Atletic Glove with Wicking Material

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Abstract

A protective athletic glove comprises an inner palm side and an opposed outer padded side. The inner palm side has a palm surface covering a majority of the inner palm side and at least one opening defined within the palm surface. A wicking material is disposed at least across the opening. The wicking material is more breathable than the main palm material and has aspiration pores therethrough which actively draw moisture from an inner surface of the wicking material to an outer surface thereof.
ATHLETIC GLOVE WITH WICKING MATERIAL

TECHNICAL FIELD

[0001] The present invention relates generally to a protective athletic glove, and more particularly to a protective athletic glove having improved moisture removal.

BACKGROUND OF THE INVENTION

[0002] Risk of injuries is always of concern for athletes, particularly for athletes competing in contact and/or physical sports in which protective clothing is worn to limit injuries, such as for example sporting activities including ice hockey, lacrosse, cricket, field hockey and the like. Particularly for such stick based sports, players wear protective gloves such as to limit potential damage to their hands and wrists which may be caused by impacts directed thereto against by the puck, ball or other players sticks, as the case may be.

[0003] Such protective athletic gloves must offer protection to the wearer's hands and wrists, while nevertheless permitting at least some breathability to cool the wearer’s hands. As wearing such padded protective gloves while performing rigorous athletic activities, particularly those played in warm climates such as field hockey, lacrosse and cricket, can lead to the wearer's hands becoming hot and sweaty, many attempts have been made to provide improved ventilation and cooling for such protective athletic gloves. For example, ventilation holes extending through the outer padding of the glove have become common.

[0004] The palms of such protective athletic gloves are particularly difficult to ventilate, at least partially because the palm portion of the glove tends to be wrapped around a stick held by the user. In an attempt to provide improved ventilation to the wearer's palm, it has been known to provide large openings in the palm portion of the glove, with mesh covering these openings. The mesh allows the wearer's palms to breathe more easily while nevertheless enclosing the palm, which is required by regulation in many lacrosse and hockey leagues. While such mesh covered openings provide good ventilation, the mesh inserts defined within the glove's palm tend to wear unduly quickly relative to the more robust material from which the rest of the palm is made, generally caused by the friction between the stick and the mesh material.

[0005] Therefore, while cooling the wearer's hand, and in particular the palm portion thereof, remains desirable, a more durable solution is sought such that repair and replacement of the athletic gloves is minimized. Further still, while the mesh material provided in regions of the palm of prior art gloves allows ventilation, it fails to specifically address the problem of high perspiration which can build up within the glove and on particularly on the inner surfaces of the palm thereof. While the mesh provides ventilation, which cools the wearer's hand, perspiration can nonetheless occur and become trapped within the glove, including on the inner surfaces of the meshed palm.

[0006] Therefore, there remains a need for a protective athletic glove having improved cooling and internal moisture reduction.

SUMMARY OF THE INVENTION

[0007] It is thus an object of the present invention to provide an improved protective athletic glove.

[0008] It is another object of the present invention to provide an improved protective athletic glove having improved cooling and internal moisture reduction.

[0009] Therefore, in accordance with one aspect of the present invention, there is provided a protective athletic glove comprising an inner palm side and an opposed outer padded side, the inner palm side having a palm surface covering a majority of the inner palm side and at least one opening defined within the palm surface, a wicking material being disposed at least across said opening, said wicking material being more breathable than said main palm material and having aspiration pores therethrough which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

[0010] In accordance with another aspect of the present invention, there is provided a lacrosse glove for protecting at least a wearer's hand having a dorsal side, a palm side, four fingers and one thumb, the lacrosse glove comprising: an inner palm surface on said palm side, said inner palm surface having at least one opening defined therein; and a wicking material disposed at least across said opening, said wicking material being more breathable than said inner palm surface and having moisture aspirating pores therethrough which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

[0011] There is also provided, in accordance with another aspect of the present invention, a protective athletic glove for protecting at least a wearer's hand, the glove having a dorsal side, a palm side, four fingers and one thumb, the glove comprising: an inner palm surface on said palm side, said inner palm surface having at least one opening defined therein; and a wicking material disposed at least across said opening, said wicking material being more breathable than said inner palm surface and having moisture aspirating pores therethrough which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

BRIEF DESCRIPTION OF THE DRAWINGS

[0012] Further features and advantages of the present invention will become apparent from the following detailed description, taken in combination with the appended drawings, in which:

[0013] FIG. 1 is a perspective view of the protective athletic glove in accordance with the present invention;

[0014] FIG. 2 is a perspective side view of the inner palm side of the protective athletic glove of FIG. 1;

[0015] FIG. 3 is a perspective view of the inner palm side of the protective athletic glove of FIG. 1; and

[0016] FIG. 4 is a side perspective view of the protective athletic glove of FIG. 1.

DETAILED DESCRIPTION OF THE PREFERRED EMBODIMENT

[0017] Referring to FIG. 1, a protective athletic glove 10 may be worn for protecting at least a wearer’s hand during athletic activities such as stick sports including ice hockey, cricket and lacrosse or alternately for operating motorized vehicles, such as motorcycles, snowmobiles, and the like. The glove 10 generally comprises a main glove body 11 having an outer or dorsal padded side 14 and an opposed
inner palm side 12. A proximal cuff end 16 at least partially circumscribes an opening within which the user's hand is inserted for putting on the glove 10, which further includes four finger portions 18 and a thumb portion 20.

[0018] In one embodiment of the present invention, the protective athletic glove 10 is specifically intended for lacrosse, which is typically played indoors and/or in warm climates, and as such adequate cooling of the user's hand when wearing the glove 10 is particularly important. As such, most lacrosse gloves, in comparison to ice hockey gloves for example, include means for cooling the user's hand which may include mesh and/or cooling holes incorporated into the glove. The protective athletic glove 10 provides improved cooling and internal moisture reduction for the wearer's hand when wearing the glove, it is well-suited for use as a lacrosse glove. However, it is to be understood that the protective athletic glove 10, while described herein with particular reference to its use as a laceo glove, can be used for any type of athletic activity for which protection to the hands of the user is sought, including for example (but not limited to) stick sports such as ice hockey, lacrosse or cricket, or for operating motorized vehicles such as motorcycles, snowmobiles and the like.

[0019] Referring now to FIG. 2, the inner palm side 12 of the glove 10 includes an inner palm surface 24 which includes a main palm portion 26 that covers a majority of the inner palm side 12. The main palm portion 26 is composed of a relatively robust and long-wearing material such as leather or a synthetics replacement. As the wearer regularly grasps a stick (such as a lacrosse stick for example) when wearing the protective athletic glove 10, this main palm portion 26 therefore should provide a good grip on the stick's shaft or handle while being relatively resistant to wear which can occur from frequent sidling of the glove down the stick or rotation of the stick within the wearer's gloved hands. As in one particular embodiment the protective athletic glove 10 is used for lacrosse, the main palm portion 26 is disposed at least in those areas which one skilled in the art will expect to be relatively high use areas of the palm and as such those regions which most frequently contact the stick during play. Accordingly, diagonal strips 27 and 29 of the main palm portion 26 extend generally across the inner palm surface 24 from a point near where the thumb 20 meets the main glove body 11 to respective end points, one at a central base point 35 of the palm and the other at a corner base point 37 of the palm. The inner palm surface 24 includes both the central main palm portion 26 and digit palm portions 28 disposed on the inner palm side of each of the fingers 18 and the thumb 20. In the embodiment depicted, the digit palm portions 28 are integral with and extend from the central main palm portion 26, and therefore, are formed of the same durable material as described above. However, it is to be understood that the finger palm portions could in fact be separate from the central main palm portion 26 of the inner palm surface 24, and be composed of a different material.

[0020] The inner palm surface 24 has at least one opening 31 defined therein, and in the embodiment depicted includes a plurality of such openings 30 defined both in the central main palm portion 26 and the digit palm portions 28. Particularly, the openings 30 include larger palm openings 31 defined through the central main palm portion 26 and relatively smaller digit openings 33 defined through the digit palm portions 28.

[0021] The inner palm side 12 of the glove 10 further comprises a wicking material 34 which is disposed at least across each of the openings 30 defined within the inner palm surface 24, thereby covering these openings 30. In one embodiment, the wicking material 34 is in fact applied to most of a rear (i.e. inwardly facing) surface of the inner palm surface 24, and therefore is both disposed within each of the openings 30 and also on the inwardly facing side of the inner palm surface 26 such that much of the user's palm and fingers in fact directly contact this wicking material 34.

[0022] The wicking material 34 is more breathable than the more robust material of the main palm portion 26, and therefore the wearer's hand is provided with good ventilation, when wearing the glove, via these openings 30 which are covered only by the highly breathable wicking material 34. Further, the wicking material 34 provides improved moisture removal from the interior of the glove in comparison with other breathable materials, such as a simple open-mesh type material. The wicking material 34 defines a plurality of aspiration pores therethrough which act to actively draw moisture from an inner surface of the wicking material towards an outer surface thereof. Such pores defined in the wicking material 34 are significantly smaller than the much larger openings defined in the open mesh material of the prior art. The pores of the wicking material are small enough to employ capillary action to draw moisture outward through the material. For example, the pores of the wicking material 34 are significantly smaller, and in at least one embodiment are microscopic, in comparison with the significantly larger (e.g. 1-2 mm) openings of prior art mesh materials.

[0023] Accordingly, the wicking material 34 provides both good airflow to the wearer's hand through these pores, while additionally providing improved perspiration and other moisture removal from the inside of the glove via the same aspiration pores, which actively draw moisture through the wicking material. This is not the case of an open mesh-type of material, which merely provides airflow into and out of the glove without providing any such moisture wicking properties. While any number of commercial wicking materials can be employed, in one embodiment the wicking material 34 includes AbsorTek®.

[0024] Referring again to FIGS. 2 and 3, in the embodiment depicted, the central main palm portion 26 of the inner palm surface 24 includes three palm openings 31 therein within which the wicking material 34 is disposed. The palm openings 31 are however, located outside of those relatively high wear regions in which the strips 27, 29 of the more robust inner palm surface are disposed. Regardless, these palm openings 31 may be relatively large such as to provide good breathability and perspiration withdrawal from within the glove. For example, as depicted in FIGS. 2 and 3, the glove 10 includes three relatively large palm openings 31, two smaller digit openings 33 in each of the fingers 18 and another large digit opening 33 near the base of the thumb 20. It is, of course, to be understood that other shapes, sizes, and number of openings 30 may be provided within the inner palm surface 24 of the athletic glove 10 as desired and in order to best suit the chosen athletic activity.
Each of the palm openings 31 defined within the central main palm portion 26 of the inner palm surface 24 defines a length relative to the longitudinal axis 13 (shown in FIG. 2) and a width relative to the transverse axis 15 which extends laterally across the inner palm side of the glove. At least one of the palm openings 31 has a width which is greater than the length of the opening. In an alternate embodiment, all of the palm openings 31 have widths greater than their lengths.

The more durable leather or similar synthetic material of the inner palm surface 24 may additionally be provided with small holes 43 in regions thereof outside of the openings 30, in order to provide additional ventilation to the wearer’s hand when in the glove 10. Such additional ventilation holes 43 may be formed through the palm surface in any number of ways, including punching for example.

As best seen in FIG. 4, the side gussets 40 of the fingers 18 of the glove provide additional ventilation in order to cool the wearer’s hand within the glove. Particularly, each of the fingers 18 define opposed side gussets 40 extending between the inner digit palm portions 28 and the opposed outer padded sides 21 of the fingers 18. The side gussets 40 include a mesh material 42 which is more breathable than the robust inner palm surface 24 and therefore, thereby ensuring good airflow within the finger portions 18 of the glove. In the depicted embodiment, the mesh material 42 of the side gussets 40 extends the full length of each of the fingers 18, from an innermost end 44 to the outer distal tips 19 of the fingers. The end portions of the gussets 40 (i.e. at the tips of the fingers) may also be composed of the mesh material 42, as best seen in FIG. 3.

The embodiments of the invention described above are intended to be exemplary. Those skilled in the art will therefore appreciate that the foregoing description is illustrative only, and that various alternatives and modifications can be devised without departing from the spirit of the present invention. Accordingly, the present is intended to embrace all such alternatives, modifications and variations which fall within the scope of the appended claims.

1. A protective athletic glove comprising an inner palm side and an opposed outer padded side, the inner palm side having a palm surface covering a majority of the inner palm side and at least one opening defined within the palm surface, a wicking material being disposed at least across said opening, said wicking material being more breathable than said main palm material and having aspiration pores thereby through which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

2. The protective athletic glove as defined in claim 1, wherein said glove has a thumb portion and finger portions, said palm surface having a central palm portion and digit palm portions extending therefrom, said digit palm portions being defined on inner sides of said thumb portion and said finger portions.

3. The protective athletic glove as defined in claim 2, wherein said at least one opening is defined within said central palm portion.

4. The protective athletic glove as defined in claim 2, wherein said at least one opening is defined in at least one of the digit palm portions.

5. The protective athletic glove as defined in claim 2, further comprising a plurality of said openings, at least of which being defined within said central palm portion and at least one of which being defined in each of the digit palm portions.

6. The protective athletic glove as defined in claim 3, wherein said at least one opening defines a length in a direction extending longitudinally between a cuff of the protective athletic glove and distal tips of said finger portions thereof and a width in a direction transverse to said length that extends laterally across said inner palm side, said width being greater than said length.

7. The protective athletic glove as defined in claim 1, wherein said protective athletic glove is a lacrosse glove.

8. The protective athletic glove as defined in claim 1, wherein said main palm material defines an outer surface facing away from a user’s hand when wearing said protective athletic glove and an inner surface facing towards the user’s hand, said wicking material covering a majority of said inner surface of said main palm material.

9. The protective athletic glove as defined in claim 1, wherein a plurality of ventilation holes are defined through said main palm material, said ventilation holes being disposed outside of said at least one opening.

10. The protective athletic glove as defined in claim 2, wherein each of said finger portions define side gussets extending between said digit palm portions and said opposed outer padded side thereof, said side gussets being ventilated and more breathable than said main palm material.

11. The protective athletic glove as defined in claim 10, wherein said side gussets include a mesh material extending along a full length of said finger portions, from an innermost end to a distal end thereof proximate distal tips of said finger portions.

12. A lacrosse glove for protecting at least a wearer’s hand having a dorsal side, a palm side, four fingers and one thumb, the lacrosse glove comprising:

- an inner palm surface on said palm side, said inner palm surface having at least one opening defined therein; and
- a wicking material disposed at least across said opening, said wicking material being more breathable than said inner palm surface and having moisture aspirating pores therethrough which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

13. The lacrosse glove as defined in claim 12, wherein said inner palm surface includes a central palm portion and digit palm portions extending therefrom, said digit palm portions being defined on inner sides of said thumb and said fingers.

14. The lacrosse glove as defined in claim 13, further comprising a plurality of said openings including at least one palm opening defined within said central palm portion and at least one digit opening defined within each of said digit palm portions.

15. The lacrosse glove as defined in claim 14, wherein said palm opening defines a length relative to a longitudinal axis extending between a cuff of the lacrosse glove and distal tips of said fingers thereof and a width relative to a transverse axis extending laterally across said palm side, said width being greater than said length.

16. The lacrosse glove as defined in claim 13, wherein each of said fingers define side gussets extending between
said digit palm portions and a padded dorsal side thereof, said side gussets being ventilated and more breathable than said inner palm surface.

17. The lacrosse glove as defined in claim 16, wherein said side gussets include a mesh material extending along a substantial full length of said fingers from an innermost end to a distal tip thereof.

18. A protective athletic glove for protecting at least a wearer's hand, the glove having a dorsal side, a palm side, four fingers and one thumb, the glove comprising:

- an inner palm surface on said palm side, said inner palm surface having at least one opening defined therein; and
- a wicking material disposed at least across said opening, said wicking material being more breathable than said inner palm surface and having moisture aspirating pores therethrough which actively draw moisture from an inner surface of said wicking material to an outer surface thereof.

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