US 20160000150A1

(19) **United States**

(12) **Patent Application Publication**

GUCCIARDI et al.

(10) **Pub. No.: US 2016/0000150 A1**

(43) **Pub. Date: Jan. 7, 2016**

(54) **HIGH PERFORMANCE GARMENTS**

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(21) Appl. No.: **14/769,719**

(22) PCT Filed: **Feb. 18, 2014**

(86) PCT No.: **PCT/US2014/016843**

§ 371 (c)(1),
(2) Date: **Aug. 21, 2015**

Related U.S. Application Data

(60) Provisional application No. 61/768,181, filed on Feb. 22, 2013.

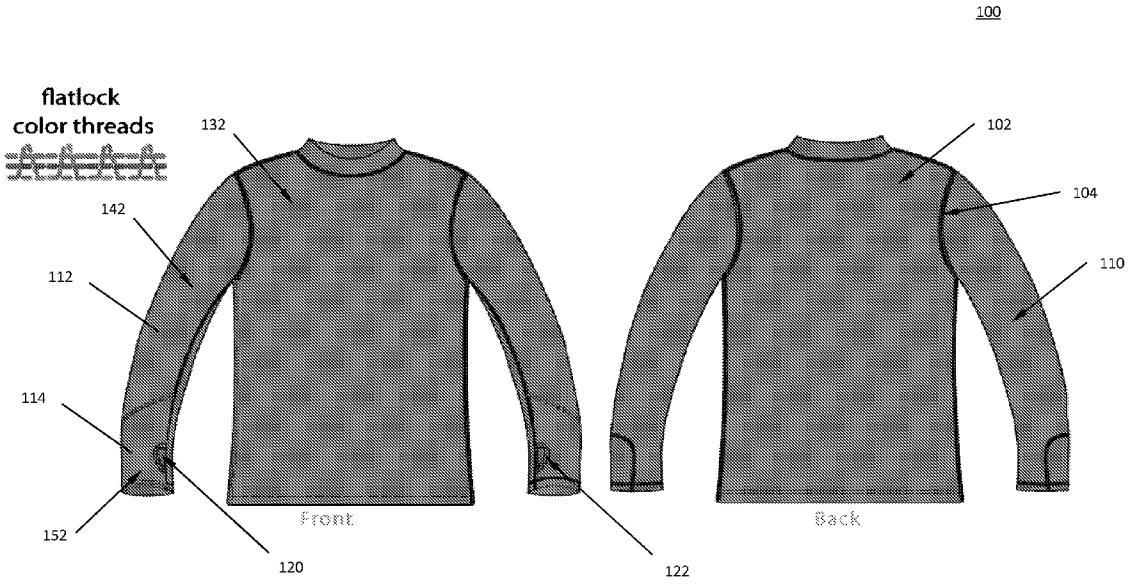
Publication Classification

(51) **Int. Cl.**
A41B 1/08 (2006.01)
A41B 1/00 (2006.01)

(52) **U.S. Cl.**
CPC ***A41B 1/08*** (2013.01); ***A41B 1/00*** (2013.01)

(57) **ABSTRACT**

A high-performance garment may include a body portion and a sleeve portion, wherein the sleeve portion includes an arm portion and a wipe portion. In addition, the wipe portion, arm portion, and body portion of the high-performance garment may be constructed from a single layer of the same type of fabric. Further, the high-performance garment may be configured to provide an appropriate fit specifically for pre-adolescent and/or adolescent females, who have a body shape differing from pre-adolescent, adolescent and adult males, and adult females.



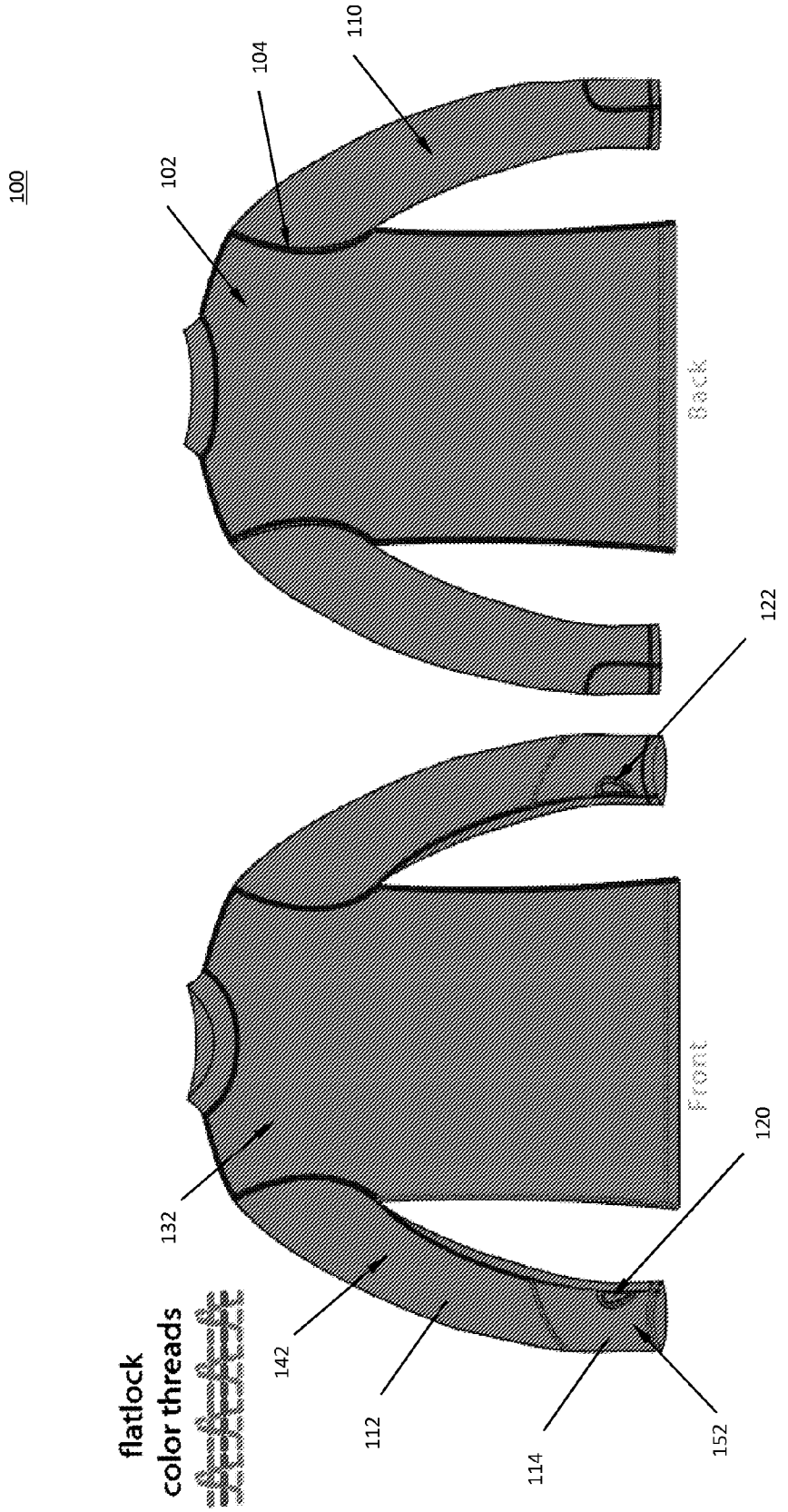

100
102
104
110
Back
122
Front
132
120
flatlock
color threads
142
112
114
152

FIG. 1

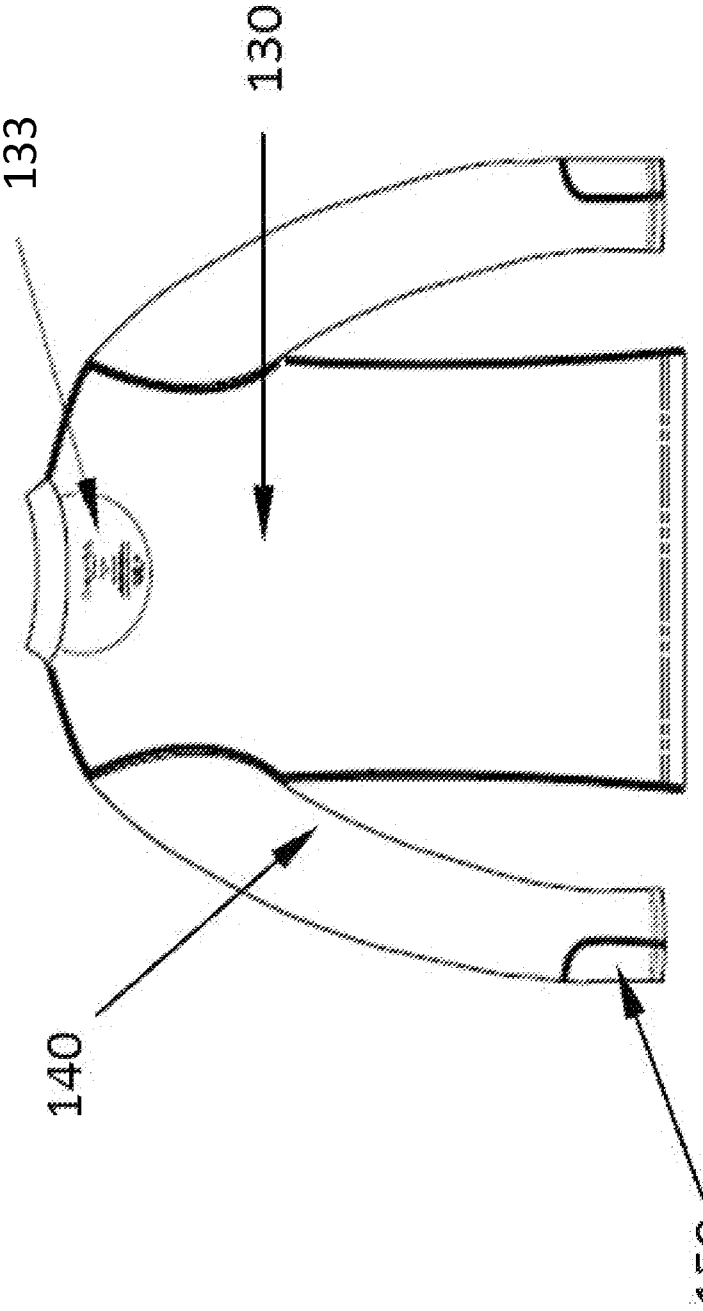


FIG. 2

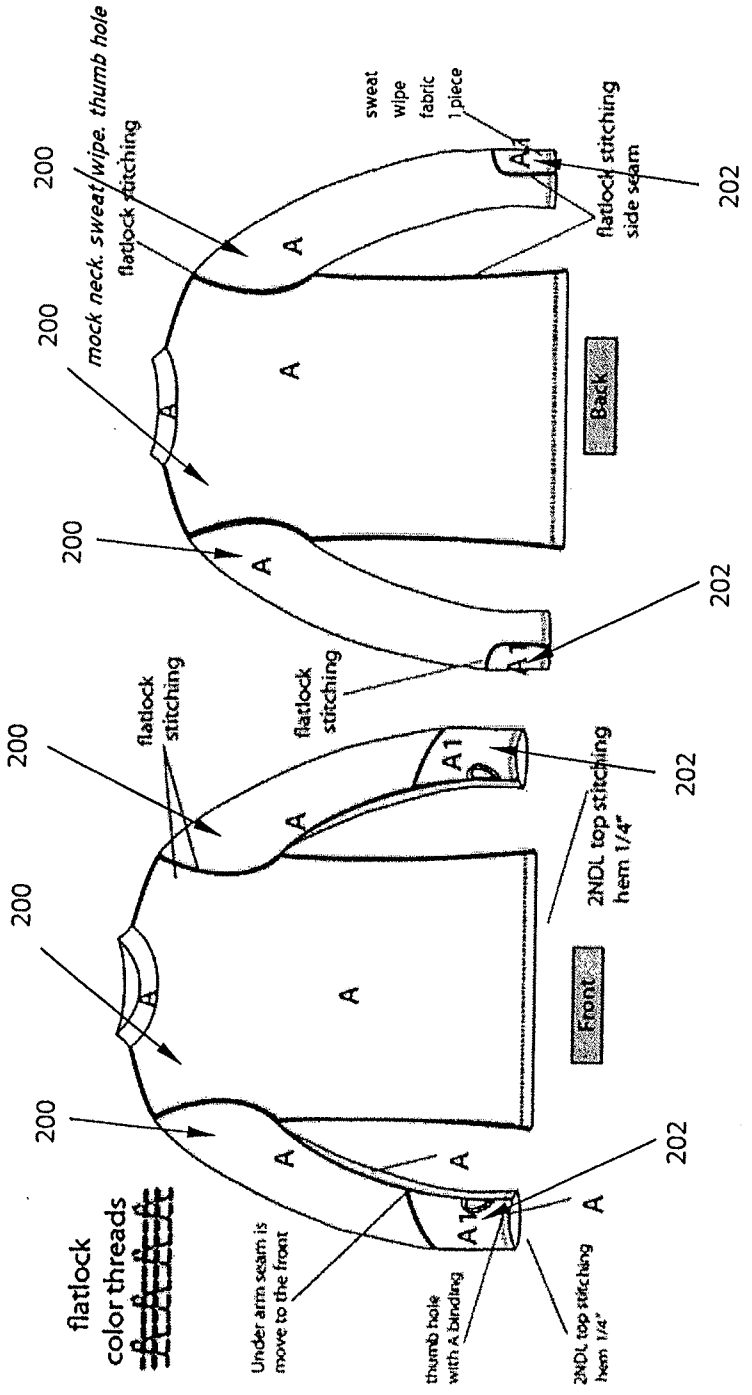

mock neck. sweat/wipe. thumb hole
flatlock stitching
sweat wipe fabric 1 piece
flatlock stitching side seam
Back
Front
flatlock stitching
2NDL top stitching hem 1/4"
flatlock color threads
Under arm seam is move to the front
thumb hole with A binding
200
202
A
A1

FIG. 3

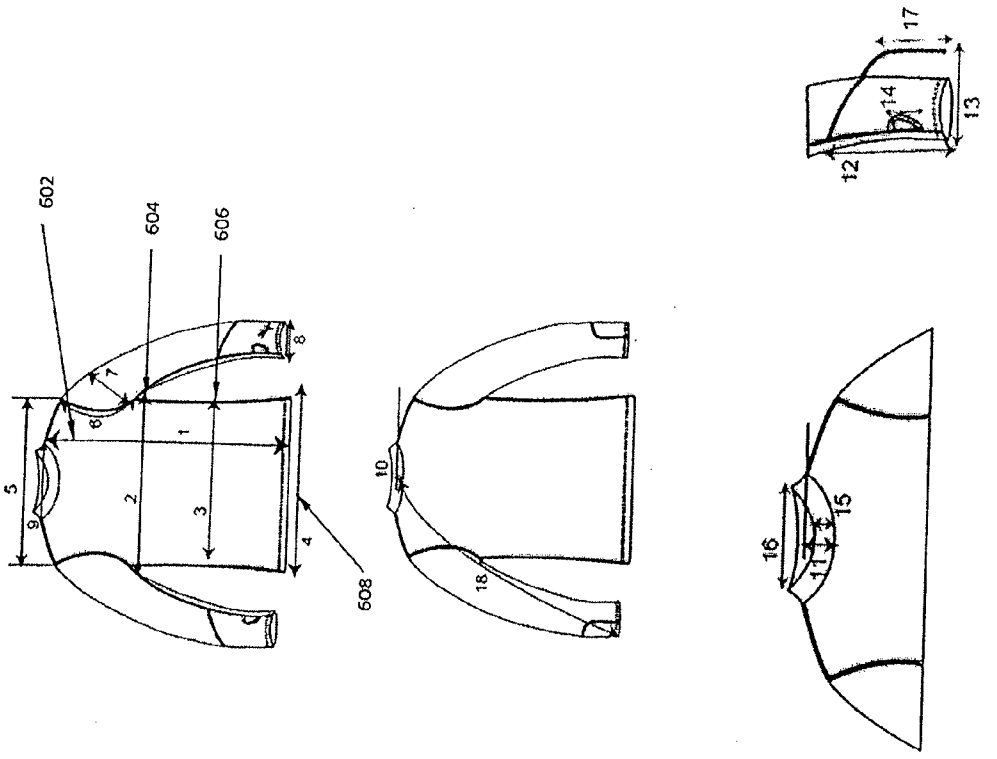


FIG. 4

HIGH PERFORMANCE GARMENTS

TECHNICAL FIELD AND BACKGROUND OF THE INVENTION

[0001] Embodiments of the present invention generally relate to high performance garments.

BACKGROUND OF THE INVENTION

[0002] Garments configured with technical features, such as wicking fabric, have been worn by athletes. Though these garments provide comfortable wear and technical features that are beneficial during exertion, such as sports activities, the garments are not necessarily cut to fit a particular type of athlete and therefore do not always fit every athlete optimally.

[0003] Moreover, some of the technical features are used throughout the garment though the technical feature is only needed in certain areas of the garment. Accordingly, material is not used optimally. Other manufacturers attempt to strategically use certain fabrics in certain areas of the garment where the technical features purportedly would provide the most benefit. However, this requires obtaining one or more panels of a different fabric that is then fabricated into the garment at a desired location. In either type of garment, the costs of manufacturing are inflated because of wasted material and time.

[0004] Accordingly, a need exists for manufacturing a high-performance garment in a sustainable fashion configured to provide the desired technical features with an optimal fit and at a cost savings. The subject matter described herein addresses these all of these issues.

BRIEF SUMMARY

[0005] In an embodiment, the subject matter described herein is directed to a high-performance garment comprising a body portion defining at least one armhole. In some embodiments, the at least one sleeve portion may be coupled to the body portion proximate the at least one armhole, wherein the at least one sleeve portion comprises an arm portion and a wipe portion. In some embodiments, the wipe portion may be configured to remove perspiration from a body surface, wherein the wipe portion and the arm portion of the sleeve portion and the body portion of the garment are constructed from a fabric having a first surface and a second surface, wherein the first surface is opposite of the second surface.

[0006] In an embodiment, the subject matter disclosed herein is directed to a method of manufacturing a high-performance garment. The method may include constructing into a garment made of a type of fabric an inverted portion or panel of the same type of fabric and/or material, wherein the inverted portion includes an absorbent material that wicks moisture from a first surface to an opposite second surface.

BRIEF DESCRIPTION OF THE SEVERAL VIEWS OF THE DRAWING(S)

[0007] Having thus described the invention in general terms, reference will now be made to the accompanying drawings, which are not necessarily drawn to scale, and wherein:

[0008] FIG. **1** illustrates an outside front and rear view of a high-performance garment according to embodiments of the present invention;

[0009] FIG. **2** illustrates an inside surface of a high-performance garment according to embodiments of the present invention;

[0010] FIG. **3** illustrates a design specification drawing detailing a detailed construction of a high-performance garment according to embodiments of the present invention; and

[0011] FIG. **4** illustrates various measurements for a high-performance garment according to embodiments of the present invention.

DETAILED DESCRIPTION

[0012] The present invention will now be described more fully hereinafter with reference to the accompanying drawings, in which some, but not all embodiments of the inventions are shown. Indeed, these inventions may be embodied in many different forms and should not be construed as limited to the embodiments set forth herein; rather, these embodiments are provided so that this disclosure will satisfy applicable legal requirements. Like numbers refer to like elements throughout. The terms top, bottom, side, up, down, upwards, downwards, vertical, horizontal, and the like, to the extent used herein, do not imply a required limitation in all embodiments of the present invention, but rather are used herein to help describe relative direction or orientation in the example embodiments illustrated in the figures.

[0013] Various embodiments of the present invention generally provide for a high-performance garment configured for use whenever desired, for example, during strenuous activities, such as exercising, playing sports, and/or the like. Specifically, various embodiments of the present invention are generally directed towards a high-performance garment tailored and designed specifically for pre-adolescent and adolescent females, who may also be known as "tween" or "teen" females, for use whenever desired, for example, during strenuous activities, such as playing soccer, running, and/or other activities.

[0014] Pre-adolescent and/or adolescent females may have body types ranging from thin and short, thin and tall, stocky and short, stocky and tall, busty and thin and short, busty and thin and tall, busty and stocky and short, to busty and stocky and tall. Further, as used herein, the term "pre-adolescent and adolescent females" refer to those females aged from approximately 8 to 17 years old. Accordingly, embodiments of the present invention provides a high-performance garment for females ranging from 8 to 17 years old having any of the various body types that correspond with pre-adolescent and/or adolescent females. The garment disclosed herein is not limited to a design specifically for a pre-adolescent and adolescent females though a high-performance garment designed and constructed particularly to their needs is disclosed herein in preferred embodiments.

[0015] As shown in FIG. **1**, a high-performance garment **100** may include a body portion **102** and at least one sleeve portion **110** coupled to the body portion. Although embodiments illustrated in the various figures illustrate at least two sleeve portions coupled to a single body portion, a high-performance garment according to embodiments of the present invention may include a single sleeve portion.

[0016] The body portion may further define at least one armhole **104**, shown in FIG. **1** to be coupled to a sleeve portion, disposed proximate the top half of the body portion. Specifically, the body portion may define at least one armhole along a longitudinal side of body portion near the top half of the body portion. Accordingly, the at least one sleeve portion

may be coupled to the body portion proximate the at least one armhole of the body portion. The high-performance garment may include a body portion defining two armholes disposed proximate the top of the body portion. As such, at least two sleeve portions may be coupled to the one body portion proximate each of the respective armholes.

[0017] The high-performance garment **100** may further include a sleeve portion **110** that includes an arm portion **112** and a wipe portion **114**. The wipe portion **114** may be configured to absorb perspiration from a body surface, such as a forehead, nose, cheek, face, and/or any other body part, when the wipe portion contacts the body surface. Specifically, as discussed in further detail herein, the outer surface of a wipe portion **114** may be configured to absorb perspiration from the body surface. In addition, the wipe portion **114** of the sleeve portion **110** may be disposed at an opposite end from the end of the sleeve portion coupled to the armhole. Accordingly, the wipe portion may be disposed proximate a person's forearm, hand, fingers, and/or the like. The wipe portion can be configured into any shape as practical or as desired for aesthetic appeal. When a person desires to remove perspiration from a desired body part, the person may wipe the body part with the wipe portion of the sleeve portion.

[0018] The high-performance garment may further define a thumb hole **120** configured to receive a thumb therethrough. Accordingly, the thumb hole **120** may be disposed proximate the wipe portion **114** of the sleeve portion **110**. In some embodiments, the wipe portion **114** may be coupled to the arm portion **112** by a stitch, seams, adhesive, and/or the like. Similarly, the sleeve portion **110** may be coupled to the body portion **102** by a stitch, seams, adhesive, and/or the like. According to some embodiments, the thumb hole **120** may be defined by an opening between the wipe portion **114** and the arm portion **112**. In some embodiments, the wipe portion **114** may define a semi-circular shaped edge **122** that is not coupled to the arm portion **112**. As such, the semi-circular shaped edge **122** of the wipe portion **114** may define, in part, the thumb hole **120**. Although the wipe portion defines a semi-circular shaped edge, one of ordinary skill in the art may appreciate that an edge of a wipe portion may be configured into any shape to thereby, in part, define a thumb hole.

[0019] Useful fabrics for constructing a high-performance garment may include, but are not limited to, microfibers, polyesters, elastane, rayon, nylon, cotton, wool, and/or any suitable fabric comprising hydrophilic material, and/or blends thereof. In some embodiments, the high-performance garment may include fabric comprising recycled polyester, bamboo charcoal fibers, spandex and/or the like. According to one embodiment, the high-performance garment may include approximately between 50-80% recycled polyester. In another embodiment, the high-performance garment may include approximately between 60-70% recycled polyester. In one embodiment, the high-performance garment may include approximately 65% recycled polyester. As such, embodiments of the present invention may advantageously provide for reducing fabric waste by including a recycled polyester material.

[0020] In addition, the high-performance garment may include approximately between about 10-40% charcoal fibers, preferably obtained from bamboo, i.e., bamboo charcoal fibers. In another embodiment, the high-performance garment may include approximately between 20-30% of these charcoal fibers. According to one embodiment, the high-performance garment may include approximately 25% of these charcoal fibers. Further, embodiments of the present invention may advantageously provide for a high-performance garment constructed from a sustainable fabric as the fabric includes a charcoal fiber material.

[0021] In all embodiments, charcoal obtained from bamboo is preferred. Bamboo fibers are constructed from natural bamboo, a plant that grows at a high growth rate and can grow in a variety of climates. Accordingly, embodiments of the present invention may advantageously provide for a high-performance garment incorporating a sustainable fabric, as the fabric is constructed, in part, from a sustainable and versatile resource. In addition, embodiments of the present invention may advantageously provide for a high-performance garment that is moisture absorbent, healthy, warm, and configured to eliminate odors. For example, charcoal bamboo fibers are configured to be moisture absorbing, health-promoting, warm, and configured to eliminate odors.

[0022] According to some embodiments, the high-performance garment may further include approximately between 1-20% spandex and/or any other suitable elastomeric material. In some embodiments, the high-performance garment may include approximately 10% spandex and/or any other suitable elastomeric material. Although embodiments illustrated herein include a fabric constructed from recycled polyester, bamboo charcoal fibers, and/or spandex, one of ordinary skill in the art may appreciate the high-performance garment may be constructed from any suitable fabric material.

[0023] In a preferred embodiment, the fabric comprises from about 50% to about 80% recycled polyester, from about 10% to about 40% charcoal fibers, preferably bamboo charcoal fibers, and from about 1% to about 20% spandex. More preferably, the fabric comprises from about 60% to about 70% recycled polyester, from about 20% to about 30% charcoal fibers, preferably bamboo charcoal fibers, and from about 5% to about 15% spandex. Most preferably, the fabric comprises about 65% recycled polyester, about 25% charcoal fibers, preferably bamboo charcoal fibers, and about 10% spandex.

[0024] In some embodiments, the body portion **102**, the arm portion **112** and the wipe portion **114** may each be constructed from the same or different fabrics. In particular, the wipe portion **114** may be configured to function as a wipe and therefore should comprise absorbent fabrics or materials or any suitable hydrophilic material. For example, some absorbent fabrics or materials may include cotton, rayon, polypropylene and/or any other suitable absorbent material with moisture-wicking properties. In addition, embodiments may include fabrics or materials configured to provide a quick drying time when compared to traditional fabrics or materials. Further, embodiments may provide a high-performance garment configured to stretch when a force is applied to the fabric, thus advantageously providing for a compressive fit that corresponds to the body shape of a pre-adolescent and/or adolescent female.

[0025] Advantageously, in some embodiments, the high-performance garment may be constructed to include a high-performance body portion and sleeve portions, each made of the same type of fabric. A further advantageous aspect of the present invention is the construction of the wipe portion **114**, which in a particularly useful embodiment is also made from the same type of fabric. However, when the fabric of the wipe portion **114** is described as the same herein, it is meant that the same fabric type of fabric is oriented in an opposite fashion

compared to the body portion and/or arm portion so as to create a new utility for the very same fabric, as described in greater detail herein. Preferably, the wicking fabric used in the body and sleeves is oriented in an opposite fashion compared to the fabric of the body and sleeves, and the wicking fabric is sewn or otherwise constructed into the garment for use as the wipe portion **114**. In doing so, these particular embodiments of the garments disclosed herein capitalize on the high-performance features of the fabric as an absorbent material while minimizing waste. Embodiments may advantageously provide for facilitating construction of a high-performance garment having several technical properties, though the garment is constructed from a single type of fabric, and at a cost savings.

[0026] As such, the body portion **102**, the arm portion **112** and the wipe portion **114** may be constructed from a fabric that includes a first surface **200** and a second surface **202**, as shown in FIG. **3**. The first surface **200** of the fabric may be defined by one side of the fabric, while the second surface **202** of the fabric may be defined by the opposite side of the fabric. The first surface **200** may include a smooth finish surface configured to provide for aerodynamics, comfort, efficient removal of perspiration from a covered body part to the surrounding environment, compression of the body part, and/or the like. The fabric may also include a second surface **202** that may include a plurality of yarn loops configured to absorb large amounts of fluid, such as perspiration. This is also referred to herein as a wicking property. According to some embodiments, the second surface **202** may include a terry cloth surface configured to absorb large amounts of perspiration. As such, embodiments of the present invention may include a fabric that has a first surface and a second surface having different textures, features, abilities, and/or the like.

[0027] As shown in FIGS. **1** and **2**, the body portion **102** may include a body portion inner surface **130** and a body portion outer surface **132**, wherein the body portion inner surface is configured to contact the person's skin and the body portion outer surface is configured to be exposed to the environment. Accordingly, in some embodiments, the body portion inner surface **130** may be defined by the second surface **202** of the fabric. As such, the body portion inner surface **130** may include a plurality of fabric yarn loops configured to absorb perspiration from a person's body and may be configured to transfer the perspiration to the body portion outer surface **132**, which may be defined by the first surface **200** of the fabric. Further, the body portion inner surface **130** may include a label **133** that may be applied, coupled, and/or otherwise affixed to the body portion inner surface **130** by a heat treatment, adhesive, stitching, and/or the like. In this way, logos may be affixed to the garment as well.

[0028] As mentioned previously, the sleeve portion **110** may include an arm portion **112** and a wipe portion **114**. In some embodiments, the arm portion **112** may be configured in a similar manner to the body portion **102**. Specifically, an arm portion inner surface **140** may be defined by second surface **202** of the fabric such that the arm portion may be configured to absorb perspiration from a person's arm as the person's arm is in contact with the arm portion inner surface **140**. The arm portion inner surface **140** may include a plurality of fabric yarn loops configured to absorb the perspiration from the person's arm. In addition, the arm portion outer surface **142** may be defined by the first surface **200** of the fabric.

[0029] The wipe portion **114** of the sleeve portion **110** may define a wipe portion outer surface **152** and a wipe portion inner surface **150**, as shown in FIGS. **1** and **2**. Unlike the arm portion **112** and the body portion **102** of the high-performance garment, the wipe portion outer surface **152** may be defined by the second surface **202** of the fabric. Accordingly, the wipe portion outer surface **152** may include a plurality of fabric yarn loops configured to absorb a fluid. As such, when a person contacts the wipe portion outer surface **152** to the person's skin, such as the forehead, the wipe portion outer surface is configured to remove the perspiration from the person's forehead. Conversely, the wipe portion inner surface **150** may be defined by the first surface **200** of the fabric.

[0030] Embodiments of the present invention advantageously provide a high-performance garment constructed from a single fabric. Accordingly, embodiments advantageously provide for the minimizing of waste fabric as scrap portions of fabric may be used for smaller area portions. For example, in embodiments, the wipe portion **114** of the high-performance garment has a smaller area than the body portion **102** of the high-performance garment. When a body portion is selected and cut from a bolt of fabric or other large quantity of fabric, the unused portions of the fabric created by cutting the body portion may be too small to form another body portion and/or arm portion of the high-performance garment. As such, the unused portions of the fabric created by cutting the body portion that is generally discarded may be sufficient in size to produce a wipe portion of the high-performance garment. Accordingly, embodiments of the present invention advantageously provide for minimizing fabric waste by providing a high-performance garment that includes a wipe portion constructed from the same fabric as other portions of the high-performance garment. Table 1 refers to FIG. **3**.

TABLE 1

Fabric	Description
A	65%/25%/10% recycled polyester/bamboo charcoal/spandex, jersey - French terry, 140 m, 223 gmr^2
A1	A back side French terry face up; 65%/25%/10% recycled polyester/bamboo charcoal/spandex, jersey - French terry, 140 m, 223 gmr^2
Thread	Flatlock seasms 2NDL top stitching cover lock hem (¼")

[0031] According to some embodiments, the wipe portion **114** of the high performance garment may be constructed from unused portions of the fabric created by cutting the body portion and/or other portions of the high-performance garment. As such, the wipe portion may have a color that corresponds to the color of the other portions of the high-performance garment. In some embodiments, the wipe portion **114** may be constructed from unused portions of the fabric created by cutting the body portion and/or other portions of a high-performance garment in a different color. Accordingly, the high-performance garment may have various portions that differ in color from one another while the portions are still constructed from the same materials. Such multi-colored garments provide visually appealing and interesting aspects to the high-performance technical features.

[0032] The features described herein can be incorporated into any appropriate garment whether designed specifically for an adult male (utilizing recognized adult male garment sizes), adult female (utilizing recognized adult female garment sizes), pre-adolescent or adolescent males (utilizing recognized pre-adolescent or adolescent male garment sizes), pre-adolescent or adolescent females (utilizing recognized pre-adolescent or adolescent females sizes) or unisex gar-

ment (utilizing recognized sizes in this field). A particularly preferred embodiment uses a construction having the proportions disclosed herein. In these preferred embodiments, the high-performance garment is constructed for use by pre-adolescent and/or adolescent girls. Accordingly, specific dimensional cuts for the high-performance garment advantageously provide for excellent fit thereby reducing friction, chaffing, bunching, and/or other undesirable characteristics of generally available action wear for pre-adolescent and/or adolescent females.

[0033] In addition, embodiments of the present invention can advantageously provide for a high-performance garment that provides a better fit for pre-adolescent and/or adolescent girls. Accordingly, the high-performance garment can also advantageously provide for optimum performance while wearing the garment since the garment has been designed and constructed as a garment that fits the specific body shapes of pre-adolescent and/or adolescent girls. Further, the high-performance garment can advantageously provide for optimum athletic performances by pre-adolescent and/or adolescent girls wearing the garment by providing a wipe portion configured to remove perspiration from a body part. Specifically, the use of a single fabric for the wipe portion may advantageously provide a pre-adolescent and/or adolescent girl with a garment that is not overly bulky, heavy, or difficult to wear, and is further easier to care for, wash and clean.

[0034] As illustrated in FIG. **4**, embodiments of the present invention may also be sized accordingly for the specific body shape of a pre-adolescent and/or adolescent girl. In some embodiments, a high-performance garment **100** may further define a body portion length **602**, a bust width **604**, a waist width **606**, and a bottom opening width **608**. Pre-adolescent and adolescent females have a body shape that varies greatly from pre-adolescent males, adolescent males, and adult males and females. Accordingly, embodiments of the present invention provide a high-performance garment configured to provide for better athletic performances by pre-adolescent and/or adolescent girls by providing a high-performance garment configured to fit the body of a pre-adolescent or adolescent female.

[0035] Specifically, pre-adolescent and/or adolescent females may begin puberty between the ages of 8 and 13. As such, breast development may not be fully mature as an adult female. In addition, pre-adolescent and/or adolescent females may also experience body changes, such as greater hip widths and an increase in fat to the buttocks, legs, and/or stomach. Further, arm, legs, and/or hands of a pre-adolescent and/or adolescent female may grow in advance of torso growth. As such, the construction of the garment as disclosed herein is designed and tailored to advantageously provide for a high-performance garment configured to provide pre-adolescent and/or adolescent females with a desirable fit.

[0036] For example, in some embodiments, a high-performance garment may define a body portion length, defined approximately as from the highest shoulder point ("HSP") to bottom opening hem, **602** that is from about 19 to about 27 inches. In some embodiments, the body portion length **602** may be approximately 21, 22, 23, 24 or 25 inches.

[0037] The high-performance garment may also define a bust width **604**, defined approximately as the length across the garment at about 1" below the armhole. In some embodiments, the bust width may be from about 12 to about 17.5 inches. According to some embodiments, the bust width may be approximately 12.75, 13.75, 14.75, 16.5 or 17.75 inches. The bust width **604** may be measured from one vertical edge of the body portion to an opposite vertical edge of the body portion at a location approximately 1 inch below the armhole of the body portion.

[0038] Further, the high-performance garment may define a waist width **606** of approximately 13 inches. According to some embodiments, the high-performance garment may define a waist width that is from about 10 to about 17 inches. In embodiments, the waist width may be approximately 11, 12, 13, 14.5 or 16 inches. In some embodiments, the waist width **606** may be measured from one vertical edge of the body portion to an opposite vertical edge of the body portion at a location approximately 13 inches below the highest shoulder point of the body portion.

[0039] In addition, the high-performance garment may define a bottom opening width **608**, wherein the bottom opening width may be measured from one vertical edge of the body portion to an opposite vertical edge of the body portion at a location approximately the bottom opening. According to some embodiments, the high-performance garment may define a bottom opening width that is from about 10 to about 20 inches. In embodiments, the bottom opening width is about 12.5, 13.5, 14.5, 16 or 17 inches.

[0040] In addition, the high-performance garment may define a shoulder length identified in FIG. **4** as measurement point 5. According to some embodiments, the high-performance garment may define a shoulder length that is from about 9 to about 17 inches. In some embodiments, the shoulder length may be approximately 11, 12, 13, 14 or 15 inches.

[0041] In addition, the high-performance garment may define an armhole curved length identified in FIG. **4** as measurement point 6. According to some embodiments, the high-performance garment may define an armhole curved length that is from about 4 to about 10 inches. In embodiments, the armhole curved length may be approximately 6.5, 7, 7.5, 8 or 8.5 inches.

[0042] In addition, the high-performance garment may define a bicep width, described as approximately 1" below armhole straight, identified in FIG. **4** as measurement point 7. According to some embodiments, the high-performance garment may define a bicep width that is from about 9 to about 17 inches. In embodiments, the bicep width may be approximately 4.75, 5.25, 5.75, 6.25 or 6.75 inches.

[0043] In addition, the high-performance garment may define a cuff opening, identified in FIG. **4** as measurement point 8. According to some embodiments, the high-performance garment may define a cuff opening that is from about 2 to about 5 inches. In embodiments, the cuff opening may be approximately 2.75, 3, 3.25, 3.5 or 3.75 inches.

[0044] In addition, the high-performance garment may define a neck opening, identified in FIG. **4** as measurement point 9. According to some embodiments, the high-performance garment may define a neck opening that is from about 4 to about 10 inches. In embodiments, the neck opening is about 6.38, 6.63, 6.87, 7.12 or 7.38 inches.

[0045] In addition, the high-performance garment may define a back neck drop, identified in FIG. **4** as measurement point 10. According to some embodiments, the high-performance garment may define a back neck drop that is from about 0.5 to about 1 inches. In embodiments, the back neck drop is about 0.75 inches.

[0046] In addition, the high-performance garment may define a front neck drop, identified in FIG. **4** as measurement point 11. According to some embodiments, the high-perfor-

mance garment may define a front neck drop that is from about 1 to about 3 inches. In embodiments, the front neck drop is about 1.88, 2, 2.12, 2.25 or 2.5 inches.

[0047] Further, the high-performance garment may define each of measurement points 1-18 as shown in Table 2 and the tolerances stated therein.

TABLE 2

Measurement Points						
Measurement Point	Tol. √+	8 (XS)	10 (S)	12 (M)	14 (L)	XL (16)
1. Body length (HSP to bottom opening being straight	½	21	22	23	24	25
2. Bust 1" down below armhole	¼	12¾	13 75	14¾	16½	17¾
3. Waist at 13° from HPS straight down	¼	11	12	13	14½	10
4. Bottom opening straight	¼	12½	13½	14½	16	17½
5. Shoulder length (shoulder seam to shoulder seam)	¼	11	12	13	14	15
6. Armhole curved length	¼	6½	7	7½	8	8½
7. Bicep width 1" below armhole straight	¼	4¾	5¼	5¾	8¼	6¾
8. Cuff opening	¼	2¾	3	3¼	3½	3¾
9. Neck opening	¼	6⅜	6⅝	6⅞	7⅛	7⅜
10. Back neck drop	¼	¾	¾	¾	¾	¾
11. Front neck drop	⅛	1⅞	2	2⅛	2¼	2½
12. Sweap whipe length highest point	⅛	5¼	5½	5½	5½	5½
13. Sweap whipe width at cuff opening	¼	3¼	3½	3¾	4	4¼
14. Thumb hole length	⅛	1	1	1	1	1
15. Mock neck collar high at CF	⅛	1 14	1 14	1 14	1 14	1 14
16. Top collar opening straight	⅛	5¾	6¼	6½	6¾	7
17. Sweap whipe length lowest point	⅛	3¾	3¾	3¾	3¾	3¾
18. Sleeve length from CB neck to cuff opening straight	¼	28	29	30	31	32

[0048] The thumbhole length, identified in FIG. **4** as measurement point 14, can be any practical size, but is preferably about 1 inch.

[0049] As such, a high-performance garment may define a bust width to body length ratio that is approximately between 0.44 to 0.92. In some embodiments, the high-performance garment may define a bust width to body length ratio that is approximately between 0.60 to 0.71. In some embodiments, the high-performance garment may define a waist width to body length ratio that is approximately between 0.37 to 0.89. In another embodiment, the high-performance garment may define a waist width to body length ratio that is approximately between 0.52 to 0.64. According to some embodiments, the high-performance garment may define a bottom opening width to body length ratio that is approximately between 0.44 to 0.95. In some embodiments, the high-performance garment may define a bottom opening width to body length ratio that is approximately between 0.59 to 0.70.

[0050] In some embodiments, the high-performance garment may define a waist width to bust width ratio that is approximately between 0.57 to 1.42. In some embodiments, the high-performance garment may define a waist width to bust width ratio that is approximately between 0.86 to 0.90. The high-performance garment may further include a waist width to bottom opening width ratio of approximately between 0.55 to 1.42. In another embodiment, the high-performance garment may define a waist width to bottom opening width ratio of approximately between 0.88 to 0.91.

[0051] In a preferred embodiment, the high performance garment defines the following ranges of measurement points in bold (in inches): 1, from about 20 to about 22; 2, from about 10 to about 14; 3, from about 10 to about 12; 4, from about 10 to about 14; 5, from about 10 to about 12; 6, from about 6 to about 7; 7, from about 4 to about 6; 8, from about 2 to about 4; 9, from about 5 to about 7; 10, from about 0.5 to about 1; 11, from about 1 to about 3; 12, from about 3 to about 7; 13, from about 1 to about 6; 14, from about 0.5 to about 2; 15, from about 1 to about 2; 16, from about 4 to about 6; 17, from about 2 to about 5; and 18, from about 26 to about 29.

[0052] In a preferred embodiment, the high performance garment defines the following ranges of measurement points in bold (in inches): 1, from about 21 to about 23; 2, from about 13 to about 15; 3, from about 11 to about 13; 4, from about 13 to about 15; 5, from about 11 to about 13; 6, from about 6.5 to about 8; 7, from about 4.5 to about 6.5; 8, from about 2.5 to about 4.5; 9, from about 6 to about 8; 10, from about 0.5 to about 1; 11, from about 1.5 to about 2.5; 12, from about 3 to about 7; 13, from about 1 to about 6; 14, from about 0.5 to about 2; 15, from about 1 to about 2; 16, from about 5 to about 7; 17, from about 2 to about 5; and 18, from about 27 to about 30.

[0053] In a preferred embodiment, the high performance garment defines the following ranges of measurement points in bold (in inches): 1, from about 22 to about 24; 2, from about 13.5 to about 15.5; 3, from about 12 to about 14; 4, from about 13.5 to about 15.5; 5, from about 12 to about 14; 6, from about 6.5 to about 8.5; 7, from about 5 to about 7; 8, from about 2.5 to about 4.5; 9, from about 6 to about 8; 10, from about 0.5 to about 1; 11, from about 1.75 to about 2.5; 12, from about 3 to about 7; 13, from about 2 to about 6; 14, from about 0.5 to about 2; 15, from about 1 to about 2; 16, from about 5.5 to about 7.5; 17, from about 2 to about 5; and 18, from about 28 to about 31.

[0054] In a preferred embodiment, the high performance garment defines the following ranges of measurement points in bold (in inches): 1, from about 23 to about 25; 2, from about 15.5 to about 17.5; 3, from about 13.4 to about 15.5; 4, from about 15 to about 17; 5, from about 13 to about 15; 6, from about 7 to about 9; 7, from about 5.5 to about 7.5; 8, from about 2.5 to about 5; 9, from about 6.5 to about 8.5; 10, from about 0.5 to about 1; 11, from about 1.75 to about 3; 12, from about 3 to about 7; 13, from about 2 to about 6; 14, from about 0.5 to about 2; 15, from about 1 to about 2; 16, from about 6 to about 7.5; 17, from about 2 to about 5; and 18, from about 29 to about 32.

[0055] In a preferred embodiment, the high performance garment defines the following ranges of measurement points in bold (in inches): 1, from about 24 to about 26; 2, from about

17 to about 19; 3, from about 15 to about 17; 4, from about 17 to about 18; 5, from about 14 to about 16; 6, from about 7.5 to about 9.5; 7, from about 6 to about 8; 8, from about 3 to about 5; 9, from about 6.5 to about 8.5; 10, from about 0.5 to about 1; 11, from about 2 to about 3.5; 12, from about 3 to about 7; 13, from about 2 to about 6; 14, from about 0.5 to about 2; 15, from about 1 to about 2; 16, from about 6 to about 8; 17, from about 2 to about 5; and 18, from about 30 to about 33.

[0056] In an embodiment, the subject matter disclosed herein is directed to a method of manufacturing a high-performance garment. The method may include constructing into a garment made of a type of fabric an inverted portion or panel of the same type of fabric and/or material. The inverted portion may be configured with an absorbent material that wicks moisture from a first surface to an opposite second surface.

[0057] As such, embodiments of the present invention may advantageously provide for a high-performance garment that provides an appropriate fit for pre-adolescent and/or adolescent females. Unlike pre-adolescent males, adolescent males, and/or adult males and females, pre-adolescent and/or adolescent females have a body shaped that is defined by the slowly maturing aspects of the female body. Although not fully matured, pre-adolescent and/or adolescent females have features similar to adult females. Accordingly, adult female clothing may not be suited to provide the appropriate fit for pre-adolescent and/or adolescent females. In addition, pre-adolescent and/or adolescent females have features differing from their male counterparts, which include increasing hip width, decreasing waist width, and/or an increasing bust. Accordingly, pre-adolescent and/or adolescent male clothing may not provide the appropriate fit for pre-adolescent and/or adolescent females. As such, embodiments of the present invention may advantageously provide for a high-performance garment configured to provide an appropriate fit for pre-adolescent and/or adolescent females during strenuous activities, such as playing soccer, running, and/or the like.

[0058] Throughout this specification and the claims, the words "comprise," "comprises," and "comprising" are used in a non-exclusive sense, except where the context requires otherwise.

[0059] As used herein, the term "about" or "approximately," when referring to a value is meant to encompass variations of, in some embodiments ±20%, in some embodiments ±10%, in some embodiments ±5%, in some embodiments ±1%, in some embodiments ±0.5%, and in some embodiments ±0.1% from the specified amount, as such variations are appropriate to describe the measurements and proportions within tolerances in this field.

[0060] Many modifications and other embodiments of the inventions set forth herein will come to mind to one skilled in the art to which these inventions pertain having the benefit of the teachings presented in the foregoing descriptions and the associated drawings. Therefore, it is to be understood that the inventions are not to be limited to the specific embodiments disclosed. Although specific terms are employed herein, they are used in a generic and descriptive sense only and not for purposes of limitation.

That which is claimed:

1. A high-performance garment comprising:
a body portion defining at least one armhole;
at least one sleeve portion coupled to the body portion proximate the at least one armhole, the at least one sleeve portion comprising:
an arm portion; and
a wipe portion, wherein the wipe portion is configured to remove perspiration from a body surface,
wherein the wipe portion and the arm portion of the sleeve portion and the body portion of the garment are constructed from a fabric having a first surface and a second surface, wherein the first surface is opposite of the second surface.

2. A high-performance garment according to claim **1**, wherein an outer surface of the arm portion is defined by the first surface of the fabric and an outer surface of the wipe portion is defined by the second surface of the fabric.

3. A high-performance garment according to claim **2**, wherein the fabric comprises a single yarn material.

4. A high-performance garment according to claim **1**, wherein the wipe portion is disposed at a distal end of the sleeve portion and wherein a proximal end of the sleeve portion is coupled to the body portion proximate at least one armhole.

5. A high-performance garment according to claim **4**, wherein the sleeve portion defines a thumb hole therethrough.

6. A high-performance garment according to claim **5**, wherein the thumb hole is disposed proximate the distal end of the sleeve portion.

7. A high-performance garment according to claim **5**, wherein the wipe portion and the arm portion define the thumb hole.

8. A high-performance garment according to claim **1**, wherein the body portion further defines:
a body portion length;
a bust width;
a waist width; and
a bottom opening width,
wherein the bust width and bottom opening width are greater than the waist width.

9. A high-performance garment according to claim **8**,
wherein the bust width is approximately between 0.60 and 0.71 of the body portion length,
wherein the waist width is approximately between 0.52 and 0.64 of the body portion length, and
wherein the bottom opening width is approximately between 0.59 and 0.70 of the body portion length.

10. A high-performance garment according to claim **8**,
wherein the waist width is approximately between 0.86 and 0.90 of the bust width, and
wherein the waist width is approximately between 0.88 and 0.91 of the bottom opening width.

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