Claims

1. A method of manufacture of a coated material comprising the steps of:

providing a cellulosic substrate;

melting a polyvinyl alcohol polymer composition which includes one or more plasticizers;

wherein the plasticizer is selected from the group consisting of: triglycerol, xylose, D-mannitol, triacetin, pentaerythritol, dipentaerythritol and caprolactam;

wherein the polymer is a blend of two or more homopolymeric polyvinyl alcohol polymers, having higher or lower respective molecular weights, each having a degree of hydrolysis of 90 wt% or greater and a melting point in the range of 200°C to 225°C;

extruding the melted polyvinyl alcohol polymer to form a molten polyvinyl alcohol polymeric film;

applying the molten polyvinyl alcohol polymeric film directly to the surface of the substrate; and

allowing the molten polyvinyl alcohol polymeric film to solidify on the surface to form a coated material.

2. A method of claim 1, wherein the plasticizer is selected from the group consisting of: triglycerol, xylose, D-mannitol, triacetin, pentaerythritol and dipentaerythritol.

3. The method of claim 1 or 2, wherein the molten polyvinyl alcohol polymeric film is applied directly to the surface of the substrate without use of an adhesive or intermediate bonding layer.

4. The method of any preceding claim, wherein the polyvinyl alcohol polymer is formed by hydrolysis of polyvinyl acetate homopolymer.

5. The method of any preceding claim, wherein the polyvinyl alcohol polymer has a degree of hydrolysis of 93 wt% or greater.

6. The method of any preceding claim, wherein the polyvinyl alcohol polymer composition includes a reactive stabilizer selected from the group consisting of: calcium stearate, stearic acid, sodium stearate, potassium oleate, potassium sorbate, sodium benzoate and mixtures thereof.

7. The method of any preceding claim, wherein the cellulosic material is paper, board or card.

8. The method of any preceding claim, including the step of subjecting the melted polyvinyl alcohol polymer to shear for one hour or longer to reduce the viscosity of the melted polyvinyl alcohol polymer.

9. The method of any preceding claim, wherein the viscosity of the melted polyvinyl alcohol polymer decreases with increasing shear rate from a viscosity at a shear rate of 80 1/s to a viscosity at a shear rate of 1000 1/s, the viscosities being measured at steady states following application of shear to the polyvinyl alcohol polymer for up to one hour.

10. The method of any preceding claim, wherein the two or more polyvinyl alcohol polymers have the same hydrolysis degree (HD) value.

11. A coated material comprising a cellulosic substrate directly coated with a polyvinyl alcohol polymer, wherein the polymer has a degree of hydrolysis of 90 wt% or greater and a melting point of 200°C to 225°C;

wherein the polymer includes one or more plasticizers selected from the group consisting of: triglycerol, xylose, D-mannitol, triacetin, pentaerythritol, dipentaerythritol, caprolactam and mixtures thereof,

and

wherein the polymer dissolves within 10 minutes in water at a temperature from about 30°C to about 60°C to allow release of 100% cellulosic fibres from the coated substrate.

12. A coated material as claimed in claim 11; where the temperature is from about 35ºC to about 45ºC.

13. A coated material as claimed in claim 11 or 12; comprising:

a cellulosic substrate; and

a coating of polyvinyl alcohol polymer applied directly to the substrate;

wherein the polyvinyl alcohol polymer comprises plasticized polyvinyl alcohol having a degree of hydrolysis of 90 wt% or greater.

14. A coated material as claimed in any of claims 11 to 13: wherein the degree of hydrolysis is 93 wt% or greater.

15. A coated material as claimed in any of claims 11 to 14 further comprising a reactive stabiliser selected from the group consisting of: calcium stearate, stearic acid, sodium stearate, potassium oleate, potassium sorbate, sodium benzoate and mixtures thereof.

16. A coated material as claimed in claim 15, wherein the reactive stabilizer is sodium benzoate.