A shoe comprising a sole and an upper composed substantially of Tyvek. The upper can be made of a single piece of Tyvek or of two more panels of Tyvek. The heel portion of the upper can also include a reinforcement of Tyvek. A piping of Tyvek can also be provided.
**SHOE WITH TYVEK UPPER**

**BACKGROUND**

[0001] This application claims priority from provisional application Ser. No. 61/424,799, filed Dec. 20, 2010, the entire contents of which are incorporated by reference herein.

**TECHNICAL FIELD**

[0002] This application relates to the field of footwear and more particularly to footwear having uppers composed of Tyvek.

**BACKGROUND OF RELATED ART**

[0003] In designing footwear, various characteristics need to be considered. Although several prior art shoes may have one or more of these characteristics, none have been able to provide the optimal balance of quality material selection, low cost and user comfort. For example, footwear uppers made of a tough material may have the advantage of reducing the incidence of tearing, but this is achieved at the expense of sacrificing comfort as the weight of the shoe is increased. Also, such tough material has reduced flexibility, also adversely affecting user comfort. Additionally, in providing a tougher material, sufficient breathability may not be achievable, an important feature especially in an athletic shoe or for warm weather wear. On the other hand, in designing an upper of a lightweight material in an attempt to decrease cost or increase user comfort, it may result in an upper that could easily tear and not provide adequate protection for the users foot. In addition to achieving the above balance of seemingly competing factors, it would be advantageous to provide a shoe upper composed of water resistant material without sacrificing comfort or adding additional expense to the shoe.

[0004] Still further, it would be beneficial if such shoes could be made of a recyclable material, thereby beneficially affecting the environment.

[0005] Consequently, the need exists for a footwear material that provides the optimal balance of the foregoing features.

**SUMMARY**

[0006] The present invention is directed to a shoe containing an upper made of a non-woven spunbunb olefin fiber material, i.e. Tyvek. The use of Tyvek provides a recyclable material that has the features of durability, breathability, and tear resistance while still being relatively lightweight and comfortable. The material is also water resistant.

[0007] Consequently, in one aspect, the present invention provides a shoe comprising a sole and an upper, the upper composed substantially of a non-woven olefin fiber material, i.e. Tyvek. In some embodiments, the upper is composed entirely of this material.

[0008] The upper can be composed of a single piece of Tyvek material; alternatively, it can be composed of two or more panels of Tyvek material stitched together at select portions.

[0009] In some embodiments, the upper has a rear panel and a front panel extending rearwardly to overlap the rear panel, the panels connected by a stitch line.

[0010] A padding can be formed around a top part of an ankle portion of the upper. The upper can include a piping composed of Tyvek extending along an edge of the upper.

[0011] In some embodiments, a rubber tip portion is provided.

[0012] In some embodiments, the upper includes a reinforcement at the heel portion, the reinforcement composed of a woven material.

[0013] In some embodiments, the heel portion is fully collapsible so a user’s heel can collapse the Tyvek upper down to the sole to provide a deconstructed look.

[0014] The upper can include a tongue having an elastic member to enable the shoe to be worn without being laced. The elastic can extend a substantial length or even the entire length of the tongue.

[0015] A taping can be provided at a rear portion of the upper underneath piping on the upper.

[0016] The upper can include a separate eyelet strip. In some embodiments, a rear portion of the upper overlaps a front portion to cover the eyelets of the upper.

**BRIEF DESCRIPTION OF THE DRAWINGS**

[0017] Preferred embodiment(s) of the present disclosure are described herein with reference to the drawings wherein:

[0018] Figs. 1 and 1A are top and side views, respectively, of a first embodiment of a shoe of the present invention.

[0019] Figs. 2 and 2A are top and side views, respectively, of a second embodiment of a shoe of the present invention.

[0020] Figs. 3 and 3A are top and side views, respectively, of a third embodiment of a shoe of the present invention.

[0021] Fig. 4 is a side view of a fourth embodiment of a shoe of the present invention; and

[0022] Fig. 5 is a side view of a fifth embodiment of a shoe of the present invention.

**DETAILED DESCRIPTION OF PREFERRED EMBODIMENTS**

[0023] Referring now in detail to the drawings where like reference numerals identify similar or like components throughout the several views, the present invention provides a shoe containing an upper composed of Tyvek. Tyvek is a synthetic non-woven material formed of spunbunb olefin fiber. Spunbunb olefin is made of high density polyethylene fibers. A substantial portion of the upper is composed of Tyvek, and in preferred embodiments, the entire upper is formed from Tyvek. As described below, the Tyvek can be a single piece of material attached to the sole or can be a formed of two or more pieces, e.g., panels, of Tyvek stitched together at various points. Various methods can be utilized to attach the Tyvek upper to the sole.

[0024] The advantages of utilizing Tyvek as the upper material are numerous. Tyvek provides a durable, breathable, flexible, tear resistant and lightweight material that is also resistant to water, chemicals and abrasion, while still being comfortable to the user. It also can be recycled. Another advantage is it can easily be written or printed on.

[0025] Various shoes are illustrated which contain the Tyvek upper of the present invention. In the embodiment of Figs. 1 and 1A, the upper 12 of shoe 10 is composed of Tyvek and includes a front piece or panel 12a overlapping rear piece or panel 12b at a top end 12c (as viewed in the orientation of Fig. 1A). Pieces 12a, 12b are attached along stitch line 14. A padding 16 is formed around the top part of the ankle portion, encircling the opening in the upper 12, and is attached along stitch line 19. The strip 20 containing the shoe’s insignia is attached by substantially vertical stitch lines 22 on both sides.
of upper 12 and can be composed of a woven material. In alternate embodiments, the strip is composed of Tyvek or of another material. Such strip 20 is attached in a similar fashion to the other shoes disclosed herein.

[0026] In the embodiment of FIGS. 2 and 2A, shoe 30 includes a Tyvek upper 32 formed of a front piece or panel 32a and a rear piece or panel 32b attached along stitch line 34. A piping 36 of Tyvek extends along the rim or edge of the shoe 30 and into the eyelet (lacing) region 33 to provide a finished edge to the Tyvek material and is attached along stitch line 38. Strip 37 for the shoe's insignia is attached by stitch lines 39 on both sides of upper 32 and is preferably composed of a woven material or alternately of Tyvek or other material.

[0027] FIGS. 3 and 3A illustrate another alternate embodiment of the shoe of the present invention, designated by reference numeral 50. Shoe 50 includes a rubber tip 51. The eyelets 53 are formed in Tyvek strip or panel 55 which is stitched to Tyvek upper 56 along stitch line 59. Transverse stitch line 54 also secures strip 55 to upper 56. A piping 57 of Tyvek material extends along the rim or edge of the shoe 50, encircling the opening, to provide a finished edge to the Tyvek material and is attached along stitch line 58. Strip 80 for insignia is preferably composed of a woven material and attached to upper 56 by stitch lines 82 on both sides. Alternately, the strip is composed of Tyvek or other material.

[0028] FIG. 5 is a high top version of the shoe of FIG. 3, and therefore is similar to the shoe 50 of FIG. 3 except that Tyvek upper 66 of shoe 60 extends above the user's ankle. It includes a separate Tyvek eyelet strip or panel 65 attached to upper 66 along stitch line 68. A piping 67 of Tyvek material extends along the rim or edge of the shoe 60 and through the eyelet region 63 to provide a finished edge to the Tyvek material and is attached along stitch line 69. Curved stitch line 64 is for the reinforcement heel described below. Strip 61, attached via stitching 62, and preferably composed of a woven material, contains the shoe insignia. Other materials for the strip are also contemplated, such as Tyvek.

[0029] FIG. 4 illustrates another embodiment of a high top shoe, designated by reference numeral 70, which extends above the ankle. Rear portion 73 of Tyvek upper 71 overlaps front portion 72, thereby hiding the eyelets. A piping 76 of Tyvek material extends along the rim or edge of the shoe 70, around the opening and into the eyelet region, to provide a finished edge to the Tyvek material and is attached along stitch line 78. Strip 79 made of woven material or made of other materials, such as Tyvek contains the insignia.

[0030] A nylon taping (not shown) in some embodiments can be positioned internal of rear portion 73 between the piping and the stitch line. Such taping can also be provided in the other shoes disclosed herein.

[0031] In the foregoing embodiments, preferably an additional piece of Tyvek material is stitched to the heel portion to reinforce the heel. It can be attached internal or external of the upper. This advantageously provides reinforcement, without the rigidity of a rigid heel cup, while still enabling the wearer to wear the shoe by stepping on the heel portion. That is, the heel portion, including the reinforcement, is maintained fully collapsible so the user's heel can collapse the material down to the sole, thus providing a “deconstructed look.” Stitching 64 of FIG. 5 and stitching 71 of FIG. 4 show the attachment of the heel reinforcement.

[0032] An elastic member can be provided on the tongue portions of the shoes of the foregoing embodiments. This enables the user to wear the shoe without being laced, with the elastic engaging and holding the wearer's foot. The elastic preferably extends the length of the tongue to the sole.

[0033] While the above description contains many specifics, those specifics should not be construed as limitations on the scope of the disclosure, but merely as exemplifications of preferred embodiments thereof. Those skilled in the art will envision many other possible variations that are within the scope and spirit of the disclosure as defined by the claims appended hereto.

What is claimed is:

1. A shoe comprising a sole and an upper, the upper composed substantially of a material of non-woven spunbound olefin fiber.

2. The shoe of claim 1, wherein the upper is composed entirely of the material.

3. The shoe of claim 1, wherein the upper is composed of a single piece of the material.

4. The shoe of claim 1, wherein the upper is composed of at least two panels of the material stitched together at select portions.

5. The shoe of claim 1, wherein the upper has a rear panel and a front panel, the front panel extending rearwardly to overlap the rear panel, the panels connected by a stitch line.

6. The shoe of claim 1, further comprising a padding formed around a top part of an ankle portion of the upper.

7. The shoe of claim 1, wherein the upper includes a piping of a non-woven spunbound olefin fiber material, the piping extending along an edge of the upper.

8. The shoe of claim 1, wherein the upper includes a rubber tip portion.

9. The shoe of claim 1, wherein the upper includes a reinforcement at the heel portion, the reinforcement being composed of a piece of woven material.

10. The shoe of claim 1, wherein the heel portion is fully collapsible so a user's heel can collapse the material down to the sole to provide a deconstructed look.

11. The shoe of claim 1, wherein the heel portion is fully collapsible so a user's heel can collapse the material down to the sole to provide a deconstructed look.

12. The shoe of claim 1, further comprising a tongue, the tongue including an elastic member to enable the shoe to be worn without being laced.

13. The shoe of claim 12, wherein the elastic member extends a substantial length of the tongue.

14. The shoe of claim 1, further comprising a taping at a rear portion of the upper underneath a piping.

15. The shoe of claim 1, wherein the shoe is a high top shoe.

16. The shoe of claim 1, wherein a rear portion of the upper overlaps a front portion to cover an eyelet portion of the shoe.

17. The shoe of claim 1, further comprising a strip composed of the material, the strip positioned at a heel portion of the upper and including insignia.

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