A blended lacrosse mesh and method of forming the same. The method includes providing a high performance yarn. The method also includes providing a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn. The method also includes forming a lacrosse mesh product from the high performance yarn and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn, wherein the high performance yarn forms an inlay and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn forms a stitch.
10

PROVIDE A HIGH PERFORMANCE YARN

11

PROVIDE ONE OF A POLYESTER YARN, A NYLON YARN OR COMBINATION THEREOF

12

FORM A LACROSSE MESH PRODUCT FROM THE HIGH PERFORMANCE YARN AND ONE OF THE POLYESTER OR NYLON YARN OR COMBINATION THEREOF

13

FIG. 1
FIG. 2

20

STRING A BLENDED MESH TO A LACROSSE HEAD

21

FORM A POCKET IN THE BLENDED MESH

22

MAINTAIN A CONSISTENT POCKET SHAPE

23

FIG. 2
BLENDED LACROSSE MESH

CROSS REFERENCE TO RELATED APPLICATIONS


BACKGROUND OF THE INVENTION

1. Technical Field

This invention relates generally to a mesh for a lacrosse head, and more particularly to a blended mesh for a lacrosse head.

2. State of the Art

Lacrosse mesh has evolved over time. One aspect of this evolution is the seeking of making the mesh water-resistant. To accomplish this, conventional means include the use of wax. Typically, wax is melted and lacrosse mesh is dipped within the melted wax and then allowed to harden in order to form a coating around the mesh. The mesh is then strung to a head and can be utilized as conventional.

These conventional wax coated lacrosse mesh eventually wear and the wax is removed from the mesh by use and game play. It then loses its effectiveness to protect the mesh from water and therefore loses the purpose for which it is created.

Further, conventional greige yarns are heavy and lack strength. Because of this, it is less durable and requires replacement more frequently.

Accordingly, there is a need in the field of lacrosse mesh for an improved yarn that is lightweight with improved strength.

DISCLOSURE OF THE INVENTION

The present invention relates to a blended lacrosse mesh, wherein the blended mesh is formed of a high performance yarn and a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn.

Embodiments of the present invention may include a method of forming lacrosse mesh. The method may include providing a high performance yarn; providing a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn; and forming a lacrosse mesh product from the high performance yarn and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn. In the high performance yarn forms an inlay and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn forms a stich. Lacrosse mesh, including the blended mesh is manufactured on a multi-bar raschel knitting machine.

Embodiments include a method of using a blended mesh. The method may include stringing a blended mesh of high performance yarn and one of a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn to a lacrosse head, wherein the high performance yarn forms an inlay and the nylon yarn forms a stitch of the blended mesh; forming a pocket in the blended mesh; and maintaining a consistent pocket shape.

Another embodiment includes a blended lacrosse mesh comprising a high performance yarn and a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn, wherein the high performance yarn forms a core of the blended lacrosse mesh and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn forms a stitch.

The foregoing and other features and advantages of the present invention will be apparent from the following more detailed description of the particular embodiments of the invention, as illustrated in the accompanying drawings.

BRIEF DESCRIPTION OF THE DRAWINGS

A more complete understanding of the present invention may be derived by referring to the detailed description and claims when considered in connection with the Figures, wherein like reference numbers refer to similar items throughout the Figures, and:

FIG. 1 is a flow chart of a method of forming lacrosse mesh;
FIG. 2 is a method of using a blended lacrosse mesh;
FIG. 3 is a front view of a blended lacrosse mesh showing an inlay and stitch;
FIG. 4 is a front view of a blended lacrosse mesh; and
FIG. 5 is an end view of a blended lacrosse mesh.

DETAILED DESCRIPTION OF EMBODIMENTS OF THE INVENTION

As discussed above, embodiments of the present invention relate to a blended mesh for a lacrosse stick, wherein the blended mesh is formed of a high performance yarn and a polyester yarn, a nylon yarn or combinations thereof.

Referring again to the drawings, FIG. 1 depicts a method of forming lacrosse mesh with a high performance yarn. The method may comprise providing a greige high performance yarn (Step 10); providing one of a polyester yarn or a nylon yarn (Step 12); and forming a lacrosse mesh product from the greige high performance yarn and one of the polyester or nylon yarn (Step 13).

In some embodiments, the method may include using high performance yarn to form the inlay that forms the core of the blended mesh, and stitching the polyester or nylon yarn to reinforce the inlay when forming the mesh. The high performance yarn as the inlay provides added strength to the entire mesh. In a blended mesh with the high performance yarn as the core, less high performance yarn is required in the blended mesh in order to make the overall mesh stronger, more durable and lighter. Accordingly, the resulting mesh is lighter, more durable and stronger and improves the feel for a lacrosse player, particularly the feel of the ball in the pocket formed by the mesh in the head of the lacrosse stick. Different gauge yarns can be used to form the mesh.

The stitch formed of polyester, nylon or a combination thereof utilize more yarn and absorbs color and preservatives. In embodiments, the preservative is a urethane acrylic blend. The stitch can then be utilized to add the color to the final mesh product, wherein the high performance yarn is utilized as the core of the mesh product to provide strength and maintain pocket integrity.

All lacrosse mesh has certain inherent properties. Once of these properties include elongation. Generally, the yarns that form lacrosse mesh have varying elongation properties, or stretch. For example, nylon yarn includes about an 18% nominal stretch, the polyester includes about a 12%
nominal stretch, and the high performance yarn includes about a 3.5% nominal stretch. Blending the high performance yarn with the nylon, polyester or combination thereof stabilizes the elongation of the fibers of the mesh created to prolong the original desired pocket formation unique to the individual player or according to user preference. Because of the blended yarn, the high performance yarn controls the stretch of the mesh, wherein the stretch of the blended is mesh is approximately a 3.5% nominal stretch.

0025] Whip is the absorption of shock when the ball is leaving a lacrosse head and mesh during extended use of play. Each player tailors the pocket of the lacrosse mesh in order to have the desired whip. As the game of lacrosse has evolved, the pocket and therefore the mesh has become the most important piece of equipment. The material of the yarn of the mesh and/or the weather conditions affect the whip. The utilization of the high performance yarn in the blended mesh operates to avoid negative effects to whip regardless of climate. Because the pocket is so critical to the play of the game, the high performance yarn operates to maintain the consistency of the pocket. The strength, weight and feel of the lacrosse stick with blended mesh strung to the head of the stick help to improve the play and effectiveness of the stick during use, such as, without limitation, allowing for quicker reaction and movement of the head of the stick as a result of the lighter blended mesh.

0026] Bagging of the pocket is a term that is commonly understood to be a deformation of the pocket when played in adverse weather, such as rain, snow and the like. When bagging occurs, playing accuracy is diminished. In adverse weather conditions resulting from any climate, the hydrophobic characteristics of the high performance yarn, due to its nominal 3.5% elongation factor, maintains playing accuracy and a consistent pocket. In other words, the blended mesh prevents bagging of the pocket.

0027] In embodiments of the method 10, the high performance yarn may include an ultra-high molecular weight polyethylene. For example, one particular high performance yarn may be lighter than water and 15 times stronger than steel. Further the high performance yarn is resistant to water, resistant to acid, resistant to alkali, resistant to most chemicals, and resistant to UV light.

0028] It will be understood that while a high performance yarn that includes an ultra-high molecular weight polyethylene is discussed, other types of high performance yarn may be utilized, like a yarn formed of a para-aramid synthetic fiber and a yarn formed of a flame resistant meta-aramid. Each of these high performance yarns provides added strength in a much lighter finished product.

0029] The method includes using less yarn than conventional lacrosse mesh made of solely polyester or nylon yarn. Further, the use of the ultra-high molecular weight polyethylene yarn allows less yarn to be used while increasing the strength of mesh compared to conventional lacrosse meshes. The use of the high performance yarn results in a lighter lacrosse stick, thereby improving the reaction time without sacrificing the feel and playability.

0030] Additionally, high performance yarn, such as ultra-high molecular weight polyethylene is resistant to receiving color and/or preservative in the yarn. Accordingly, it does not take dye well, either pre-dyed or dyed after forming into a mesh. Accordingly, the blended mesh that includes polyester or nylon yarn with the ultra-high molecular weight polyethylene yarn, wherein the strength and the lightweight of the ultra-high molecular weight polyethylene yarn is accomplished while still being able to add color by coloring the polyester or nylon yarn.

0031] Referring again to the drawings, FIG. 2 depicts a method 20 of using a blended mesh. The method 20 includes stringing a blended mesh of high performance yarn and one of a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn to a lacrosse head (Step 21), wherein the high performance yarn forms an inlay and the nylon yarn forms a stitch of the blended mesh; forming a pocket in the blended mesh (Step 22); and maintaining a consistent pocket shape (Step 23).

0032] In embodiments of method 20, the high performance yarn maybe an ultra-high molecular weight polyethylene. In these embodiments, the high performance yarn is lighter and stronger than the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn when the high performance yarn and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn have a same gauge denier, wherein the less high performance yarn is used while increasing strength. In embodiments, the high performance yarn is waterproof, resistant to acid, resistant to alkali, and resistant to UV light. The nylon yarn, polyester yarn or combination of nylon and polyester yarn may receive a preservative and may receive a color or plurality of colors.

0033] As shown in FIGS. 3-5, a blended lacrosse mesh 30 is depicted. The blended lacrosse mesh 30 may include a high performance yarn 32; and a nylon yarn, a polyester yarn or a combination of nylon and polyester yarn. 30. The high performance yarn 32 forms a core of the blended lacrosse mesh and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn 34 forms a stitch. As can be seen, the high performance yarn 32 forms the core in that the stitch surrounds the inlay formed of high performance yarn through the entire blended mesh 30. The core provides the strength of the mesh 30 and further serves to prevent bagging of the pocket.

0034] The embodiments and examples set forth herein were presented in order to best explain the present invention and its practical application and to thereby enable those of ordinary skill in the art to make and use the invention. However, those of ordinary skill in the art will recognize that the foregoing description and examples have been presented for the purposes of illustration and example only. The description as set forth is not intended to be exhaustive or to limit the invention to the precise form disclosed. Many modifications and variations are possible in light of the teachings above without departing from the spirit and scope of the forthcoming claims.

1. A method of forming lacrosse mesh, the method comprising:
   providing a high performance yarn;
   providing a nylon yarn, a polyester yarn and/or a combination thereof; and
   forming a lacrosse mesh product from the high performance yarn and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn, wherein the high performance yarn forms an inlay and the nylon yarn, the polyester yarn or the combination of nylon and polyester yarn forms a stitch.
   2. The method of claim 1, wherein the high performance yarn is an ultra-high molecular weight polyethylene.
   3. The method of claim 1, wherein the high performance yarn is stronger than the nylon yarn, the polyester yarn and/or the combination thereof.
4. The method of claim 1, wherein the high performance yarn is water proof, resistant to acid, resistant to alkali, and resistant to UV light.

5. The method of claim 1, wherein the nylon yarn, polyester yarn or combination of nylon and polyester yarn receives a preservative.

6. The method of claim 1, wherein the nylon yarn, polyester yarn or combination of nylon and polyester yarn receives a color.

7. The method of claim 1, wherein the high performance yarn comprises a nominal elongation factor of about 3.5%.

8. The method of claim 7, wherein the high performance yarn forms a core of the blended lacrosse mesh.

9. The method of claim 8, wherein the blended mesh maintains a consistent pocket due to the nominal elongation factor.

10. A method of using a blended mesh, the method comprising:
    stringing a blended mesh of high performance yarn and one of a nylon yarn, a polyester yarn and/or a combination thereof to a lacrosse head, wherein the high performance yarn forms an inlay and the nylon yarn, the polyester yarn and/or the combination thereof forms a stitch of the blended mesh;
    forming a pocket in the blended mesh; and
    maintaining a consistent pocket shape.

11. The method of claim 10, wherein the high performance yarn is an ultra-high molecular weight polyethylene.

12. The method of claim 10, wherein the high performance yarn is stronger than the nylon yarn, the polyester yarn and/or the combination thereof.

13. The method of claim 10, wherein the high performance yarn is water proof, resistant to acid, resistant to alkali, and resistant to UV light.

14. The method of claim 10, wherein the nylon yarn, polyester yarn or combination of nylon and polyester yarn receives a preservative.

15. The method of claim 10, wherein the nylon yarn, polyester yarn or combination of nylon and polyester yarn receives a color.

16. The method of claim 10, wherein the high performance yarn comprises a nominal elongation factor of about 3.5%.

17. The method of claim 16, wherein the high performance yarn forms a core of the blended lacrosse mesh.

18. The method of claim 17, wherein maintaining a consistent pocket includes maintaining a nominal elongation factor of about 3.5% in the blended mesh.

19. A blended lacrosse mesh comprising:
    a high performance yarn; and
    a nylon yarn, a polyester yarn and/or a combination thereof, wherein the high performance yarn forms a core of the blended lacrosse mesh and the nylon yarn, the polyester yarn and/or the combination thereof forms a stitch.

20. The blended lacrosse mesh of claim 19, wherein the high performance yarn is an ultra-high molecular weight polyethylene.

21. The blended lacrosse mesh of claim 19, wherein the high performance yarn is stronger than the nylon yarn, the polyester yarn and/or the combination thereof.

22. The blended lacrosse mesh of claim 19, wherein the nylon yarn, the polyester yarn and/or the combination thereof receives a preservative.

23. The blended lacrosse mesh of claim 19, wherein the nylon yarn, the polyester yarn and/or the combination thereof receives a color.

24. The blended mesh of claim 19, further comprising a nominal elongation factor of about 3.5%.

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