8. The transfer film according to claim 1, wherein the thermally stable material comprises a polysiloxane material.

9. The transfer film according to claim 1, wherein the thermally stable material comprises inorganic nanomaterial and a polysiloxane material.

10. The transfer film according to claim 1, wherein the sacrificial material comprises an organic polymer material.

11. The transfer film according to claim 1, wherein the thermally stable material is present in each layer in a range from 1 to 65 wt%.

~~12. The transfer film according to claim 1, wherein the plurality of co-extensive layers form one or more six layer units formed by four different layer formulations denoted as A, B, C, and D.~~

~~13. The transfer film according to claim 13, wherein the six layer unit is stacked in a six layer sequence CACDBD.~~

~~14~~12. A transfer film comprising:

a plurality of co-extensive layers forming a protolayer stack, each layer independently exhibiting a complex viscosity of between 10^3 and 10^4 Poise at a shear rate of 100/s when heated to a temperature between its T_g and T_{dec}.

~~15~~13. The transfer film according to claim ~~14~~12, wherein the protolayer stack has a visible light transmittance of at least 50%.

~~16~~14. The transfer film according to claim ~~14~~12, wherein at least selected layers comprise inorganic nanoparticle having an average size of less than 250 nm.

~~17~~15. The transfer film according to claim ~~14~~12, wherein the protolayer stack comprises a plurality of co-extensive layer pairs, each layer pair comprising a first layer and a second

layer each comprising a sacrificial material, the first layers comprising a first thermally stable material and the second layers comprising a second thermally stable material, the first thermally stable material being a different material than the second thermally stable material.

~~18~~16. The transfer film according to claim ~~14~~12, wherein the thermally stable material comprises a polysiloxane material.

~~19~~17. The transfer film according to claim ~~14~~12, wherein the thermally stable material comprises inorganic nanomaterial and a polysiloxane material.

~~20~~18. The transfer film according to claim ~~14~~12, wherein the sacrificial material comprises an organic polymer material.

~~21~~19. The transfer film according to claim ~~14~~12, wherein the thermally stable material is present in each layer in a range from 1 to 65 wt%.

~~22~~20. A method, comprising:

laminating a transfer film according to claim 1 to a receptor substrate;

baking out the sacrificial material to form an optical stack.

~~23. The method according to claim 22, wherein the receptor substrate comprises glass, quartz or sapphire.~~

~~24. The method according to claim 22, wherein the optical stack has a visible light transmittance of at least 10%.~~

~~25. The method according to claim 22, wherein each layer of the optical stack independently having a uniform thickness of less than 2 micrometers.~~

~~26. The method according to claim 22, wherein the optical stack comprises at least 50 layers.~~

~~27~~21. A method, comprising:

laminating a transfer film according to claim ~~14~~ 12 to a receptor substrate;

baking out the sacrificial material to form an optical stack.

~~28. The method according to claim 27, wherein the receptor substrate comprises glass, quartz or sapphire.~~

~~29. The method according to claim 27, wherein the optical stack has a visible light transmittance of at least 10%.~~

~~30. The method according to claim 27, wherein each layer of the optical stack independently having a uniform thickness of less than 2 micrometers.~~

~~31. The method according to claim 27, wherein the optical stack comprises at least 50 layers.~~

~~32~~22. A method of forming a transfer film, comprising:

depositing a plurality of co-extensive layers forming a protolayer stack, each layer independently comprising at least 25wt% sacrificial material and a thermally stable material and having a uniform thickness of less than 25 micrometers.

~~33. The method according to claim 32, wherein the protolayer stack is formed on a releasable surface of a polymeric support substrate.~~

~~34. The method according to claim 32, wherein the protolayer stack has a visible light transmittance of at least 5%.~~

~~35~~23. A method of forming a transfer film, comprising:

depositing a plurality of co-extensive layers forming a protolayer stack, each layer independently exhibiting a complex viscosity of between 10^3 and 10^4 Poise at a shear rate of 100/s when heated to a temperature between its T_g and T_{dec}.

36. The method according to claim 35, wherein the protolayer stack is formed on a releasable surface of a polymeric support substrate.

37. The method according to claim 35, wherein the protolayer stack has a visible light transmittance of at least 5%.

38. A method of forming a transfer film, comprising:

co-extruding a plurality of co-extensive layers to form a protolayer stack, each layer independently comprising at least 25wt% sacrificial material and a thermally stable material and having a uniform thickness of less than 25 micrometers.

39. The method according to claim 38, wherein the protolayer stack has a visible light transmittance of at least 5%.

40. A method of forming a transfer film, comprising:

co-extruding a plurality of co-extensive layers to form a protolayer stack, each layer independently exhibiting a complex viscosity of between 10^3 and 10^4 Poise at a shear rate of 100/s when heated to a temperature between its T_g and T_{dec}.

41. The method according to claim 40, wherein the protolayer stack has a visible light transmittance of at least 5%.

42. A transfer film comprising:

a plurality of co-extensive layers forming a protolayer stack, at least selected layers independently comprise a sacrificial material and a thermally stable material and have a uniform thickness of less than 25 micrometers.

43. A transfer film comprising:

~~a plurality of co-extensive layers forming a protolayer stack, at least selected layers independently exhibiting a complex viscosity of between 10^3 and 10^4 Poise at a shear rate of 100/s when heated to a temperature between its T_g and T_{dec}.~~

24. A method comprising:

providing a transfer film comprising a plurality of co-extensive layers forming a protolayer stack, each layer independently comprising at least 25wt% sacrificial material and a thermally stable material and having a uniform thickness of less than 25 micrometers;

laminating the transfer film to a receptor substrate; and

baking out the sacrificial material to form an optical stack, wherein the optical stack includes an antireflection coating, a UV reflector, an IR reflector or a solar mirror.