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(54) Glittering-reflecting sheet paper material and method for making the same

(57) There is provided a sheet paper material having at least one glazed surface associated with a layer incorporating a dispersion of mica granules, which impart a glittering-reflecting appearance to the surface; the granules have a predetermined particle size, and are in such quantity as not to interfere with printing processes.

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Description

[0001] The present invention relates to a glittering-reflecting sheet paper material and relative production method.

[0002] Numerous types of paper are known with a special look and/or finish for producing attractive luminous, reflecting, iridescent effects and similar, and which are used, for example, for packaging, illustrations, quality advertising, etc.

[0003] Such paper, however, often poses problems at follow-up processing stages, in particular printing, on account of the way the material is treated and/or any elements added to the material to achieve the desired characteristics.

[0004] It is an object of the present invention to provide a paper material of original aesthetic characteristics, and which at the same time is fully compatible with conventional printing methods.

[0005] According to the present invention, there is provided a sheet paper material, characterized by comprising at least one glazed surface associated with a layer incorporating a dispersion of granules of a reflecting substance, in particular mica; which granules impart a glittering-reflecting appearance to said surface.

[0006] The granules of mica or other reflecting inorganic substance of equivalent properties have a predetermined particle size, and are quantity controlled to avoid interfering with any follow-up printing processes.

[0007] More specifically, the particle size of the mica employed ranges approximately from 2 to 150 μm, preferably from approximately 10 to 120 μm, and more preferably from approximately 20 to 80 μm; and approximately 1 to 1000 granules of mica per cm^2 of surface are used, depending also on the desired effect.

[0008] The layer incorporating the mica granules comprises a substantially transparent binding composition, in which the mica granules are incorporated. Preferably, the binding composition is a polymer composition of natural and/or synthetic latex, e.g. acrylic, butadiene or similar, and comprises approximately 5 to 30 parts by weight of mica.

[0009] In a preferred embodiment, the sheet paper material is glazed on both opposite surfaces, and each surface is associated with a respective layer incorporating a dispersion of granules of mica (or other equivalent substance) as described above.

[0010] There is also provided a method of producing a sheet paper material, the method being characterized by comprising a step of producing a web of paper material on a continuous paper machine; a step of glazing at least one surface of said web; and a surface-treatment step for surface treating said surface, and in which a layer incorporating a dispersion of granules of a reflecting substance, in particular mica, is applied to said surface to impart a glittering-reflecting appearance to said surface.

[0011] More specifically, said surface-treatment step is performed off and downstream from the continuous paper machine.

[0012] Preferably, said surface-treatment step is performed after (but may even be performed before) the step of glazing the same surface.

[0013] The granules employed at the surface-treatment step are of such particle size and quantity as not to interfere with follow-up printing processes, and, in particular, have a particle size ranging approximately from 2 to 150 μm, preferably from approximately 10 to 120 μm, and more preferably from approximately 20 to 80 μm; and the quantity of granules employed ranges approximately from 1 to 1000 granules per cm^2 of surface.

[0014] The granules of mica (or other equivalent substance) are applied in a substantially transparent binding composition, in which said granules are incorporated.

[0015] Preferably, the binding composition is a polymer composition of natural and/or synthetic latex comprising approximately 5 to 30 parts by weight of mica, and is applied to the surface of the paper material in a quantity ranging approximately from 1 to 5% by weight.

[0016] The step of producing a web of paper material on a continuous paper machine, and the glazing step are conventional and therefore well known; and the type of paper on which the surface-treatment step is performed may also be conventional.

[0017] The advantages of the present invention will be clear from the foregoing description : that is, there is provided a paper material of distinctive aesthetic appearance (derived from combining glazing and mica granules), and which at the same time is perfectly suitable for top-quality printing (using any known method). The presence of mica granules in paper materials in accordance with the invention, in fact, has surprisingly been found to have no negative effect on printing quality.

[0018] Other natural or synthetic substances with light-reflecting characteristics equivalent to mica may be used instead, though mica would seem to give the best results.

[0019] Clearly, changes may be made to the paper material and relative production method as described herein without, however, departing from the scope of the present invention as defined in the accompanying Claims.

Claims

1. A sheet paper material, **characterized by** comprising at least one glazed surface associated with a layer incorporating a dispersion of granules of a reflecting substance; which granules impart a glittering-reflecting appearance to said surface.

2. A paper material as claimed in Claim 1, **characterized in that** said reflecting substance is mica.

3. A paper material as claimed in Claim 1 or 2, **characterized in that** said granules have a predetermined particle size, and are of such quantity as not to interfere with printing processes.

4. A paper material as claimed in one of the foregoing Claims, **characterized in that** the average size of said granules approximately ranges from 2 to 150 μm.

5. A paper material as claimed in one of the foregoing Claims, **characterized by** comprising approximately 1 to 100 granules per cm^2 of surface.

6. A paper material as claimed in one of the foregoing Claims, **characterized in that** said layer comprises a substantially transparent binding composition, in which said granules of reflecting substance are incorporated.

7. A paper material as claimed in the foregoing Claim, **characterized in that** said binding composition is a polymer composition of natural and/or synthetic latex.

8. A paper material as claimed in the foregoing Claim; **characterized in that** said binding composition comprises approximately 5 to 30 parts by weight of granules of reflecting substance.

9. A paper material as claimed in one of the foregoing Claims, **characterized by** being glazed on both opposite surfaces; said surfaces being associated with respective layers incorporating dispersions of granules of reflecting substance.

10. A method of producing a sheet paper material, the method being **characterized by** comprising a step of producing a web of paper material on a continuous paper machine; a step of glazing at least one surface of said web; and a surface-treatment step for surface treating said surface, and in which a layer incorporating a dispersion of granules of a reflecting substance is applied to said surface to impart a glittering-reflecting appearance to said surface.

11. A method as claimed in Claim 10, **characterized in that** said reflecting substance applied in granules is mica.

12. A method as claimed in Claim 10 or 11, **characterized in that** said surface-treatment step is performed off and downstream from the continuous paper machine.

13. A method as claimed in one of Claims 10 to 12, **characterized in that** the granules employed at said surface-treatment step are of such particle size and quantity as not to interfere with follow-up printing processes.

14. A method as claimed in Claim 13, **characterized in that** the granules employed at said surface-treatment step have a particle size ranging approximately from 2 to 150 μm.

15. A method as claimed in Claim 13 or 14, **characterized in that** 1 to 1000 granules of reflecting substance per cm^2 of surface are applied to said surface at said surface-treatment step.

16. A method as claimed in one of Claims 10 to 15, **characterized in that** a substantially transparent binding composition, in which said granules of reflecting substance are incorporated, is applied to said surface at said surface-treatment step.

17. A method as claimed in Claim 16, **characterized in that** said binding composition is a polymer composition of natural and/or synthetic latex.

18. A method as claimed in Claim 17, **characterized in that** said binding composition comprises approximately 5 to 30 parts by weight of reflecting substance.

19. A method as claimed in one of Claims 16 to 18, **characterized in that** said binding composition is applied to said surface in a quantity ranging approximately from 1 to 5% by weight.

20. A glittering-reflecting sheet paper material and relative production method, substantially as described herein.