakes, silver nanowire, silver nanoparticles, copper flakes, copper nanowire, copper nanoparticles, nickel flakes, nickel nanowire, nickel nanoparticles, silver-coated copper flakes, silver-coated copper nanowire, carbon nanotubes, graphene, metal-coated particles, or other inherently conductive particles, typically silver flakes or silver-coated copper flakes.

6. The spray-applied conformal coating of Claim 3 further comprising:

said outer layer conductive component comprises

an inherently conductive polymer component;

said inner layer conductive component comprises

a conductive pigment component.

7. The spray-applied conformal coating of Claim 6 further comprising:

the inherently conductive polymer component comprises PEDOT:PSS;

said conductive pigment component includes any one or more of

silver flakes, silver nanowire, silver nanoparticles, copper flakes, copper nanowire, copper nanoparticles, nickel flakes, nickel nanowire, nickel nanoparticles, silver-coated copper flakes, silver-coated copper nanowire, carbon nanotubes, graphene, metal-coated particles, or other inherently conductive particles, typically silver flakes or silver-coated copper flakes.

8. The spray-applied conformal coating of Claim 3 further comprising:

the film-forming binder component being compatible with an inherently conductive polymer component;

the reducer solvent component being functionally compatible with,

the film-forming binder component,

and the inherently conductive polymer component.

9. The spray-applied conformal coating of Claim 3 further comprising:

the outer layer further comprises 3%-5% by weight of the outer layer conductive component.

10. The spray-applied conformal coating of Claim 3 further comprising:

the outer layer further comprises 70-75% by weight of the reducer solvent component.

11. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said outer layer including any one or more of

an acrylic, polyurethane, vinyl, latex, cellulose acetate butyrate or other binder, preferably a polyurethane or acrylic.

12. The spray-applied conformal coating of Claim 3 further comprising:

the outer layer further comprises

10-15% by weight of the film-forming binder component.

13. The spray-applied conformal coating of Claim 3 further comprising:

said outer layer having a thickness of substantially .0005".

14. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said inner layer further comprising

50-70% n-butyl acetate and 30-50% xylene.

15. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said inner layer further comprising

50-70% methyl acetate and 30-50% xylene.

16. The spray-applied conformal coating of Claim 3 further comprising:

said inherently conductive inner layer further comprising

55%-65% by weight of said reducer solvent component.

17. The spray-applied conformal coating of Claim 3 further comprising:

said inner layer further comprising 20-25% by weight of said binder component.

18. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said inner layer further comprising

an acrylic.

19. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said inner layer further comprising

a polyurethane.

20. The spray-applied conformal coating of Claim 3 further comprising:

said inner layer further comprising

30%-40% by weight of said inner layer conductive component.

21. The spray-applied conformal coating of Claim 3 further comprising:

said inner layer having a thickness of substantially .001”.

22. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said first intermediate layer being

50-70% n-butyl acetate and 30-50% xylene.

23. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said first intermediate layer being

50-70% methyl acetate and 30-50% xylene.

24. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer further comprising

60%-65% by weight of said reducer solvent component.

25. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer further comprising

15-20% by weight of said binder component.

26. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said first intermediate layer being

acrylic.

27. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said first intermediate layer being

polyurethane.

28. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer further comprising

35%-45% by weight of said high-dielectric pigment component.

29. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer having a thickness of substantially .001".

30. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said second intermediate layer being

50-70% n-butyl acetate and 30-50% xylene.

31. The spray-applied conformal coating of Claim 3 further comprising:

said reducer solvent component of said second intermediate layer being

50-70% methyl acetate and 30-50% xylene.

32. The spray-applied conformal coating of Claim 3 further comprising:

said second intermediate layer further comprising

60%-65% by weight of said reducer solvent component.

33. The spray-applied conformal coating of Claim 3 further comprising:

said second intermediate layer further comprising

15-20% by weight of said binder component.

34. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said second intermediate layer being

an acrylic.

35. The spray-applied conformal coating of Claim 3 further comprising:

said binder component of said second intermediate layer being

a polyurethane.

36. The spray-applied conformal coating of Claim 3 further comprising:

said second intermediate layer further comprising

35%-45% by weight of an electroluminescent pigment component.

37. The spray-applied conformal coating of Claim 3 further comprising:

said electroluminescent pigment component having a thickness of substantially .002".

38. The spray-applied conformal coating of Claim 3 further comprising:

said electroluminescent pigment component of said second intermediate layer having a thickness of substantially .002".

39. The spray-applied conformal coating of Claim 3 further comprising:

said outer layer having a thickness in the range of .001" to .002"

said outer layer having a resistivity of less than 100 ohm/square meter.

40. The spray-applied conformal coating of Claim 3 further comprising:

said inner layer having a thickness in the range of .0002" to .001"

said inner layer having a resistivity of less than 2000 ohm/square meter.

41. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer being disposed between said inner layer and said second intermediate layer;

said second intermediate layer being disposed between said outer layer and said first intermediate layer.

42. The spray-applied conformal coating of Claim 3 further comprising:

said first intermediate layer and said second intermediate layer are blended into a combined intermediate layer and sprayed simultaneously;

said combined intermediate layer comprising,

40-80% by weight of said reducer solvent component,

10-35% by weight of said binder component,

10-30% by weight of an electroluminescent pigment component,

10-25% by weight of a high-dielectric pigment component,

said combined intermediate layer having a thickness in the range of .002” to .004”,

said combined intermediate layer being adapted to flow after deposition in a manner where the electroluminescent pigment is dispersed in an even and uniform layer as the film cures to provide a uniform lighting effect when energized, and where the film flows to a smooth film that completely covers the inner layer so as not to allow a direct electrical connection between conductive layers.

43. The spray-applied conformal coating of Claim 42 further comprising:

said reducer solvent component being

50-70% n-butyl acetate and 30-50% xylene.

44. The spray-applied conformal coating of Claim 42 further comprising:

said reducer solvent component being

50-70% methyl acetate and 30-50% xylene.

45. The spray-applied conformal coating of Claim 42 further comprising:

said combined intermediate layer comprising

60%-65% by weight of said reducer solvent component.

46. The spray-applied conformal coating of Claim 42 further comprising:

said combined intermediate layer comprising

15-20% by weight of said reducer solvent component.

47. The spray-applied conformal coating of Claim 42 further comprising:

said reducer solvent component of said combined intermediate layer comprising

an acrylic.

48. The spray-applied conformal coating of Claim 42 further comprising:

said reducer solvent component of said combined intermediate layer comprising

a polyurethane binder.

49. The spray-applied conformal coating of Claim 42 further comprising:

said combined intermediate layer comprising

15%-25% by weight of an electroluminescent pigment component.

50. The spray-applied conformal coating of Claim 42 further comprising:

said combined intermediate layer comprising

15%-20% by weight of a high-dielectric pigment component.

51. The spray-applied conformal coating of Claim 42 further comprising:

said combined intermediate layer having a thickness of substantially .002”.

52. The spray-applied conformal coating of Claim 3 wherein

said layers are applied by High Pressure Low Volume spray techniques, wherein each coating is atomized by compressed air and deposited on the conformal substrate in this manner, and the coating then flows after deposition to the proper film thickness.

53. The spray-applied conformal coating of Claim 3 wherein

said layers are applied by aerosol spray techniques, wherein each coating is atomized by a propellant inside of a can, and deposited on the conformal substrate in this manner, and the coating then flows after deposition to the proper film thickness.

54. The spray-applied conformal coating of Claim 52 further comprising:

said propellant inside of said can, comprises propane.

55. The spray-applied conformal coating of Claim 3 wherein

said layers are applied by electrostatic spray techniques, where each coating is atomized by compressed air and deposited on the charged surface of the conformal substrate in this manner, and the coating then flows after deposition to the proper film thickness.