WEFT KNITTING ELASTIC FABRIC

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ABSTRACT

A weft knitting fabric with wrapped yarns as its raw material. The wrapped yarn refer to the spandex with its external layer wrapped with polyamide yarn or polyester silk. It provides smooth and soft hand feel, excellent extensibility and recovery performance, and high level of wearing comfort. If the new weft knitting elastic fabrics of the present invention is applied to model cups of bra, it will improve supporting strength of cups and keep breasts of females towering. If it is applied to sportswear, it will improve extensibility and comfort of sportswear.
WEFT KNITTING ELASTIC FABRIC

FIELD OF THE INVENTION

[0001] The present invention relates to the technical field of textile, more specifically, it relates to weft knitting elastic fabric.

BACKGROUND OF THE INVENTION

[0002] Presently, weft knitting elastic fabric is widely used in the textile industry and daily life, specifically in the garment industry. For example, weft knitting elastic fabric is essential accessories for underwear; side wings of the bra always utilize weft knitting elastic fabric to assist the cups in supporting the breasts and keeping them in position relative to the chest circumference; external layer of cups is made of elastic cloth which provides little strength and poor elastic resilience and is prone to losing elasticity and reducing elastic recovery. Hence, the bra cups are likely to be loose and cannot play a role of supporting breasts and meet requirements on flatness, softness, smoothness, close fit, high level of wearing comfort, etc. Take sportswear as another example, in order to ensure better extensibility while exercising, elastic fabrics are utilized. However, due to the loss of elasticity, conventional elastic fabrics may not fit and even badly affect the performance of the sportsmen.

SUMMARY OF THE INVENTION

[0003] An object of the present invention is to provide a new type weft knitting elastic fabric to overcome the limitations of the present technology. Raw materials for making the novel weft knitting elastic fabric are all elastic wrapped yarns, which have good elastic resilience, high elastic strength, high recovery rate, and are not prone to losing elasticity. When applied to cups of the bra, it can not only improve elasticity and increase its supporting effect, but also meet requirements on flatness, close fit, high level of wearing comfort and provide enhanced elastic, etc. When applied to sportswear, sportswear will feel more comfortable and bring their physical ability into full play.

[0004] In order to achieve the above purpose, the present invention adopts the following technical schemes to make a novel weft knitting elastic fabric interlaced regularly by wrapped yarn through weft knitting machine.

[0005] Said wrapped yarns refer to the spandex with its external layer wrapped with at least one layer of yarn.


[0008] Specifications of the wrapped yarns used for said fabric may be the same or different.

[0009] Beneficial effects of the present invention are: Spandex material provides good elastic resilience and can recover its original shape after being stretched by 800%. Wrapped yarns refer to the spandex yarns wrapped with polyamide yarn or polyester silk by a wrapping machine. It is shown that the fabric made of wrapped yarn interlaced regularly through weft knitting machine can easily be stretched but still closely cling to the surfaces of the human body after returning. It has little pressing force on the human body and can be freely elongated to a certain length and quickly recover to the original length after stretching. This indicates that the weft knitting elastic fabric of the present invention provides great elastic resilience, high elastic strength, high recovery rate, and is not prone to losing elasticity in both warp and weft directions.

[0010] Another important feature of the weft knitting elastic fabric of the present invention is: both wrap and weft of said fabric provide sound elastic resilience and high elastic strength, and the fabric is hard to be torn or burst by an external force. Even if it is torn or burst, it can recover to its original shape after the external force is released without giving any indication of its being torn or burst. Hence, by using the present fabric in the cups of bra, its four sides can provide sound elasticity, and it brings the functions of cups into full play.

BRIEF DESCRIPTION OF THE DRAWINGS

[0011] FIG. 1 is a front schematic diagram of plain weave of the weft knitting elastic fabric according to the present invention.

[0012] FIG. 2 is a back schematic diagram of plain weave of the weft knitting elastic fabric according to the present invention.

[0013] FIG. 3 is a schematic diagram of pattern of the weft knitting elastic fabric according to the present invention.

[0014] FIG. 4 is a basic weaving schematic diagram of the weft knitting elastic fabric according to the present invention. (1)-(3) are the loop clearing processes; (4) is yarn sinking process; (5) is closing and circling process; (6) is kinking, knock-over and drawing process.

[0015] FIG. 5 shows the main supporting position of the bra made of the weft knitting elastic fabric of the present invention.

[0016] FIG. 6 is the force diagram of the bra made of the weft knitting elastic fabric as mentioned in FIG. 5.

[0017] FIG. 7 and FIG. 8 are bras made of the weft knitting elastic fabric of the present invention.

DETAILED DESCRIPTION OF PARTICULAR EMBODIMENTS OF THE INVENTION

[0018] The following is a further description of the present invention with reference to the attached figures:

[0019] As shown in FIG. 1, FIG. 2 and FIG. 3, a new weft knitting elastic fabric 5 is a type of fabric interlaced regularly by wrapped yarn 1 and wrapped yarn 2 (or wrapped yarn 3 and wrapped yarn 4) through a weft knitting machine. Said fabric can be of a plain weave structure or pattern structure. The fabric is made of wrapped yarns and does not contain any other yarns. Said wrapped yarn refers to the spandex with its external surface wrapped with polyamide yarns or polyester silk by a wrapping machine. The Spandex material provides good elastic resilience and can recover its original shape after being stretched by 800%. In other words, the weft knitting elastic fabric of the present invention can be freely stretched but still closely cling to the surfaces of the human body after returning. It has little pressing force on the human body and can be easily elongated by 2 to 5 times it’s original length and quickly recover to the original length after the external force is released.

[0020] Another important feature of the present invention is: the fabric is hard to be torn or burst by force. In the present market, conventional fabrics are not only prone to being torn and burst, but also difficult to recover its original shape after being extended and the external force being released. The raw materials of the present well knitting elastic fabric are all
elastic wrapped yarns, which can provide good elastic resilience, high elastic strength, high recovery rate in both warp and weft directions, and make the fabric difficult to be tore or burst by external force. Even if being torn or burst, it can recover to its original shape after the external force is released without leaving any indication of its being torn or burst.

The new weft knitting elastic fabric of the present invention provides flatness, excellent hand feel, sound elastic resilience and high level of wearing comfort, etc. It can be widely used in the garment industry, especially in the field of underwear such as brassiere, swimwear, briefs, lingerie, etc. The following is a description of an embodiment of the weft knitting elastic fabric of the present invention with respect to the cup of bra:

As shown in FIG. 6, FIG. 7 and FIG. 8, the cups of the bra, especially the area contacting steel ring, requires materials with necessary elastic resilience, stable structure and are not prone to deformation and unraveling, so that the bra can play the role of supporting breasts, is not prone to deformation even after being used for a long time and keeps breasts in desired shape. If the weft knitting elastic fabric of the present invention is used, it will not only make the bra meet the above requirements, but also provide fashionable appearance, excellent hand feel, convenience in use and high level of wearing comfort, etc.

The main manufacturing equipment for fabricating the weft knitting elastic fabric of the present invention is a weft knitting machine.

The actual procedures of making this weft knitting elastic fabric of the present invention are as follows: circling, yarn sinking and knock-over, as shown in FIG. 4. The weft knitting fabric of the present invention may be plain weave or pattern structure. Its knitting stitch may be weft plain stitch, rib stitch, pearl knitting stitch, air layer fabric, tuck stitch, leno weave, racked stitch and intarsia fabric etc.

The weft knitting elastic fabric made with aforementioned stitches can meet different requirements by using wrapped yarns with different structures, making densities and specifications.

The weft knitting elastic fabric made by the above methods can meet different requirements by using wrapped yarns with different structures, making densities and specifications.

FIG. 1, FIG. 2 and FIG. 3 are schematic diagrams of this new weft knitting elastic fabric of the present invention with plain weave structure and pattern structure. FIG. 4 is basic weaving schematic diagram of this new weft knitting elastic fabric of the present invention. Of course, the stitch structures are not limited to FIG. 1—FIG. 3.

In summary, the weft knitting elastic fabric of the present invention is interfaced regularly by wrapped yarn through weft knitting machine. Both warp and weft can provide good elasticity, high elastic strength, high rate of recovery and are not prone to losing elasticity.

The above-mentioned embodiments are just the preferred embodiments of the present invention. Hence, all fabrications and devices achieving the above-mentioned functions, and the simple decoration or equivalent fabrication changes should be included in the present invention, hereby declare. What is claimed is:

1. A weft knitting elastic fabric, characterized in that: it is the fabric interfaced regularly by wrapped yarn through weft knitting machine.

2. The weft knitting elastic fabric according to claim 1, characterized in that: said wrapped yarns refer to the spandex with its external layer wrapped with at least one layer of yarn.

3. The weft knitting elastic fabric according to claim 1, characterized in that: said fabric itself is weft knitting fabric with plain weave structure.

4. The weft knitting elastic fabric according to claim 1, characterized in that: said fabric itself is weft knitting fabric with pattern structure.

5. The weft knitting elastic fabric according to claim 1, characterized in that: specifications of the wrapped yarns adopted by said fabric can be the same or different.

6. A weft knitting elastic fabric, characterized in that: said fabric is made of wrapped yarn, which comprises internal filament and external filament. Wherein, external layer of the internal filament is wrapped with external filament.

7. The weft knitting elastic fabric according to claim 6, characterized in that: said internal filament is spandex, while said external filament is polyamide or polyester.

8. A women underwear or cups of bra, characterized in that: it contains fabric interfaced with wrapped yarns. Said wrapped yarns comprise internal filament and external filament. Wherein, surface of the internal filament is wrapped with external filament.

9. The underwear or cups of bra according to claim 8, characterized in that: said internal filament is spandex, while said external external filament is polyamide or polyester.

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