List of Illustrative Embodiments

The following are illustrative Embodiments of articles and processes of the invention:

Embodiment 1. An article comprising a substrate having a first surface and a melt coated layer having a first major surface and a second major surface, the first major surface of the melt coated layer being disposed upon the first surface of the substrate, wherein the melt coated layer is substantially continuous and comprises a melt coated composition selected from the group consisting of:

(a) one or more acrylic polymers having a collective molecular weight of at least about 200,000, and the melt coated layer has a coating weight less than about 25 g/m^2, is free of solvents, and contains no more than about 1% by weight of gelled acrylic polymer;

(b) one or more thermoplastic elastomers having a collective melt viscosity greater than about 20,000 cP, measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec , and the melt coated layer has a coating weight less than about 12 g/m^2;

(c) one or more natural rubbers or synthetic rubbers, none of which are thermoplastic elastomers, having a collective molecular weight of at least about 200,000 g/mol and a collective melt viscosity greater than about 50,000 cP, measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec, and the melt coated layer has a coating weight less than about 29 g/m^2; and

(d) one or more nonelastomeric thermoplastic polymers having a collective molecular weight of from about 50,000 to about 3,000,000 g/mol, and the melt coated layer has a coating weight less than about 17 g/m^2 and is free of solvents.

Embodiment 2. The article of Embodiment 1 wherein the melt coated layer is substantially free of liquid medium.

Embodiment 3. The article of Embodiment 1 wherein the melt coated layer is self tacky.

Embodiment 4. The article of Embodiment 1 wherein the melt coated layer exhibits pressure-sensitive adhesive properties.

Embodiment 5. The article of Embodiment 1 wherein the second major surface of the melt coated layer has a matte finish.

Embodiment 6. The article of Embodiment 1 wherein the melt coated layer exhibits a gloss reduction of from about 1 to about 9% at a 60° measuring angle.

Embodiment 7. The article of Embodiment 1 wherein the second major surface of the melt coated layer has a plurality of raised striations.

Embodiment 8. The article of Embodiment 7 wherein the coating density of the melt coated layer is from about 60 to about 95% of the melt coated composition density.

Embodiment 9. The article of Embodiment 7 wherein the raised striations have an average height of less than about 25 microns.

Embodiment 10. The article of Embodiment 7 wherein the raised striations have an average height of about 5 to about 10 microns.

Embodiment 11. The article of Embodiment 7 wherein the raised striations are irregularly spaced, and no pair of adjacent raised striations has a spacing more than ten times the spacing of any other pair of adjacent raised striations.

Embodiment 12. The article of Embodiment 7 wherein the plurality of raised striations has an average spacing between adjacent raised striations of about 20 to about 500 microns.

Embodiment 13. The article of Embodiment 7 wherein the plurality of raised striations has an average spacing between adjacent raised striations of about 150 to about 200 microns.

Embodiment 14. The article of Embodiment 1 wherein the melt coated layer has no through voids larger than pinholes.

Embodiment 15. The article of Embodiment 1 wherein the substrate is flexible.

Embodiment 16. The article of Embodiment 1 wherein the substrate comprises two or more layers.

Embodiment 17. The article of Embodiment 1 wherein the substrate comprises at least one of a polymeric film, a fabric, a metal film, or a paper.

Embodiment 18. The article of Embodiment 1 wherein the substrate comprises at least one of biaxially oriented polypropylene and polyester.

Embodiment 19. The article of Embodiment 1 wherein the article is an adhesive tape or an adhesive sheeting.

Embodiment 20. The article of Embodiment 19 wherein the article is selected from the group consisting of box sealing tape, masking tape, medical tape, graphics sheeting, and a reflective sheeting.

Embodiment 21. The article of Embodiment 1 wherein the article is in the form of roll goods, and wherein the coated layer has no edge bead before slitting or converting.

Embodiment 22. The article of Embodiment 1 wherein the melt coated layer consists essentially of one or more acrylic polymers.

Embodiment 23. The article of Embodiment 1 wherein the melt coated layer comprises acrylic polymer selected from the group consisting of polymers and copolymers of isooctyl acrylate.

Embodiment 24. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers and the melt coated layer is substantially free of tackifiers, oils, and plasticizers.

Embodiment 25. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 21 g/m^2.

Embodiment 26. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 17 g/m^2.

Embodiment 27. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 13 g/m^2.

Embodiment 28. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 9 g/m^2.

Embodiment 29. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 500,000.

Embodiment 30. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 800,000.

Embodiment 31. The article of Embodiment 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 1,000,000.

Embodiment 32. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers selected from the group consisting of styrene block copolymers.

Embodiment 33. The article of Embodiment 32 wherein the styrene block copolymer comprises a styrene-isoprene-styrene triblock copolymer or a styrene-ethylene/butylenes-styrene triblock copolymer.

Embodiment 34. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and further comprises a tackifying resin.

Embodiment 35. The article of Embodiment 34 wherein the tackifying resin is a C_5 resin.

Embodiment 36. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and is substantially free of oil and plasticizers.

Embodiment 37. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and has a coating weight less than about 9 g/m^2.

Embodiment 38. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a melt viscosity measured at any temperature suitable for hot-melt coating greater than about 50,000 cP.

Embodiment 39. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating greater than about 100,000 cP.

Embodiment 40. The article of Embodiment 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating greater than about 1,000,000 cP.

Embodiment 41. The article of Embodiment 1 wherein the melt coated layer consists essentially of natural or synthetic rubber.

Embodiment 42. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and contains no more than about 1% by weight of gelled natural or synthetic rubber.

Embodiment 43. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and further comprises at least one additive selected from the group consisting of tackifiers and plasticizers.

Embodiment 44. The article of Embodiment 43 wherein the melt coated layer comprises 10 to 200 parts by weight tackifier per 100 parts by weight natural rubber.

Embodiment 45. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 25 g/m^2.

Embodiment 46. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 19 g/m^2.

Embodiment 47. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 15 g/m^2.

Embodiment 48. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 11 g/m^2.

Embodiment 49. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers s elected from the group consisting of isoprene, butadiene, nitrile rubber, and styrene-butadiene rubber.

Embodiment 50. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers having a collective melt viscosity of at least about 100,000 cP.

Embodiment 51. The article of Embodiment 1 wherein the melt coated layer comprises one or more rubbers having a collective melt viscosity of of at least about 1,000,000 cP.

Embodiment 52. The article of Embodiment 1 wherein the melt coated layer consists essentially of nonelastomeric thermoplastic polymer.

Embodiment 53. The article of Embodiment 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastics and has a coating weight less than about 13 g/m^2.

Embodiment 54. The article of Embodiment 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastics and has a coating weight less than about 9 g/m^2.

Embodiment 55. The article of Embodiment 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastic polymers selected from the group consisting of polyolefins and aliphatic polyesters.

Embodiment 56. The article of Embodiment 1 wherein the melt coated layer comprises one or more semicrystalline nonelastomeric thermoplastic polymers.

Embodiment 57. A process for making articles with a melt coated layer thereon, the process comprising the steps of:

(a) conveying a molten coating composition comprising a polymer through a die slot having a thickness less than about 35 mils;

(b) directly contacting the molten composition to the entry side of a nip point between a rotating rod having a diameter less than about 3 inches (7.6 cm) and a moving substrate supported on a backup roller, wherein a sufficiently small nipping pressure is employed such that the surface of the backup roller is deformed by no more than a depth of about 20 mils; and

(c) obtaining a substrate with a melt coated layer thereon on the exit side of the nip point; wherein the rotating rod and the compressible backup roller are each rotating in the direction of motion of the moving substrate; and

wherein the rotating rod is rotating at greater than about 20 rpm, and has surface speed that is between about 1 and about 20% of the speed of the moving substrate.

Embodiment 58. The process of Embodiment 57 wherein the molten coating composition is selected from the group consisting of:

(a) one or more acrylic polymers having a collective molecular weight of at least about 200,000, the composition being free of solvents and containing no more than about 1% by weight of gelled acrylic polymer; or

(b) one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec is greater than about 20,000 cP; or

(c) one or more natural rubbers or synthetic rubbers having a collective molecular weight of at least about 200,000 g/mol and which is not a thermoplastic elastomer, and having a melt viscosity measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec greater than about 50,000 cP; or

(d) one or more nonelastomeric thermoplastic polymers having a collective molecular weight of from about 50,000 to about 3,000,000 g/mol, the composition being free of solvents.

Embodiment 59. The process of Embodiment 57 wherein the die slot has a thickness less than about 15 mils (380 micrometers).

Embodiment 60. The process of Embodiment 57 wherein the die slot has a thickness less than about 10 mils (250 micrometers).

Embodiment 61. The process of Embodiment 57 wherein the die slot has a thickness less than about 5 mils (125 micrometers).

Embodiment 62. The process of Embodiment 57 wherein the die slot has a thickness greater than about 1 mil (25 micrometers).

Embodiment 63. The process of Embodiment 57 wherein the rotating rod has a diameter less than about 2 inches (5 cm).

Embodiment 64. The process of Embodiment 57 wherein the rotating rod has a diameter less than 1 inch (2.5 cm).

Embodiment 65. The process of Embodiment 57 wherein the rotating rod has a diameter from about ¼ to about ¾ inch (0.6 to 2 cm).

Embodiment 66. The process of Embodiment 57 wherein the backup roller is compressible.

Embodiment 67. The process of Embodiment 57 wherein the surface of the backup roller is deformed by no more than a depth of about 10 mils (380 micrometers).

Embodiment 68. The process of Embodiment 57 wherein the surface of the backup roller is deformed by no more than a depth of about 5 mils (125 micrometers).

Embodiment 69. The process of Embodiment 57 wherein the surface of the backup roller is deformed by no more than a depth of about 1 mil (25 micrometers).

Embodiment 70. The process of Embodiment 57 wherein the surface of the backup roller is deformed to a depth of from about 1 to about 20 mils (25 to 500 micrometers).

Embodiment 71. The process of Embodiment 57 wherein the backup roller is non-compressible.

Embodiment 72. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 1 and about 15% of the speed of the moving substrate.

Embodiment 73. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 1 and about 10% of the speed of the moving substrate.

Embodiment 74. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 1 and about 5% of the speed of the moving substrate.

Embodiment 75. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 2 and about 20% of the speed of the moving substrate.

Embodiment 76. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 2 and about 10% of the speed of the moving substrate.

Embodiment 77. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 5 and about 20% of the speed of the moving substrate.

Embodiment 78. The process of Embodiment 57 wherein the rotating rod has a tangential surface speed that is between about 5 and about 10% of the speed of the moving substrate.

Embodiment 79. The process of Embodiment 57 wherein the viscosity of the molten composition is greater than about 10,000 cP.

Embodiment 80. The process of Embodiment 57 wherein the viscosity of the molten composition is greater than about 50,000 cP.

Embodiment 81. The process of Embodiment 57 wherein the viscosity of the molten composition is greater than about 100,000 cP.

Embodiment 82. The process of Embodiment 57 wherein the viscosity of the molten composition is greater than about 1,000,000 cP.

Embodiment 83. The process of Embodiment 57 wherein the rotating rod is smooth or has a surface texture having a value of R_A less than about 1000 microinches (25 μm).

Embodiment 84. The process of Embodiment 57 wherein the rotating rod has a surface texture having a value of R_A less than about 100 microinches (2.5 μm).

Embodiment 85. The process of Embodiment 57 wherein the rotating rod has a surface texture having a value of R_A less than about 20 microinches (0.5 μm).

Embodiment 86. The process of Embodiment 57 wherein the coated substrate has no visible edge bead before slitting or converting.

Embodiment 87. The process of Embodiment 57 wherein the moving substrate is moving at over about 200 feet/minute (60 meters/minute).

Embodiment 88. The process of Embodiment 57 wherein the moving substrate is moving at over about 500 feet/minute (150 meters/minute).

Embodiment 89. The process of Embodiment 57 wherein the moving substrate is moving at over about 1000 feet/minute (300 meters/minutes).

Embodiment 90. The process of Embodiment 57 wherein there is no visible rolling bank created by contacting the molten composition to the entry side of the nip point.

Embodiment 91. The process of Embodiment 57 wherein the thickness of the die slot, the surface speed of the rotating rod, and the nipping pressure are set within ranges such that, within the ranges, the thickness of the coated substrate depends on the thickness of the die slot and the surface speed of the rotating rod, and is independent of the nipping pressure.

Embodiment 92. The process of Embodiment 57 wherein the substrate is flexible.

Embodiment 93. The process of Embodiment 57 wherein the substrate comprises two or more layers.

Embodiment 94. The process of Embodiment 57 wherein the substrate comprises at least one of a polymeric film, a non-woven web, or a paper.

Embodiment 95. The process of Embodiment 57 wherein the substrate has been primed to improve adhesion of the melt coated layer thereto.

Embodiment 96. The process of Embodiment 57 further comprising:

(d1) winding the substrate with melt coated layer thereon onto itself in roll form.

Embodiment 97. The process of Embodiment 96 wherein the melt coated layer is not dried between step (c) and step (d1).

Embodiment 98. The process of Embodiment 57 further comprising cross linking the melt coated layer after step (c).

Embodiment 99. The process of Embodiment 57 further comprising:

(d2) contacting the melt coated layer to an adherend to adhere the substrate to the adherend.

Embodiment 100. The process of Embodiment 99 wherein the melt coated layer is not dried between step (c) and step (d2).

What is claimed is:

1. An article comprising a substrate having a first surface and a melt coated layer having a first major surface and a second major surface, the first major surface of the melt coated layer being disposed upon the first surface of the substrate, wherein the melt coated layer is substantially continuous and comprises a melt coated composition selected from the group consisting of:

(a) one or more acrylic polymers having a collective molecular weight of at least about 200,000, and the melt coated layer has a coating weight less than about 25 g/m^2, is free of solvents, and contains no more than about 1% by weight of gelled acrylic polymer;

(b) one or more thermoplastic elastomers having a collective melt viscosity greater than about 20,000 cP, measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec , and the melt coated layer has a coating weight less than about 12 g/m^2;

(c) one or more natural rubbers or synthetic rubbers, none of which are thermoplastic elastomers, having a collective molecular weight of at least about 200,000 g/mol and a collective melt viscosity greater than about 50,000 cP, measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec, and the melt coated layer has a coating weight less than about 29 g/m^2; and

(d) one or more nonelastomeric thermoplastic polymers having a collective molecular weight of from about 50,000 to about 3,000,000 g/mol, and the melt coated layer has a coating weight less than about 17 g/m^2 and is free of solvents.

2. The article of claim 1 wherein the melt coated layer is substantially free of liquid medium.

~~3. The article of claim 1 wherein the melt coated layer is self tacky.~~

34. The article of claim 1 wherein the melt coated layer exhibits pressure-sensitive adhesive properties.

~~5. The article of claim 1 wherein the second major surface of the melt coated layer has a matte finish.~~

~~6. The article of claim 1 wherein the melt coated layer exhibits a gloss reduction of from about 1 to about 9% at a 60° measuring angle.~~

47. The article of claim 1 wherein the second major surface of the melt coated layer has a plurality of raised striations.

58. The article of claim 47 wherein the coating density of the melt coated layer is from about 60 to about 95% of the melt coated composition density.

~~9. The article of claim 7 wherein the raised striations have an average height of less than about 25 microns.~~

~~10. The article of claim 7 wherein the raised striations have an average height of about 5 to about 10 microns.~~

611. The article of claim 47 wherein the raised striations are irregularly spaced, and no pair of adjacent raised striations has a spacing more than ten times the spacing of any other pair of adjacent raised striations.

~~12. The article of claim 7 wherein the plurality of raised striations has an average spacing between adjacent raised striations of about 20 to about 500 microns.~~

~~13. The article of claim 7 wherein the plurality of raised striations has an average spacing between adjacent raised striations of about 150 to about 200 microns.~~

~~14. The article of claim 1 wherein the melt coated layer has no through voids larger than pinholes.~~

~~15. The article of claim 1 wherein the substrate is flexible.~~

~~16. The article of claim 1 wherein the substrate comprises two or more layers.~~

717. ~~The article of claim 1 wherein the substrate comprises at least one of a polymeric film, a fabric, a metal film, or a paper.~~

~~18. The article of claim 1 wherein the substrate comprises at least one of biaxially oriented polypropylene and polyester.~~

~~19. The article of claim 1 wherein the article is an adhesive tape or an adhesive sheeting.~~

~~20. The article of claim 19 wherein the article is selected from the group consisting of box sealing tape, masking tape, medical tape, graphics sheeting, and a reflective sheeting.~~

~~21~~. The article of claim 1 wherein the article is in the form of roll goods, and wherein the coated layer has no edge bead before slitting or converting.

~~822~~. The article of claim 1 wherein the melt coated layer consists essentially of one or more acrylic polymers.

~~923~~. The article of claim 1 wherein the melt coated layer comprises acrylic polymer selected from the group consisting of polymers and copolymers of isooctyl acrylate.

~~1024~~. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers and the melt coated layer is substantially free of tackifiers, oils, and plasticizers.

~~25. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 21 g/m^2.~~

~~26. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 17 g/m^2.~~

~~27. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 13 g/m^2.~~

~~28. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers and has a coating weight is less than about 9 g/m^2.~~

~~29. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 500,000.~~

~~30. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 800,000.~~

~~31. The article of claim 1 wherein the melt coated layer comprises one or more acrylic polymers having a collective molecular weight of at least about 1,000,000.~~

~~1132~~. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers selected from the group consisting of styrene block copolymers.

1233. The article of claim 1132 wherein the styrene block copolymer comprises a styrene-isoprene-styrene triblock copolymer or a styrene-ethylene/butylenes-styrene triblock copolymer.

134. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and further comprises a tackifying resin.

~~35. The article of claim 34 wherein the tackifying resin is a C_5 resin.~~

1436. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and is substantially free of oil and plasticizers.

~~37. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers and has a coating weight less than about 9 g/m^2.~~

~~38. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a melt viscosity measured at any temperature suitable for hot-melt coating greater than about 50,000 cP.~~

~~39. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating greater than about 100,000 cP.~~

~~40. The article of claim 1 wherein the melt coated layer comprises one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating greater than about 1,000,000 cP.~~

1541. The article of claim 1 wherein the melt coated layer consists essentially of natural or synthetic rubber.

1642. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and contains no more than about 1% by weight of gelled natural or synthetic rubber.

1743. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and further comprises at least one additive selected from the group consisting of tackifiers and plasticizers.

~~44. The article of claim 43 wherein the melt coated layer comprises 10 to 200 parts by weight tackifier per 100 parts by weight natural rubber.~~

~~45. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 25 g/m^2.~~

~~46. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 19 g/m^2.~~

~~47. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 15 g/m^2.~~

~~48. The article of claim 1 wherein the melt coated layer comprises one or more rubbers selected from the group consisting of natural rubbers and synthetic rubbers and has a coating weight is less than about 11 g/m^2.~~

1~~8~~49. The article of claim 1 wherein the melt coated layer comprises one or more rubbers s elected from the group consisting of isoprene, butadiene, nitrile rubber, and styrene-butadiene rubber.

~~50. The article of claim 1 wherein the melt coated layer comprises one or more rubbers having a collective melt viscosity of at least about 100,000 cP.~~

~~51. The article of claim 1 wherein the melt coated layer comprises one or more rubbers having a collective melt viscosity of of at least about 1,000,000 cP.~~

1~~9~~52. The article of claim 1 wherein the melt coated layer consists essentially of nonelastomeric thermoplastic polymer.

~~53. The article of claim 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastics and has a coating weight less than about 13 g/m^2.~~

~~54. The article of claim 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastics and has a coating weight less than about 9 g/m^2.~~

2055. The article of claim 1 wherein the melt coated layer comprises one or more nonelastomeric thermoplastic polymers selected from the group consisting of polyolefins and aliphatic polyesters.

2156. The article of claim 1 wherein the melt coated layer comprises one or more semicrystalline nonelastomeric thermoplastic polymers.

2257. A process for making articles with a melt coated layer thereon, the process comprising the steps of:

(a) conveying a molten coating composition comprising a polymer through a die slot having a thickness less than about 35 mils;

(b) directly contacting the molten composition to the entry side of a nip point between a rotating rod having a diameter less than about 3 inches (7.6 cm) and a moving substrate supported on a backup roller, wherein a sufficiently small nipping pressure is employed such that the surface of the backup roller is deformed by no more than a depth of about 20 mils; and

(c) obtaining a substrate with a melt coated layer thereon on the exit side of the nip point;

wherein the rotating rod and the compressible backup roller are each rotating in the direction of motion of the moving substrate; and

wherein the rotating rod is rotating at greater than about 20 rpm, and has surface speed that is between about 1 and about 20% of the speed of the moving substrate.

2358. The process of claim 2257 wherein the molten coating composition is selected from the group consisting of:

(a) one or more acrylic polymers having a collective molecular weight of at least about 200,000, the composition being free of solvents and containing no more than about 1% by weight of gelled acrylic polymer; or

(b) one or more thermoplastic elastomers having a collective melt viscosity measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec is greater than about 20,000 cP; or

(c) one or more natural rubbers or synthetic rubbers having a collective molecular weight of at least about 200,000 g/mol and which is not a thermoplastic elastomer, and having a melt viscosity measured at any temperature suitable for hot-melt coating and at shear rates less than 100 sec^{-1} or frequencies less than 100 rad/sec greater than about 50,000 cP; or

(d) one or more nonelastomeric thermoplastic polymers having a collective molecular weight of from about 50,000 to about 3,000,000 g/mol, the composition being free of solvents.

2459. The process of claim 2257 wherein the die slot has a thickness less than about 15 mils (380 micrometers).

~~60. The process of claim 57 wherein the die slot has a thickness less than about 10 mils (250 micrometers).~~

~~61. The process of claim 57 wherein the die slot has a thickness less than about 5 mils (125 micrometers).~~

~~62. The process of claim 57 wherein the die slot has a thickness greater than about 1 mil (25 micrometers).~~

2563. The process of claim 2257 wherein the rotating rod has a diameter less than about 2 inches (5 cm).

~~64. The process of claim 57 wherein the rotating rod has a diameter less than 1 inch (2.5 cm).~~

~~65. The process of claim 57 wherein the rotating rod has a diameter from about ¼ to about ¾ inch (0.6 to 2 cm).~~

~~66. The process of claim 57 wherein the backup roller is compressible.~~

~~67. The process of claim 57 wherein the surface of the backup roller is deformed by no more than a depth of about 10 mils (380 micrometers).~~

~~68. The process of claim 57 wherein the surface of the backup roller is deformed by no more than a depth of about 5 mils (125 micrometers).~~

~~69. The process of claim 57 wherein the surface of the backup roller is deformed by no more than a depth of about 1 mil (25 micrometers).~~

~~70. The process of claim 57 wherein the surface of the backup roller is deformed to a depth of from about 1 to about 20 mils (25 to 500 micrometers).~~

~~71. The process of claim 57 wherein the backup roller is non-compressible.~~

2672. The process of claim 5722 wherein the rotating rod has a tangential surface speed that is between about 1 and about 15% of the speed of the moving substrate.

~~73. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 1 and about 10% of the speed of the moving substrate.~~

~~74. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 1 and about 5% of the speed of the moving substrate.~~

~~75. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 2 and about 20% of the speed of the moving substrate.~~

~~76. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 2 and about 10% of the speed of the moving substrate.~~

~~77. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 5 and about 20% of the speed of the moving substrate.~~

~~78. The process of claim 57 wherein the rotating rod has a tangential surface speed that is between about 5 and about 10% of the speed of the moving substrate.~~

2779. The process of claim ~~57~~22 wherein the viscosity of the molten composition is greater than about 10,000 cP.

~~80. The process of claim 57 wherein the viscosity of the molten composition is greater than about 50,000 cP.~~

~~81. The process of claim 57 wherein the viscosity of the molten composition is greater than about 100,000 cP.~~

~~82. The process of claim 57 wherein the viscosity of the molten composition is greater than about 1,000,000 cP.~~

2883. The process of claim ~~57~~22 wherein the rotating rod is smooth or has a surface texture having a value of R_A less than about 1000 microinches (25 μm).

~~84. The process of claim 57 wherein the rotating rod has a surface texture having a value of R_A less than about 100 microinches (2.5 μm).~~

~~85. The process of claim 57 wherein the rotating rod has a surface texture having a value of R_A less than about 20 microinches (0.5 μm).~~

2986. The process of claim ~~57~~22 wherein the coated substrate has no visible edge bead before slitting or converting.

3087. The process of claim ~~57~~22 wherein the moving substrate is moving at over about 200 feet/minute (60 meters/minute).

~~88. The process of claim 57 wherein the moving substrate is moving at over about 500 feet/minute (150 meters/minute).~~

~~89. The process of claim 57 wherein the moving substrate is moving at over about 1000 feet/minute (300 meters/minutes).~~

3190. The process of claim ~~57~~22 wherein there is no visible rolling bank created by contacting the molten composition to the entry side of the nip point.

3291. The process of claim ~~57~~22 wherein the thickness of the die slot, the surface speed of the rotating rod, and the nipping pressure are set within ranges such that, within the ranges, the thickness of the coated substrate depends on the thickness of the die slot and the surface speed of the rotating rod, and is independent of the nipping pressure.

~~92. The process of claim 57 wherein the substrate is flexible.~~

~~93. The process of claim 57 wherein the substrate comprises two or more layers.~~

~~94. The process of claim 57 wherein the substrate comprises at least one of a polymeric film, a non-woven web, or a paper.~~

~~95. The process of claim 57 wherein the substrate has been primed to improve adhesion of the melt coated layer thereto.~~

3396. The process of claim ~~57~~22 further comprising:

(d1) winding the substrate with melt coated layer thereon onto itself in roll form.

3497. The process of claim 3396 wherein the melt coated layer is not dried between step (c) and step (d1).

3598. The process of claim ~~57~~22 further comprising cross linking the melt coated layer after step (c).

~~99. The process of claim 57 further comprising:~~

~~(d2) contacting the melt coated layer to an adherend to adhere the substrate to the adherend.~~

36~~100~~. The process of claim 35~~99~~ wherein the melt coated layer is not dried between step (c) and step (d2).