CLAIMS:

1 A structural glazing tape for use as a spacer between a structural frame and a glass panel to provide a space for a sealant to bond the structural frame and the glass panel together, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface, the release layer being integrated into the structural glazing tape such that the release layer is present between the structural frame and the glass panel when deployed.

2. A structural glazing tape for use as a spacer between a structural frame and a glass panel to provide a space for a sealant to bond the structural frame and the glass panel together, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface;

wherein the release layer substantially prevents the structural glazing tape from bonding to itself, and wherein the structural glazing tape is free of a liner.

3. The structural glazing tape of claim 1 or 2, wherein the polymer foam tape includes a polyurethane foam, a polyvinyl chloride foam, a silicone foam, an ethylene propylene diene monomer rubber foam, an acrylic foam, a polychloroprene foam, a foam blend of EPDM rubber and polypropylene, a polyethylene foam, an ethylvinyl acetate foam, or any combination thereof.

4. The structural glazing tape according to claim 1 or 2, wherein the adhesive is a pressure sensitive adhesive.

5. The structural glazing tape of claim 4, wherein the pressure sensitive adhesive includes a rubber-based adhesive, an acrylic-based adhesive, a silicone-based adhesive, a silylated polyurethane, or any combination thereof.

6. The structural glazing tape of claim 1 or 2, wherein the release layer is formed form an aqueous precursor.

7. The structural glazing tape of claim 6, wherein the release layer includes a release agent.

8. The structural glazing tape of claim 7, wherein the release agent includes a silicone-based material, a fluorine-based material, a long-chain alkyl-based material, a fatty acid amide-based material, a polyvinyl alcohol-based material, a silica powder material, or any combination thereof.

9. The structural glazing tape of claim 8, wherein the fluorine-based material includes polytetrafluoroethylene (PTFE).

10. The structural glazing tape of claim 1 or 2, further comprising a barrier layer between the polymer foam and the release layer.

11. The structural glazing tape of claim 10, wherein the barrier layer functions to seal the second major surface from material forming the release layer.

12. The structural glazing tape of claim 10, wherein the barrier layer has a thickness of at least 0.5 microns, such as at least about 1 micron, or at least about 2 microns.

13. The structural glazing tape of claim 10, wherein the release layer has a thickness of at least 0.5 microns, such as at least about 1 micron, or at least about 2 microns.

14. The structural glazing tape of claim 10, wherein the barrier layer has a thickness of not greater than about 25 microns, such as not greater than about 20 microns, or not greater than about 12 microns.

15. The structural glazing tape of claim 10, wherein the barrier layer includes a polyurethane, acrylic polymer, or wax.

16. The structural glazing tape of claim 10, wherein the release layer is formed form a non-aqueous precursor.

17. The structural glazing tape of claim 16, wherein the precursor includes a release agent.

18. The structural glazing tape of claim 17, wherein the release agent includes a silicone-based material, a fluorine-based material, a long-chain alkyl-based material, a fatty acid amide-based material, a polyvinyl alcohol-based material, a silica powder material, or any combination thereof.

19. The structural glazing tape of claim 18, wherein the fluorine-based material includes polytetrafluoroethylene (PTFE).

20. The structural glazing tape of claim 16, wherein the non-aqueous precursor includes a non-aqueous solvent.

21. The structural glazing tape of claim 1 or 2, wherein the release layer includes a release agent.

22. The structural glazing tape of claim 21, wherein the release agent includes a silicone-based material, a fluorine-based material, a long-chain alkyl-based material, a fatty acid amide-based material, a polyvinyl alcohol-based material, a silica powder material, or any combination thereof.

23. The structural glazing tape of claim 22, wherein the fluorine-based material includes polytetrafluoroethylene (PTFE).

24. The structural glazing tape of claim 1 or 2, further comprising a polymer film between the polymer foam and the release layer.

25. The structural glazing tape of claim 24, wherein the polymer film has a thickness of between about 25 microns and about 508 microns.

26. The structural glazing tape of claim 25, wherein the polymer film has a thickness of between about 76 microns and about 254 microns.

27. The structural glazing tape of claim 26, wherein the polymer film has a thickness of at least about 127 microns.

28. The structural glazing tape of claim 24, wherein the polymer film includes a polyethylene, a polyurethane, a polyacrylate, a polymethacrylate, a polyester, or any combination thereof.

29. The structural glazing tape of claim 28, wherein the polymer film includes a polyethylene terephthalate.

30. The structural glazing tape of claim 24, further comprising a colorant layer between the polymer foam and the polymer film.

31. The structural glazing tape of claim 24, further comprising a colorant layer between the release layer and the polymer film.

32. The structural glazing tape of claim 1 or 2, further comprising a colorant layer between the polymer foam and the release layer.

33. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape is in the form of a roll.

34. The structural glazing tape of claim 1 or 2, wherein the polymer foam has a thickness in a range of about 2 mm to about 12 mm.

35. The structural glazing tape of claim 1 or 2, wherein the release layer has a thickness in a range of about 0.003 μm to about 50 μm.

36. The structural glazing tape of claim 1 or 2, wherein the adhesive layer has a thickness in a range of about 0.01 mm to about 0.25 mm.

37. The structural glazing tape of claim 1 or 2, wherein the polymer foam has a force to compress at 10% in a range of about 10 kPa to about 500 kPa.

38. The structural glazing tape of claim 37, wherein the force to compress at 10% is in a range of about 50 kPa to about 300 kPa.

39. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape has a width in a range of about 3 mm to about 50 mm.

40. The structural glazing tape of claim 39, wherein the width is in a range of about 6 mm to about 25 mm.

41. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape has an Unwinding Peel Strength in a range of about 0.01 lb/in to about 2.5 lb/in.

42. The structural glazing tape of claim 41, wherein the Unwinding Peel Strength is in a range of about 0.1 lb/in to about 1.5 lb/in.

43. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape has a peel strength from a stainless steel panel in a range of about 1.0 lb/in to about 8.0 lb/in.

44. The structural glazing tape of claim 43, wherein the peel strength from a stainless steel panel is in a range of about 2.0 lb/in to about 6.0 lb/in.

45. A window module comprising

a metal frame having a first major surface;

a glass panel having a second major surface;

a structural glazing tape between the first major surface of the metal frame and the second major surface of the glass panel, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface and adjacent to the second major surface of the glass panel; and

a cured sealant between the first major surface of the metal frame and the second major surface of the glass panel and adjacent to the structural glazing tape, the cured sealant bonding the metal frame to the glass panel.

46. The window module of claim 45, wherein the glass panel comprises one glass pane.

47. The window module of claim 45, wherein the glass panel comprises an insulated glass including at least two glass panes.

48. The window module of claim 45, wherein the metal frame includes an extruded aluminum.

49. The window module of claim 45, wherein the cured sealant includes a silicone sealant.

50. The window module of claim 45, further comprising a barrier layer between the polymer foam and the release layer.

51. The window module according to claim 50, wherein the barrier functions to seal the second major surface from material forming the release layer.

52. The window module of claim 50, wherein the barrier layer has a thickness of at least 0.5 microns, such as at least about 1 micron, or at least about 2 microns.

53. The window module of claim 50, wherein the release layer has a thickness of at least 0.5 microns, such as at least about 1 micron, or at least about 2 microns.

54. The window module of claim 50, wherein the barrier layer has a thickness of not greater than about 25 microns, such as not greater than about 20 microns, or not greater than about 12 microns.

55. The window module of claim 50, wherein the barrier layer includes a polyurethane, acrylic polymer, or wax.

56. The window module of claim 50, wherein the release layer is formed form a non-aqueous precursor.

57. The window module of claim 56, wherein the precursor includes a release agent.

58 The window module of claim 57, wherein the release agent includes a silicone-based material, a fluorine-based material, a long-chain alkyl-based material, a fatty acid amide-based material, a polyvinyl alcohol-based material, a silica powder material, or any combination thereof.

59. The window module of claim 58, wherein the fluorine-based material includes polytetrafluoroethylene (PTFE).

60. The window module of claim 56, wherein the non-aqueous precursor includes a non-aqueous solvent.

61. A method of preparing a window module, comprising:

providing a metal frame having a first major surface;

applying a structural glazing tape to the first major surface of the metal frame, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface;

positioning a glass panel on the structural glazing tape

filling a space with a curable sealant, the space defined by the glass panel, the metal frame, and the structural glazing tape; and

curing the sealant to bond the glass panel and the metal frame together.

62. The method of claim 61, wherein the glass panel comprises one glass pane.

63. The method of claim 61, wherein the glass panel comprises an insulated glass including at least two glass panes.

64. The method of claim 61, wherein the metal frame includes an extruded aluminum.

65. The method of claim 61, wherein the sealant includes a silicone sealant.

66. The method of claim 61, wherein curing the sealant includes heating the sealant to a cure temperature.

67. The method of claim 61, wherein curing the sealant includes reacting the sealant with moisture in the air.

68. The method of claim 61, wherein curing the sealant includes directing electromagnetic radiation at the sealant.

69. The method of claim 68, wherein the electromagnetic radiation includes ultraviolet radiation.

CLAIMS:

1 A structural glazing tape for use as a spacer between a structural frame and a glass panel to provide a space for a sealant to bond the structural frame and the glass panel together, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface, the release layer being directly or indirectly bonded to the polymer foam tape and becoming a permanent component of the structural glazing tape such that the release layer is present between the structural frame and the glass panel when deployed.

2. A structural glazing tape for use as a spacer between a structural frame and a glass panel to provide a space for a sealant to bond the structural frame and the glass panel together, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface;

wherein the release layer prevents the structural glazing tape from bonding to itself, and wherein the structural glazing tape is free of a liner.

3. The structural glazing tape of claim 1 or 2, wherein the polymer foam tape includes a polyurethane foam, a polyvinyl chloride foam, a silicone foam, an ethylene propylene diene monomer rubber foam, an acrylic foam, a polychloroprene foam, a foam blend of EPDM rubber and polypropylene, a polyethylene foam, an ethylvinyl acetate foam, or any combination thereof.

4. The structural glazing tape of claim 1 or 2, wherein the release layer is formed from an aqueous precursor.

5. The structural glazing tape of claim 1 or 2, further comprising a barrier layer between the polymer foam and the release layer.

6. The structural glazing tape of claim 1 or 2, wherein the release layer includes a release agent.

7. The structural glazing tape of claim 6, wherein the release agent includes a silicone based material, a fluorine based material, a alkyl based material, a fatty acid amide based material, a polyvinyl alcohol based material, a silica powder material, or any combination thereof.

8. The structural glazing tape of claim 1 or 2, wherein the polymer foam has a force to compress at 10% in a range of 10 kPa to 500 kPa.

9. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape has an Unwinding Peel Strength in a range of 0.01 lb/in to 2.5 lb/in.

10. The structural glazing tape of claim 1 or 2, wherein the structural glazing tape has a peel strength from a stainless steel panel in a range of 1.0 lb/in to 8.0 lb/in.

11. A window module comprising

a metal frame having a first major surface;

a glass panel having a second major surface;

a structural glazing tape between the first major surface of the metal frame and the second major surface of the glass panel, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface and adjacent to the second major surface of the glass panel; and

a cured sealant between the first major surface of the metal frame and the second major surface of the glass panel and adjacent to the structural glazing tape, the cured sealant bonding the metal frame to the glass panel.

12. The window module of claim 11, wherein the metal frame includes an extruded aluminum.

13. The window module of claim 11, wherein the cured sealant includes a silicone sealant.

14. The window module of claim 11, further comprising a barrier layer between the polymer foam and the release layer.

15. A method of preparing a window module, comprising:

providing a metal frame having a first major surface;

applying a structural glazing tape to the first major surface of the metal frame, the structural glazing tape comprising:

a polymer foam tape having first and second major surfaces;

an adhesive layer overlying the first major surface for bonding the structural glazing tape to the structural frame; and

a release layer overlying the second major surface;

positioning a glass panel on the structural glazing tape

filling a space with a curable sealant, the space defined by the glass panel, the metal frame, and the structural glazing tape; and

curing the sealant to bond the glass panel and the metal frame together.