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(54) **PACKAGING MATERIAL AND CONTAINERS FORMED THEREFROM**

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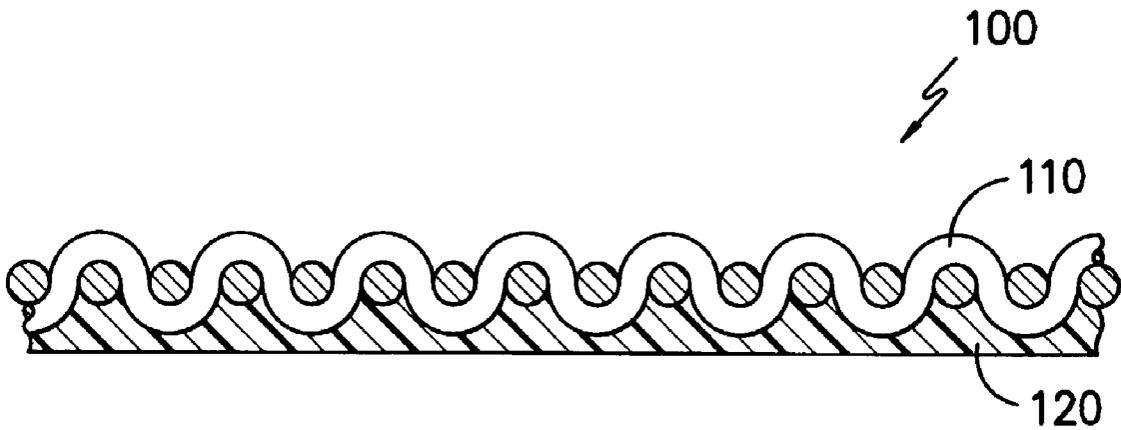
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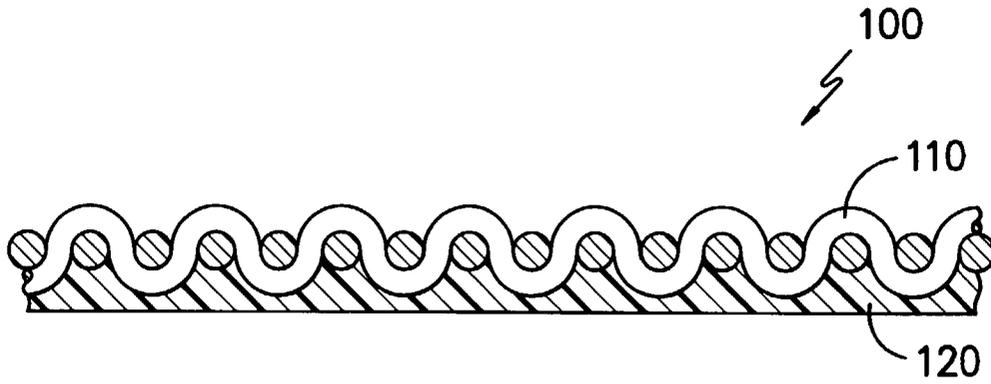
**ABSTRACT**

The present invention relates generally to a packaging container formed of a packaging material comprised of a textile layer of woven polyester fabric and a thermoplastic layer of polyolefin.

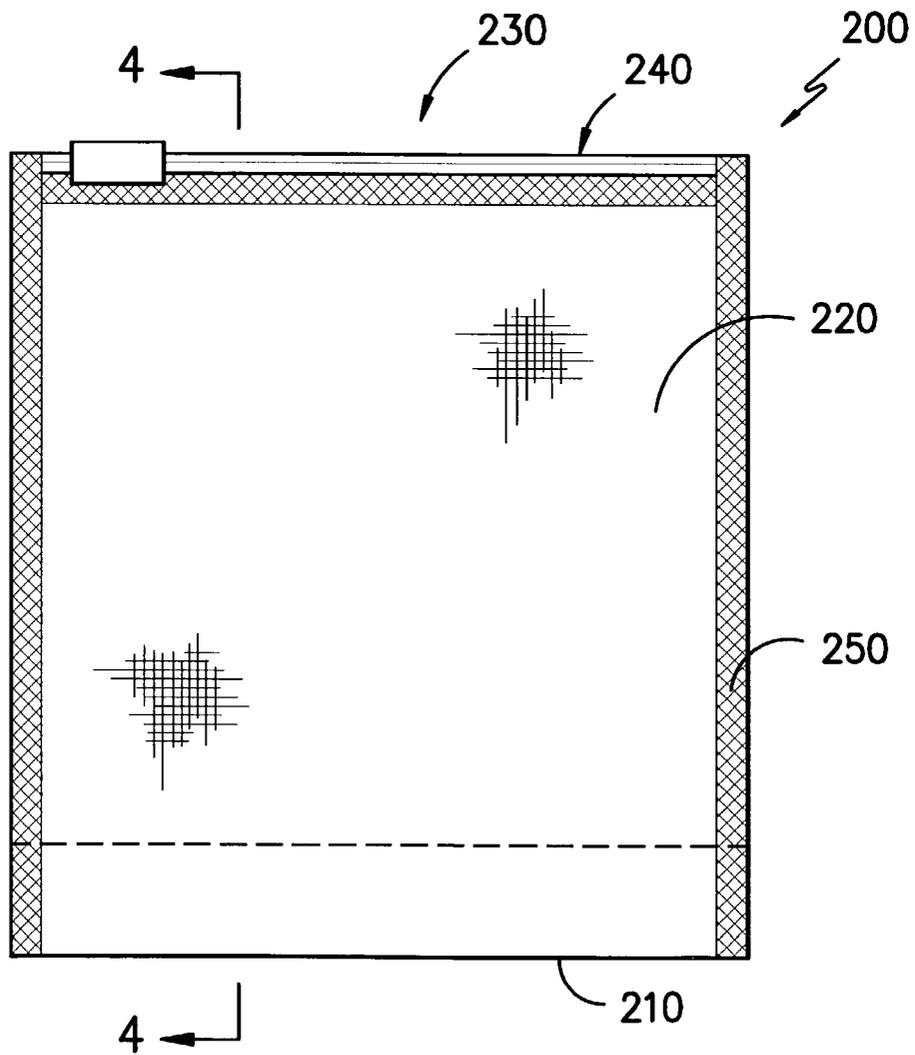
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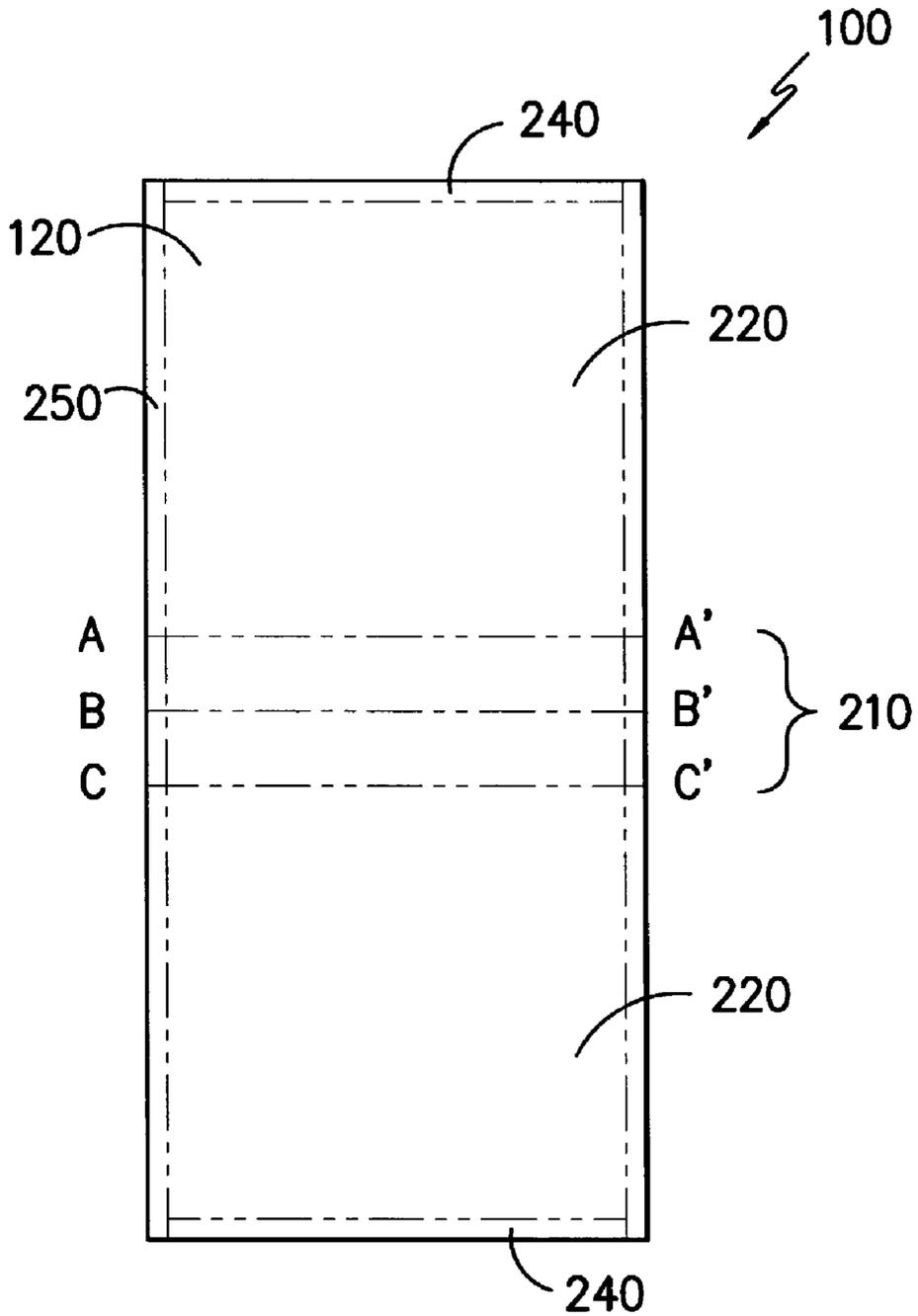




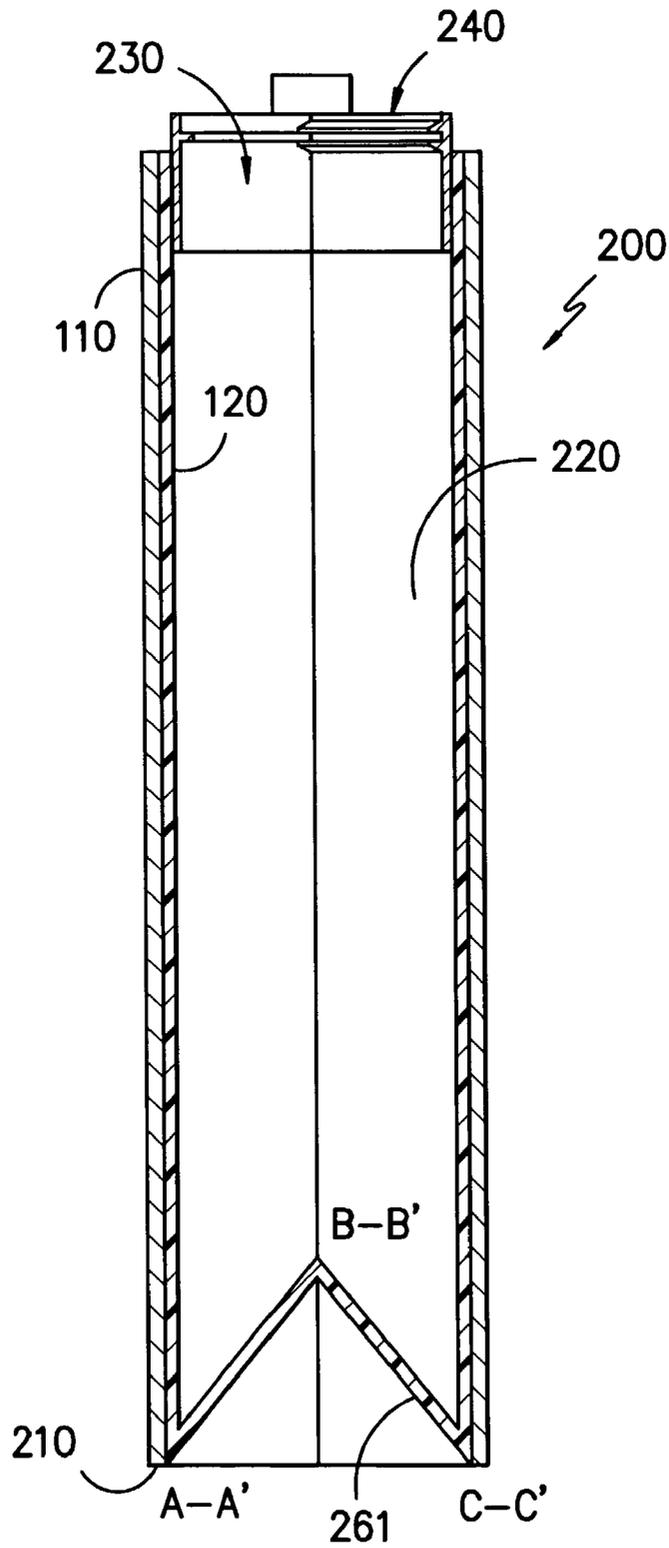
*FIG. -1-*



*FIG. -2-*



*FIG. -3-*



*FIG. -4-*

## PACKAGING MATERIAL AND CONTAINERS FORMED THEREFROM

### CROSS-REFERENCE TO RELATED APPLICATIONS

[0001] This application claims priority to and the benefit of prior filed U.S. Provisional Patent Application Serial No. 60/310,771, filed Aug. 8, 2001, hereby incorporated by reference herein.

### BACKGROUND

[0002] The present invention relates generally to materials for packaging pouches, and the packaging containers formed therefrom.

### BRIEF DESCRIPTION OF THE DRAWINGS

[0003] FIG. 1 is an enlarged cross-sectional view of an embodiment of packaging material of the present invention.

[0004] FIG. 2 is a view of a packaging container formed from the packaging material in FIG. 1.

[0005] FIG. 3 is a plan view of a lay-out of packaging material in FIG. 1 for forming the packaging container in FIG. 2.

[0006] FIG. 4 is a section view of the packaging container shown in FIG. 2 which was taken along section line 4 of FIG. 2.

### DETAILED DESCRIPTION

[0007] Referring now to the Figures, and in particular to FIG. 1, there is shown an enlarged cross-sectional view of an embodiment of packaging material 100 of the present invention. The packaging material 100 generally includes a textile layer 110 and a thermoplastic layer 120.

[0008] As illustrated in FIG. 1, the textile layer 110 is a woven polyester fabric. The warp yarns of the textile layer 110 can be 1/150/48 or 50 denier textured polyester yarn, and the fill yarns can be 1/150/48 or 50 denier textured polyester yarn. In one embodiment, the weave density of the fabric ranges from about 50 to about 64 yarns per inch.

[0009] Also as illustrated in FIG. 1, the thermoplastic layer 120 is a polyolefin. In one embodiment, the polyolefin can be a polyethylene, such as metallocene catalyzed low density polyethylene. In another embodiment, the polyolefin can be polypropylene. In a preferred embodiment, the thermoplastic layer 120 will have a softening point temperature lower than the textile layer 110. In a further preferred embodiment, the softening point of the thermoplastic layer 120 is at least about 40 C. lower than the textile layer 110. The thermoplastic layer 120 can range in thickness from about 1.5 to about 4.0 mils, more preferably from about 2 to about 3 mils. In one embodiment, the thermoplastic layer 120 is about 3 mils thick. The thermoplastic layer 120 can be joined with the textile layer 110 through lamination, extrusion coating, bonding with a bonding agent, or the like.

[0010] The textile layer 110 can be treated with a water repellant, such as a fluorochemical, to provide the exterior of the textile layer 110 with a water and/or stain resistance.

[0011] Various other treatments can be incorporated into the textile layer 110, incorporated into the thermoplastic

layer 120, and/or disposed over the textile layer 110 of the material 100, such as antimicrobial agents, antibacterial agents, antifungal agents, flame retardants, UV inhibitors, antioxidants, coloring agents, lubricants, fragrances, anti-static agents, or the like.

[0012] Referring now to FIG. 2, there is illustrated a packaging container 200 formed from the packaging material 100 in FIG. 1. The packaging container 200 generally includes a bottom 210, side walls 220, and an open end 230. As shown in FIG. 3, the packaging container 200 can be formed by folding a rectangular section of the packaging material 100 and applying heat to the edges 250 to form the container shape. The packaging material 100 shown in FIG. 3 is oriented with the thermoplastic layer 120 facing up and the textile layer 110 facing down. The packaging material 100 is folded along fold line B-B' such that fold line B-B' protrudes upwardly (out of the page). The packaging material 100 is then folded along fold lines A-A' and C-C' such that each of the fold lines A-A' and C-C' protrude downwardly (into the page). As shown in FIGS. 2 through 4, after the container shape is formed, a closure 240 can be positioned inside the open end 230 of the container 200, and secured by applying heat to the container 200 along the open end 230. The closure 240 can be a rail fastener, rail fastener with slider, press to close, zipper, hook and loop, or the like.

[0013] In a further embodiment, as shown in FIG. 4, the textile layer 110 of the material 100 can be removed in the gusset areas 261 and 262 prior to forming the container 200, in order to form gussets in the bottom 210 of the container 200 for added support. In one embodiment, the packaging material 100 has a sufficient stiffness that the container 200 can stand on the bottom 210 without the material 100 folding over in the areas of the sides 220.

We claim:

1. A packaging container formed of a packaging material comprising:

- a textile layer of woven polyester fabric; and
- a thermoplastic layer of polyolefin.

2. The packaging container of claim 1, wherein the textile layer of woven polyester fabric is comprised of warp and fill yarns, wherein the warp yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn, and wherein the fill yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn.

3. The packaging container of claim 1, wherein the textile layer of woven polyester fabric has a weave density in a range from about 50 to about 64 yarns per inch.

4. The packaging container of claim 1, wherein the thermoplastic layer is polyolefin, and wherein the polyolefin is polyethylene or polypropylene.

5. The packaging container of claim 4, wherein the thermoplastic layer is polyethylene, and wherein the polyethylene is metallocene catalyzed low density polyethylene.

6. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin has a softening point temperature lower than the textile layer of woven polyester fabric.

7. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin has a softening point temperature at least about 40 degrees C. lower than the textile layer of woven polyester fabric.

8. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin has a thickness in a range from about 1.5 to about 4.0 mils.

9. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin has a thickness in a range from about 2 to about 3 mils.

10. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin has a thickness of about 3 mils.

11. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin is joined to the textile layer of woven polyester fabric through lamination, extrusion coating, or bonding with a bonding agent.

12. The packaging container of claim 1, wherein the textile layer of woven polyester fabric is treated with one or more chemicals selected from the group consisting of water repellent or stain resistant agents, antimicrobial agents, antibacterial agents, antifungal agents, flame retardants, UV inhibitors, antioxidants, coloring agents, lubricants, fragrances, and antistatic agents.

13. The packaging container of claim 12, wherein the water repellent or stain resistant agent is a fluorochemical.

14. The packaging container of claim 1, wherein the thermoplastic layer of polyolefin is treated with one or more chemicals selected from the group consisting of antimicrobial agents, antibacterial agents, antifungal agents, flame retardants, UV inhibitors, antioxidants, coloring agents, lubricants, fragrances, and antistatic agents.

15. The packaging container of claim 1, wherein the packaging container has a bottom, at least two side walls, and an open end, and wherein the packaging material has edges.

16. The packaging container of claim 1, wherein the packaging container is formed by folding the packaging material and applying heat to the edges of the packaging material.

17. The packaging container of claim 1, wherein the packaging material is rectangular in shape.

18. The packaging container of claim 1, wherein a closure is attached to the packaging container, and wherein the

closure is selected from the group consisting of rail fastener, rail fastener with slider, press to close, zipper, and hook and loop.

19. The packaging container of claim 1, wherein the packaging container has one or more gussets in the bottom of the packaging container.

20. The packaging container of claim 19, wherein the textile layer of woven polyester fabric has been removed from the gussets.

21. The packaging container of claim 1, wherein the packaging material is sufficiently stiff to allow the packaging container to be self-supporting.

22. A packaging container formed of a packaging material comprising:

a textile layer of woven polyester fabric; and

a thermoplastic layer of metallocene catalyzed low density polyethylene.

23. A packaging container formed of a packaging material comprising:

a textile layer of woven polyester fabric, wherein the woven polyester fabric is comprised of warp and fill yarns, wherein the warp yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn, and wherein the fill yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn; and

a thermoplastic layer of polyolefin.

24. A packaging container formed of a packaging material comprising:

a textile layer of woven polyester fabric, wherein the woven polyester fabric is comprised of warp and fill yarns, wherein the warp yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn, and wherein the fill yarns are comprised of 1/150/48 or 1/150/50 denier textured polyester yarn; and

a thermoplastic layer of metallocene catalyzed low density polyethylene.

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