

CLAIMS

1. A coated film having a thickness of less than 100µm comprising a substantially biodegradable filmic substrate having a biodegradable coating thereon at a coat weight of not more than 12gsm; wherein the coated film has a WVTR (Tropical, 38°C, 90%RH) of less than 20 gsm/day; and/or wherein the coated film is heat sealable, exhibiting a seal strength of greater than 300g/25mm when sealed at 135°C at 10 psi for a half second dwell time with one jaw heated.
2. A coated film according to claim 1 wherein the substantially biodegradable substrate is selected from a film-forming biodegradable material, or from mixtures of two or more thereof.
3. A coated film according to claim 2 wherein the substantially biodegradable film-forming material is selected from cellulose and cellulosic derivatives, polymers of lactic acid and its derivatives, polymers of hydroxyalkanoates (PHAs), biodegradeable copolyesters, polycaprolactones and starch-based materials.
4. A coated film according to any one of claims 1 to 3 wherein the coating comprises a biodegradable polyester and/or copolyester and/or starch or a starch-based material.
5. A coated film according to any one of claims 1 to 4 coated only on one side.
6. A coated film according to any one of claims 1 to 5 wherein no primer layer is provided between the biodegradable substrate and the coating.
7. A coated film according to any one of claims 1 to 6 laminated to one or more further substrates.
8. A coated film according to any one of claims 1 to 7 wherein the coat weight is less than 10 gsm, or less than 9gsm, or less than 8 gsm.

9. A coated film according to any one of claims 1 to 8 wherein the thickness of the coating on the film is less than about 20 μ m, or less than about 15 μ m, or less than about 12 μ m.
10. A coated film according to any one of claims 1 to 9 wherein the total thickness of the film is less than about 75 μ m, or less than about 50 μ m.
11. A coated film according to any one of claims 1 to 10 wherein the substantially biodegradable substrate comprises a cast film.
12. A coated film according to any one of claims 1 to 11 in which the coating is applied by means of a hot melt coating process.
13. A coated film according to claim 12 wherein in the hot melt coating process the coating is extruded through a curtain die onto the substantially biodegradable substrate as it is drawn through a pair of counter-rotating rollers.
14. A coated film according to any one of claims 1 to 13 having a seal strength ~~greater than 300g/25mm, or greater than 400g/25mm, or more than about 500g/25mm, or more than about 600g/25mm~~ when sealed at 135°C with a half second dwell time between sealing jaws, one of which is heated.
15. A coated film according to any one of claims 1 to 14 having a WVTR (Tropical, 38°C, 90%RH) ~~of less than 20 gsm/day, or less than 18 gsm/day, or less than 15 gsm/day.~~
16. A coated film according to any one of claims 1 to 15 having a seal threshold of at least about 10%, or at least about 50%, or at least about 100% higher than that of the uncoated biodegradable substrate.

17. A useful article sealed inside a package at least partly comprising the coated film according to any one of claims 1 to 16.
18. A process for producing a coated film comprising providing a substantially biodegradable film substrate and applying a biodegradable coating to the substrate at a coat weight of less than 12gsm by means of a hot melt coating step to provide a coated film having a thickness of less than 100µm; and a WVTR (Tropical, 38°C, 90%RH) of less than 20 gsm/day; and/or is heat sealable, exhibiting a seal strength of greater than 300g/25mm when sealed at 135°C at 10 psi for a half second dwell time with one jaw heated.
19. A process according to claim 18 wherein the film substrate is drawn during the coating step.
20. A process according to claim 18 or claim 19 wherein the coating is extruded as a hot melt onto the film substrate through a curtain die.
21. A process according to any one of claims 18 to 20 wherein the coating step is conducted at a temperature of from about 80°C to about 280°C, or from about 90°C to about 250°C.
22. A process according to any one of claims 18 to 22 wherein the coating step involves the use of water in the nip to prevent the polymer from sticking to the nip rollers.
23. A process according to any one of claims 18 to 23 wherein the coating step involves the use of water in the nip to improve the optical properties of the coated film.