Armored Life Vest

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Abstract

An armored life jacket combining floatability features and shielding features is provided. In some embodiments, the life jacket includes a shielded upper front section, a shielded lower front section, a shielded upper rear section and a shielded lower rear section. The lower front section and lower rear section may be laterally connected to each other and the upper front section and lower front section may be configured to form shoulders with each leaving a side gap for including a user’s arms. The front and back sections may further include shielded panels. Additionally, each shoulder section may include an arm protector projected on each side that further includes a shielded panel. The life jacket may also include a pelvic protector extending from the lower front and rear sections, and a floating panel collar extending from the upper front and rear sections towards the outside.
ARMORED LIFE VEST

SUMMARY OF THE INVENTION

[0001] The present invention relates to a shielded lifejacket with floatability features for personal protection built in with a level of ballistic protection. Particularly, it comprises a shielded jacket with permanent positive floatability consisting of two front sections—a shielded upper front section and a shielded lower front section—a rear section with a shielded upper rear section and a shielded lower rear section, arm protectors, and, a pelvic protector. The upper front and rear sections, outwardly, comprise a floating panel collar. This invention is useful for the protection of military or civilian groups, mainly deployed in maritime stations. The purpose of the invention is about a jacket having testability capacity and being shielded for protection against weapon attack.

UTILITY MODEL DESCRIPTION

Field of the Invention

[0002] The field of the invention relates to a shielded lifejacket for personal protection built in with a level of ballistic protection. More particularly, the field of the invention relates to a shielded jacket with permanent positive floatability for protecting military or civilian groups, mainly deployed in maritime stations.

Prior Art

[0003] This invention relates to a shielded lifejacket with floatability features for personal protection built in with a level of ballistic protection consisting of two front sections—a shielded upper front section and a shielded lower front section—a rear section with a shielded upper rear section and a shielded lower rear section, arm protectors, and, a pelvic protector. The upper front and rear sections, outwardly, comprise a floating panel collar.

[0004] Traditionally, ballistic panels have been used for personal protection. Patent GB2214405 from Sacks, Michael, publishes a personal floating device with breeches. The device with multiple breeches is capable of being adjusted to provide a wide range of floatability. However, this solution does not offer pelvic protection and since it does not comprise any waist tie, it tends to open during its use, so that the shield does not completely cover the body of the user.

OBJECT OF THE INVENTION

[0005] A first object of this utility model is to avoid the disadvantages of the prior art. More particularly, the object of this utility model is to be a life jacket which can also be used as a protecting shield.

[0006] These objects, as well as any other provided by this invention, are the feature of this utility model as a safety device arrangement.

BRIEF DESCRIPTION OF THE FIGURES

[0007] To further describe the development described and its advantages compared to the known art, possible illustrative embodiments not limiting the application of these principles, are described below with the aid of the accompanying drawings.

[0008] FIG. 1: Front view of lifejacket with floatability features and shielding.

[0009] FIG. 2: Rear view of lifejacket with floatability features and shielding.

DETAILED DESCRIPTION OF THE INVENTION

[0010] This development is aimed at a lifejacket with floatability features and shield for personal protection built in with a level of ballistic protection.

[0011] Particularly, according to FIGS. 1 and 2, it comprises a shielded jacket with permanent positive floatability.

[0012] The jacket 1 comprises two front sections, a shielded upper front section 2 and a shielded lower front section 3. Said jacket 1 further comprises a rear portion with a shielded upper rear section 4 and a shielded lower rear section 5. The lower front section 3 and lower rear section 5 are laterally attached to each other. The upper top section 2 and upper rear section 4 form shoulders 6 with each other, leaving a side gap for including the user’s arms, thereby forming said jacket 1. All front and rear sections comprise shielded panels.

[0013] From each shoulder section 6, an arm protector 7 projects on each side comprising a shielded panel.

[0014] In the lower front section 2 and lower rear section 5 a pelvic protector 8 is projected downwardly.

[0015] The upper front section 2 and upper rear section 4, outwardly, comprise a floating panel collar 9.

[0016] The shielded upper front section 2 comprises a front ballistic panel of at least level III A and the shielded lower front section 3 comprises a front plate level IV and may comprise in a preferred embodiment, an anti-trauma plate.

[0017] The rear part of the jacket 1 with the shielded upper rear section 4 comprises a rear ballistic panel level IIIA and the shielded lower rear section 5 is composed of a rear plate level IV.

[0018] All shield sections are free of creases, bubbles, cracks, tears, fissures, bent or sharp corners or any evidence of poor workmanship. The corners of each panel should be rounded. In a preferred embodiment of the invention, the shield material used in ballistic panels is flexible.

[0019] The perimeter of each ballistic panel is sewn to a textile mean in order to protect the ballistic material and hold together the layers of the same material. Each ballistic panel is lined with a non-removable cover and is set within the same, in order to prevent its displacement or movement. Likewise, each panel is set inside the outer cover of the bulletproof jacket. Preferably, each shield plate comprises its respective fully sealed waterproof lining, avoiding seams.

[0020] The thickness of the ballistic panels should be uniform over its entire surface, without any reinforcement or thickening, so that the ballistic performance is ensured in any part thereof.

[0021] On its turn, the floating panel collar 9 is preferably made of uncrosslinked and closed-cell expanded polyethylene foam of low density which is moisture resistant and flexible. The lining material of the floatability panel must have a high frequency sealing closure to ensure waterproofing. The front sections have a maximum thickness of 60 mm and the rear sections have a maximum thickness of 35 mm.

[0022] The floating panel collar 9, on its upper part, is set or fastened to the body of the jacket by a single non-metal zipper ensuring its total fixation.

[0023] In preferred embodiments, the floating panel collar 9 comprises a neck protector, which is fixed to the body of the jacket and which should contain ballistic protection material level IIIA and floating material in its interior.
The pelvic protector 8 contains in its interior ballistic protection material level IIIA and floating material. Preferably, the pelvic protector 8 is 255 mmx10 mm wide having a side height up to the leg of 175 mmx10 mm and a height up to the groin of 280 mmx10 mm, ending with a width of 115 mmx10 mm.

The arm protector 7 inside comprises ballistic protection material level IIIA and floating material. Preferably, the arm protector 7 is 65 mmx10 mm wide, with a side height of 100 mmx10 mm and a total height of 260 mmx10 mm, ending with a width of 240 mmx10 mm.

The shielded upper front section 2 and the shielded lower front section 3 are preferably adjusted by a plastic zipper, ensuring their total fixation to the shielded jacket providing high tensile strength at any time.

The ballistic components of the protectors of neck, pelvis, arms and of the float should not have defects such as creases, bubbles, cracks, tears, fissures, bent or sharp corners or any evidence of poor workmanship. The corners of each panel should be rounded. These must have a tape on their contour and they should be properly lined and sealed.

Jacket 1 is made according to standard specifications; both the rear and front part should allow entering level IIIA ballistic panels, plates level IV and floatability panels.

The type of fabric for making the jacket is type VI: “high tensile strength fabric with water impermeability and repelling treatment”.

The jacket is securely fastened to the user’s anatomy, is comfortable allowing maximum freedom of movement according to the requested sizes. It protects at least the back, chest and belly (overlap between level IIIA ballistic panels); the armpit opening for the arms is proportional to height, providing greater protection to the user.

The fastening system may be by means of adhesives, snap buckles or similar system with the purpose of facilitating the adjustment of the jacket to the torso and shoulders of the user, without affecting the garment’s functionality.

On its turn, seams are preferably uniform and continuous, without loose threads, free from protrusions, free from twisting, folds, shirrings and sufficiently tensioned to prevent the garment from cracking, opening or shrinking during use. The size of the needle is as small as possible, for the given thread, in order to minimize the size of the hole made in the fabric.

Seams, except ballistic panel seams, comprise 6±1 stitches per 25.4 mm. The ends of the thread that are visible in the finished product must be capped or cut with a length lesser than 7 mm. All seams margins are of 7 mm±1 mm. Overlaps of the jacket joints that may occur, are at least 10 mm wide.

Selvedges of the jacket fabric inside, which are exposed including the inside of pockets, should be threaded with polyester spun thread and safety stitch in the same thread. The number of stitches per 25.4 mm is 871, the width of the thread in general is at least 5 mm.

The fabric for the lining of the ballistic panels Level IIIA and plates Level IV preferably should be a fabric coated with polyvinyl chloride (PVC) on both sides, on a woven base of 100% polyester. The fabric has a minimum thickness of 0.4 mm and a weight of 450 g/m2±40 g/m2.

The color of threads, adhesive closures, and accessories, is in tone in keeping with the color of the jacket outer fabric, the color of the outer fabric is alternately green as stated in section 3.2.2 Table 3 “fabric color patterns of a single bottom” of the technical standard NTMD 0216 update in force, and it should be tested according to the tests prescribed in the same technical standard.

Ballistic panels are completely fastened together or in some cases one overlaps the other. In particular, they should not have an additional ballistic panel on the sides.

In preferred embodiments, jacket 1 comprises a locator based on a passive bacteria (BAP) and is activated when it is in the presence of a RFID reader. The label information is electronically stored in a nonvolatile memory. The RFID label includes a small RF transmitter and receiver. A RFID reader transmits an encoded radio signal to interrogate the label. The label receives the message and responds with its identification information. This may just be a unique serial number of label, or may be information about the product, such as a set of values, the batch number and production date.

By way of example, there have only been illustrated some preferred embodiments of the invention. In this regard it will be appreciated that the construction of lifejacket with floatability features and shield, as well as movement arrangements, can be selected from a plurality of alternatives without departing from the spirit of the invention according to the following claims.

1. Lifejacket (1) with floatability features and shield characterized in that it comprises two front sections, a shielded upper front section (2) and a shielded lower front section (3), wherein said jacket (1) further comprises a rear part with a shielded upper rear section (4) and a shielded lower rear section (5), wherein the lower front section (3) and lower rear section (5) are laterally connected to each other, wherein the rear front section (2) and rear upper section (4) form shoulders (6) with each other leaving a side gap for including the user’s arms, wherein the front and back sections comprise shielded panels and from each shoulder section (6) an arm protector (7) is projected on each side comprising a shielded panel, wherein in the lower front section (2) and lower rear section (5) a pelvic protector (8) is projected downwardly, and facing upper front section (2) and upper rear section (4) towards the outside, comprising a floating panel collar (9).

2. Lifejacket (1) with floatability features and shield according to claim 1 characterized in that the shielded upper front section (2) comprises a front ballistic panel of at least level IIIA and a shielded lower front section (3) comprises a front plate level IV and an anti-trauma plate.

3. Lifejacket (1) with floatability features and shield according to claim 2 characterized in that the back part of the jacket (1) with the shielded upper rear section (4) comprise a rear ballistic panel level IIIA and the shielded lower rear section (5) is composed of a rear plate level IV.

4. Lifejacket (1) with floatability features and shield according to claim 3 characterized in that the perimeter of each ballistic panel is sewn to a textile mean in order to protect the ballistic material and each ballistic panel is lined with a non-removable cover and is set within the same, in order to prevent its displacement or movement, wherein likewise, each panel is set inside the outer-cover of the bullet-proof jacket and each shield plate comprises its respective fully sealed waterproof lining, avoiding seams.

5. Lifejacket (1) with floatability features and shield according to claim 4 characterized in that the floating panel collar (9), is preferably made of uncrosslinked and closed-cell expanded polyethylene foam of low density which is moisture resistant and flexible, wherein the lining material of the floatability panel has a high frequency sealing closure to
ensure waterproofing, and wherein, front sections have a maximum thickness of 60 mm and rear sections have a maximum thickness of 35 mm.

6. Lifejacket (1) with floatability features and shield according to claim 4 characterized in that the floating panel collar (9), towards its rear part, is fitted or secured to the jacket body by a single non-metallic fastener.

7. Lifejacket (1) with floatability features and shield of claim 6 characterized in that the floating panel (9) comprises a neck protector, which is attached to the jacket body and should contain ballistic protection material Level IIIA in its interior and floating material.

8. Shielded lifejacket (1) with floatability features according to claim 7 characterized in that the pelvic protector (8), contains in its interior ballistic protection material Level IIIA and floating material, and wherein the pelvic protector (8) is 255 mm±10 mm wide having a side height up to the leg of 175 mm±10 mm and a height up to the groin of 280 mm±10 mm, ending with a width of 115 mm±10 mm.

9. Shielded lifejacket (1) with floatability features according to claim 8 characterized in that the arm protector (7) in its interior comprises a ballistic protection material Level IIIA and floating material, and wherein the arm protector 7 is 65 mm±10 mm wide, with a side height of 100 mm±10 mm and a total height of 260 mm±10 mm, ending with a width of 240 mm±10 mm.

10. Shielded lifejacket (1) with floatability features of claim 9 characterized in that the shielded upper front section (2) and the shielded lower front section (3) is adjusted by a plastic zipper, ensuring their total fixation to the jacket.

11. Shielded lifejacket (1) with floatability features according to claim 10, characterized in that it comprises a fastening system with adhesive closures, snap buckles or similar system with the purpose of facilitating the adjustment of the jacket to the torso and shoulders of the user.

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