HEADQUARTERS
PHILIPPINE ARMY
OFFICE OF THE ARMY CHIEF QUARTERMASTER
Fort Andres Bonifacio, Metro Manila

TEST AND EVALUATION PROCEDURE (TEP)

19 MAR 2021

INTEGRATED ARMOR VEST SYSTEM
QM SPEC NR IE-22IAVS with Amend 1 dated 27 October 2020 (Interim)

A. POST QUALIFICATION INSPECTION

SECTION 1A – GENERAL

1.1. AUTHORITY: The Test and Evaluation (T&E) is being conducted in line with the provisions of the RA 9184.

1.2. OBJECTIVES: The objective of this T&E is to determine the responsiveness of the Bidder with the Single/Lowest Calculated Bid (SCB/LCB) to the technical specification as endorsed by the Bids and Awards Committee (BAC).

1.3. SCOPE: This T&E Procedure will be conducted on the samples of Force Protection Equipment (FPE) (Integrated Armor Vest System), test reports, certification and brochures submitted by the Bidder with the SCB/LCB as part of the post qualification procedure by the BAC.

1.4. METHODOLOGY: The tests include physical inspection and evaluation of documents that will support the compliance of the Integrated Armor Vest to the specification. Records check will also be conducted as appropriate including third party publications.

1.5. POST QUALIFICATION CRITERIA: Post Qualification evaluation shall be based on a Pass (P) or Fail (F) criteria. Any major defect found shall be evaluated as "Failed" and sixteen (16) or more minor defects found shall be evaluated as "Failed". Classification of defects should be based on Table 3A and Table 4A.

1.6. SAMPLES: Refer to Table 2A – Allocation of Samples for the required samples.

SECTION 2A – PROCEDURES

1. PHYSICAL INSPECTION

1.1. Purpose: To determine the conformance of the physical characteristics of the force protection equipment to the required specifications.

1.2. Procedure:

1.2.1. Visually and physically inspect the design and components of the IAV (basic vest, soft ballistic panel, ballistic inserts, ALBS belt, removable backpack and hydration system).

1.2.2. Measure the dimensions and weight of the IAV.

1.2.3. Manually inspect the layers of at least one (1) Soft Ballistic Panel by Destructive Physical Inspection.

1.2.4. Inspect the Label permanency with the following procedure:

1.2.4.1. A representative area of the label markings shall be rubbed by hand for 15 secs with a cotton cloth soaked with distilled water.

1.2.4.2. The same area shall then be rubbed by hand for 15 secs with a cotton cloth soaked with denatured alcohol (methylated spirit).

1.2.4.3. Finally, the same area shall then be rubbed by hand for 15 secs with cotton cloth soaked with isopropyl alcohol.

1.3. Standard:

1.3.1. The maximum overall weight of the body armor (Basic Vest. Soft Armor Panel and Hard Armor Panel) should be 7.5 kgs.

1.3.2. **Basic Vest**

1.3.2.1. Design and Construction

1.3.2.1.1. Should be Modular Lightweight Load-Carrying Equipment (MOLLE) design.

1.3.2.1.2. Philippine Army Pattern (PHILARPAT) in color

1.3.2.1.3. Should have provisions to accommodate removable soft armor panels (SAP) on the front, back and sides.

1.3.2.1.4. Should have provisions to accommodate removable hard armor panels (HAP) on the front and back which should be stable or not swaying/moving when inserted inside.

1.3.2.1.5. The provisions for the soft ballistic panel and ballistic inserts should not be visible at the outer portion of the basic vest.

1.3.2.1.6. Should have a mesh lining on the inner side of the vest.

1.3.2.1.7. It shall have provisions for outlets that would allow rapid drainage of trapped fluids.

1.3.2.1.8. Should have provisions for at least two (2) adjustments: shoulder and outer waist.

1.3.2.1.9. It should have provision for a quick-release mechanism that is easily accessible and reusable. In removing/releasing the vest from the user's body using the quick-release mechanism, it should take a maximum of three (3) seconds using either his left/right hand in a single motion with minimal effort. The quick release mechanism should enable the vest to be removed from the body. The vest should remain in one piece after the action and it is completely removed from the body. The re-assembly of the vest after the use of the quick-release mechanism should not exceed thirty (30) seconds.

1.3.2.1.10. Should have a drag strap.

1.3.2.1.11. Should have an attachment for a 30 liter detachable backpack.

1.3.2.1.12. Should have two flaps in the inner part for attaching the removable/adjustable weight distribution system.

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1.3.2.1.13. The serial number should be the same with the soft ballistic panel and ballistic insert.

1.3.2.1.14. Shoulder 25mm Quick-Release Buckle

1.3.2.1.14.1. The buckle should fit 25±1 webbing. Buckle will not slip or open in tensile force of 55 kg.

1.3.2.1.14.2. The male part should contain regulation bars in order to adjust the location of the buckle when needed.

1.3.2.1.14.3. The male part should allow releasing by pulling a cord.

1.3.2.1.14.4. The female part should be single bar without any regulation geometry.

1.3.2.1.14.5. Buckles shall be made from non-metallic material.

1.3.2.1.15. Clip-on 20mm buckles for attachment of 30 liter backpack.

1.3.2.1.15.1. Female should be attached to the male by frontal push and should use only one and to assemble the two parts together.

1.3.2.1.15.2. Buckle should fit 20±1 webbing and should not slip or open in tensile force of 90 kg.

1.3.2.1.15.3. The female part should contain regulation bars.

1.3.2.1.15.4. The male part should be single bar without any regulation geometry.

1.3.2.1.15.5. The geometry of the buckles should allow for easy possibility to connect the parts together while in the dark, with gloves, behind the back using one hand.

1.3.2.1.15.6. Buckles shall be made from non-metallic material.

1.3.2.1.15.7. Disconnecting the two parts should be done by pushing two buttons.

1.3.2.1.15.8. The buckle should provide swivel action.

1.3.2.1.16. Side Closure Buckles.

1.3.2.1.16.1. The side flaps of the body armor should be secured to the front panel of the body armor by a two piece buckle.

1.3.2.1.16.2. The side buckle should have two contact points.

1.3.2.1.16.3. Opening and closing the side buckles should allow for one handed operation.

1.3.2.1.16.4. One part of the buckle should attach to the side flap and the second part to the front panel.

1.3.2.1.16.5. The female part should be stitched to the flap using the same MOLLE (PALS) webbing

1.3.2.1.16.6. The male part should be implemented in the front panel.

1.3.2.1.16.7. The buckle parts will not separate or break under pressure of minimum 170 kg.

1.3.2.1.16.8. The buckle parts shall have a quick-release cord for easy doffing of the vest and shall remain in one piece.

1.3.2.2. Dimensions

Upper Width	Front	28-30 cm
	Back	30-33 cm
Lower Width	Front	46-48 cm
	Back	43-46 cm
Length	Front	41-44 cm
	Back	44-47 cm
Side Panels	Width	16-18 cm
	Length	23-29 cm

1.3.2.3. Label – should be permanently marked and written in English language. It shall have the following information:

Name, logo, or other identification of the manufacturer
Address of Manufacturer
Basic Vest" boldly printed with at least 18 font size.
Size
Model Designation
Date of Manufacture
Serial Number (shall be the same with soft ballistic panel and ballistic insert)

A warning of at least 14 font size and at least twice the font size of the rest of the markings, stating the following "This Basic Vest offers no ballistic protection without the ballistic panels being inserted". See ballistic panel label for protection level provided in accordance with NIJ Standard 0101.06"

Proper use and care instructions for Basic Vest

1.3.3. **Soft Armor Panel**

1.3.3.1. Should have full torso area coverage (front, back and sides).
1.3.3.2. The side portion should have no space or gaps.
1.3.3.3. Should have a protective cover
1.3.3.4. Seams of the cover should be heat sealed.
1.3.3.5. All ballistic layers shall have the same size and shape.
1.3.3.6. The maximum weight of the SAP should be 1.95 kgs.
1.3.3.7. The minimum protective coverage area should be 0.27 m². The dimensions of the ballistic layer should be:

Upper Width X1	Front	27-30 cm
	Back	29-32 cm
Lower Width X2	Front	44-49 cm
	Back	42-45 cm
Length Y	Front	39-43 cm
	Back	43-46 cm
Side Flaps	Width	14-16 cm
	Length	24-27 cm

Note: The bidder/manufacturer shall provide a pattern indicating the measurement of the soft ballistic panel that conforms to the required specification. The pattern will be an overlay tool in measuring the Soft Ballistic panel.

1.3.3.8. Label - should be permanently marked and written in English language. It shall have the following information:

Name, logo or other identification of the manufacturer
Address of manufacturer
"Soft Ballistic Panel" boldly printed with at least 18 font size
Rated level of protection, in accordance with NIJ Standard 0101.06 boldly printed with minimum 14 font size
Size
Model Designation
Date of manufacture
Serial Number (shall be the same with Basic Vest and Ballistic Insert)
"Strike face" or "Wear face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Soft Ballistic Panel inside the Basic Vest.
A warning with font size at least 14 font size (Arial) and at least twice the font size of the rest of the markings, stating the information that the "Soft Ballistic Panel insert is not intended to protect the wearer from rifle fire and sharp edged or pointed instruments".
Proper use and care instructions

1.3.4. **Ballistic Insert**

1.3.4.1. Shall have the following dimensions:

Dimension		Tolerance
Width	23 cm	± 0.5 cm
Length	28 cm	± 0.5 cm

Note: The bidder/manufacturer shall provide a pattern indicating the measurement of the ballistic insert that conforms to the required specification. The pattern will be an overlay tool in measuring the ballistic insert.

1.3.4.2. Should have the maximum weight of 1.7 kgs.
1.3.4.3. Should have a Black or Olive Drab cover with non-glare finish.
1.3.4.4. Should be free from wrinkles, blisters, cracks or fabric tears, creasing, chipped or sharp corners and edges, or other evidences of inferior workmanship.
1.3.4.5. All samples should be identical in appearance, size and manner of construction.
1.3.4.6. Label - should be permanently attached and written in English language. It should have the following information:

Name, logo or other identification of the manufacturer
Address of manufacturer
"Ballistic Insert" boldly printed with at least 18 font size
Rated level of protection, in accordance with NIJ Standard 0101.06 boldly printed with minimum 14 font size
Size
Model Designation
Date of manufacture
Serial Number (shall be the same with basic vest and soft ballistic panel)
"Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Ballistic Insert in the Basic Vest.
A warning with font size at least 14 font size and at least twice the font size of the rest of the markings, stating the information that the ballistic insert should be used in conjunction with the soft ballistic panel in order to attain the stated level of protection

1.3.5. **Adjustable Load Bearing System (ALBS)**

1.3.5.1. Should be provided per set of FPE
1.3.5.2. Should have two (2) sub-components: Hip Load Bearing Gear (HLBG) and Weight Distribution Mechanism (WDM).
1.3.5.3. The HLBG should have a MOLLE design to accommodate ammunition pouches, pistol and other items.
1.3.5.4. The HLBG should have provision for easy attachment/detachment of the WDM.
1.3.5.5. The design of the HLBG should allow the wearer to bend fully to either side easily.
1.3.5.6. The HLBG can be used on its own.
1.3.5.7. The WDM should be capable to distribute the weight of the vest and/or the backpack to the hips, shoulder and back.
1.3.5.8. There should be a provision to quickly release/detach the WDM from the HLBG.

1.3.6. **Backpack**

1.3.6.1. Should have MOLLE webbings for attaching extra compatible pouches.
1.3.6.2. It should have compartments in the front and both sides and also for the helmet
1.3.6.3. It should have two (2) adjustable shoulder straps with paddings for use if not attached to the vest. The shoulder straps should be concealable if used integrated with the vest.

1.3.7. **Hydration System**

1.3.7.1. Weight of the bladder and tube should be not more than 210 grams.
1.3.7.2. Water Bladder

1.3.7.2.1. Should be 0.4mm thick Thermoplastic Polyurethane (TPU) film for superior durability strength, abrasion resistance and flexibility.

1.3.7.2.2. Should be made of single seam construction instead of perimeter welding.

1.3.7.2.3. Should be fully reversible design for easy cleaning and drying.

1.3.7.2.4. Should have wide slider opening for easy filling that glides over thick rails for a secure seal.

1.3.7.2.5. Should have a volume capacity of not less than two (2) liters.

1.3.7.3. Tube, connectors and accessories

1.3.7.3.1. Should have quick disconnecting plug-n-play connector at drink tube with auto-shut-off for ease of filling and cleaning.

1.3.7.3.2. Should have a bite valve with dust cover.

1.3.8. **System Requirements**

1.3.8.1. Each set of IAV shall have three (3) MOLLE compatible ammunition pouches that can fit either three (3) M16A1/M653/M4 Magazines (30 rounds) or two (2) M14 Magazines per set of Armor Vest delivered. The materials of the ammunition pouches shall be the same fabric used in the basic vest.

1.3.8.2. There should be one (1) hand-carry bag for every set of IAV. The material of the hand-carry bag should be the same fabric used in the basic vest.

1.3.8.3. Each set of IAV shall have a brochure or manual containing the description of the equipment and its use and maintenance in hard and e-copy.

1.3.8.4. Five (5) years warranty coverage for the Ballistic Protection of the Body Armor.

1.3.8.5. All components of the IAV shall be labelled in accordance with the NIJ Standards for Body Armor

1.4. Evaluation - The evaluation of defects should be based on above procedures and standards and Table 3A – Classification of Physical Inspection Defects. Any lacking report, non-compliance to any standard or procedure shall be rated as "Failed".

2. DOCUMENTATION

2.1. Purpose - To determine the conformance in the Technical Specification through submission of Test Reports, Certifications or other required pertinent documents.

2.2. Procedure

2.2.1. Submission of a 2-meter swatch sample of the fabric of the basic vest, lining fabric, inner mesh material, webbing, hook and loop fastener, and soft protection panel cover from any third party government accredited or licensed textile testing laboratory. The Test results shall be evaluated on its conformance to the technical specification.

2.2.2. Submission of Laboratory Test Report from a third party testing laboratory or Manufacturer's facility depending on the requirement stated herein. The Test Reports shall be evaluated on its conformance to the technical.

2.2.3. Submission of ISO 9001:2015 Certification indicating that the Bidder is a manufacturer of ballistic body armor.

2.2.4. Submission of product data sheet of all major materials used in the manufacture of the IAV.

2.2.5. Submission of detailed drawings of all components of the IAV being offered.

2.3. Standard:

2.3.1. The laboratory test result of the fabric from a third party testing laboratory should conform to the following requirements.

Characteristics	**Requirement**	**Test Method**
A. Basic Material	Nylon	ISO 1833
Construction	Ripstop	ISO 7211/2
Coating	Polyurethane	
Weight (g/m²)	270 (maximum)	ISO 3801
Color	PHILARPAT	Visual
Color Quality	2.0 (maximum)	Spectrophotometer
Tensile Strength (N/50 mm) Warp Filling	 2,800 (minimum) 2,500 (minimum)	Strip Test ISO 1421:2016 Method 1 ISO 13934-1:2013
Tear Strength (N) Warp Filling	 450 (minimum) 350 (minimum)	Double tear method ISO 4674.1.2016 Method A ISO 13937.4:2000
Hydrostatic Pressure (mm)	1,500 (minimum)	EN ISO 20811:1996
Hydrostatic Pressure (mm) After 3 wash	350 (minimum)	EN ISO 20811:1996 Wash: ISO 6330 4NC, line dry.
Water Repellency (Spray Rating)	4 (minimum)	ISO24920:1992
Dimensional Stability	± 3 % (maximum)	ISO 3759:2000 / ISO 5077:2012
Color Fastness to		
Light	5 (minimum)	BS EN ISO 105-B02
Weathering	4 (minimum)	BS EN ISO 105-B04
Perspiration Acid	4 (minimum)	BS EN ISO 105-E04:2012
Perspiration Alkaline	4 (minimum)	
Washing	4 (minimum)	EN ISO 105-C06 :2010
Wet and Dry rub	4 (minimum)	EN ISO 105-X 12
Abrasion Resistance	10,000 (minimum)	ISO12947-2 Martindale
pH	4-9	EN ISO 3071:2009
Determination of antibacterial activity of antibacterial finished products	Strong antibacterial effect	BS EN ISO 20743
Fungus Resistance	Grade 0	International Standard

B. Lining Fabric	Requirement	TEST METHOD
Material	Nylon	ISO 1833
Construction	Ripstop 4 ±1.5 mm	ISO 7211/2
Weight (g/m²)	175 (maximum)	EN 12127:1997
Tensile Strength (N) Warp Filling	 700 (minimum) 400 (minimum)	ISO 13934.1:2013 Strip Test
Tear Strength (N) Warp Filling	 Min. 40 Min. 30	ISO 13937.4:2000 Double-shaped method
Hydrostatic Pressure (cm)	150 (minimum)	ISO 811:1981
Dimensional Stability	Less than 3%	ISO 3759:2011 / ISO 5077: 2007
C. Inner Mesh Material		
Material	Polyester	ISO 1833
Color	Black or Olive Drab (OD)	Visual
Construction	3D Spacer Mesh	Visual
Thickness (mm)	3.5 ± 0.5	ASTM D 5736-95:2001
Weight (g\m²)	520 ± 15%	AS 2001.2.13:1987
Tensile Strength (N) Warp Filling	 1,000 (minimum) 300 (minimum)	AS 2001.2.3.1:2001 Strip Test
Tear Strength (N) Warp Filling	 160 (minimum) 65 (minimum)	AS 2001.2.10:1986 Single-shaped method
Color Fastness to		
Water	4 (minimum)	AS 2001.4 E01-2001
Perspiration	4 (minimum)	AS 2001.4 E04-2005
Rubbing Dry Wet	 4 (minimum) 4 (minimum)	AS 2001.4.3 :1995
Color Fastness to		
Washing	4 (minimum)	AS 2001.4.15: 2006
Dry -Cleaning	4 (minimum)	AS 2001.4.16: 1981
Curved holes count (10 cm) Warp Weft	 4 (minimum) 6 (minimum)	Visual
D. Nylon webbing for MOLLE according to A-A-55301		
Raw material	100% Nylon textured yarn	ISO 1833
Width (inch)	1 (±1/16)	ASTM D-3774
Picks/inch (min)	36	ASTM-D-3775
Weave	Shall be a tubular weave bound together by a plain weave binder	Visual
Weight, oz/linear Yard	0.5 (minimum)	ASTM D-3776
Warp Ends (inch) Full width Face and Back Middle Warps	 1 (minimum) 101 (minimum) 15 (minimum)	ASTM-D3775

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D. Nylon webbing for MOLLE according to A-A-55301		
Characteristics	**Requirement**	**TEST METHOD**
Breaking strength lbs. (warp)	1000 (min)	FED STD 191/ 4108
Thickness (inch)	0.046 - 0.07	FED STD 191 / 5030
Color	PHILARPAT	Visual
Color fastness (minimum)	to light (xenon): 4 to laundering: 4 dry crocking: 3.5	AATCC 16 Opt A-199O AATCC 61-1A AATCC 8
pH	5 - 8	AATCC-81 FED STD 191 (2811) EN ISO 3071:2009

E. Nylon Webbing according to MIL-W-17337F Class 2					
Characteristics	**Requirement**				**TEST METHOD**
Raw material	100% Nylon				Manufacturer's certificate
	Bright, high tenacity continuous multifilament yarns				
Width (inch)	3/4 ± 1/16				ASTM D-3774
	1 ± 1/16				
	1 ½ ± 1/16				
	2 ± 1/16				
Picks/inch (min)	96				ASTM-D-3775
Weave	double plain				Visual
Weight oz/linear Yard (min)	¾ inch		0.53		FED STD 191 (5041)
	1 inch		0.71		
	1 ½ inch		1.07		
	2 inch		1.42		
Yarn warp (min)	Width	Ground	Binder	Total	ASTM D-3776
	¾ inch	81	18	99	
	1 inch	97	22	119	
	1 ½ inch	145	34	179	
	2 inch	193	46	239	
Breaking strength, lbs. (min)	¾ inch		1000		FED STD 191/ 4108
	1 inch		1200		
	1 ½ inch		1800		
	2 inch		2200		
Thickness (inch)	0.038 - 0.05				ASTM D 1777 FED STD 191 / 5030
Color	PHILARPAT				Visual
Non fibrous material	Max 4%				FED STD 191
Color fastness min.	to light (20H): 4 to laundering: 4 Crocking: dry 4 / wet 3				FED STD 191 (5660) FED STD 191 (5614) AATCC 8
pH	8 - 5				AATCC-81 EN ISO 3071:2009

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F. Binding webbing according to MIL-PRF-5038J Type III			
Characteristics	**Requirement**		**TEST METHOD**
Material	Nylon		Manufacturer's certificate
Width (inch)	3/4 ± 1/32		ASTM D-3774
	1 ± 1/32		
Picks/inch (min)	66		ASTM-D-3775
Weave	Plain		Visual
Weight oz/linear Yard (max)	¾ inch	0.2	ASTM D-3776 FED STD 191 (5041)
Yarns full width warp (min)	**Width**	**Total**	ASTM 3775 FED STD 191 (5050)
	¾ inch	150	
	1 inch	200	
Breaking strength lbs. (warp) (min)	¾ inch	400	ASTM D-5035 FED STD 191 (4108)
	1 inch	525	
Thickness (inch)	0.015 - 0.025		ASTM D 1777
Breaking strength resistance to light	¾ inch	25% max.	AATCC 111A Option 4
	1 inch	25% max.	
Breaking strength resistance to heat	¾ inch	25% max.	180c I Hour
	1 inch	25% max.	
Elongation at break % min	¾ inch	18	
	1 inch	18	
Color	PHILARPAT		Visual
Color fastness min.	to light (20H): good (4) to laundering: fair (4) crocking: dry 4.0 / wet 3.0		FED STD 191 (5660) FED STD 191 (5614) AATCC 8
pH	8 - 5		AATCC-81 EN ISO 3071:2009

G. Hook & Loop fasteners according to A-A-55126B Type II Class 1					
Characteristics	**Requirements**				**TEST METHOD**
Raw materials	100% nylon with selvage				ISO 1833
Width (mm)	20 ± 1 3/4 inch	25 ± 1 1 inch	50 ± 1 2 inch	100 ± 1 4 inch	Visual
Weight gr lin /yard min Hook Loop	 3.4 4.1	 4.5 5.9	 9 12.6	 14.4 22.4	ASTM-D-3776
Breaking strength lbf (min) Hook Loop	 80 50	 100 75	 170 165	 320 280	ASTM D-5034
Shear Strength lbf (min) After 3 Launderings	6.7	10	10	10	ASTM D 5169
Peel Strength lbf (min) After 3 Launderings	1.0	1.0	1.0	1.0	
Stitch Tear Strength, lbs. (min) Hook Loop	 3.5 6.0	 3.5 6.0	 3.5 6.0	 3.5 6.0	ASTM D 2261

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G. Hook & Loop fasteners according to A-A-55126B Type II Class 1		
Characteristics	**Requirements**	**TEST METHOD**
Thickness, inch (min.) Hook Loop	 0.050 0.095	ASTM D 1777
Length Dimensional Stability, %	3 (maximum)	AATCC 135 Option 3
Color fastness min	Gray Scale for color change for fastness to light:4 to laundering: 4 (3 cycles)	AATCC 16 AATCC 61

H. Soft protection panels cover		
TEST METHOD	**Requirements**	**Characteristics**
Material	PA	
Coating	PU	
Weight (g/m²)	273 ± 5%	
Adhesion Warp Filling	 35 (minimum) 35 (minimum)	 ISO 2411 kg/5 cm
Breaking strength (strip) Warp Filling	 120 (minimum) 115 (minimum)	 ISO 1421 kg/5 cm
Elongation Warp Filling	 Max. 40% Max. 40%	 ISO 1421
Tear strength Warp Filling	 Min. 4 kg Min. 3.5 kg	 ISO 4674 A1
Air porosity	No bubbles	B.S 4F 100 clause 32.1 (7 psi)
High frequency welding (width of 4±0.5mm)	Min. 40 kg/5 cm	ASTM d 882

2.3.2. The pull load capacity of the drag strap should be a minimum of 120 kgs tested from a third party testing laboratory or manufacturer's laboratory/facility.

2.3.3. The TPU film used for the water bladder should have enhanced anti-bacterial properties. It should be Bisphenol-A (BPA) and Polyvinyl chloride (PVC) free tested from a third party testing laboratory.

2.3.4. The drinking surfaces of the water bladder should have no anti-microbial agents applied on it as tested or certified by a third party testing laboratory.

2.3.5. The Water Bladder should meet or exceed USFDA or EU safety standards as certified by USFDA or EU or any accredited USFDA or EU regulating body.

2.3.6. The ISO 9001:2015 certification should indicate that the LCB or SCB is a manufacturer of the ballistic body armor which is part of the IAV.

2.3.7. The product data sheet should indicate all the major materials used in the manufacture of the IAV.

2.3.8. The detailed drawings should indicate all the components of the IAV being offered including the measurements.

2.4. Evaluation – The evaluation should be based on above procedures and standards and Table 4 - Classification of Defects Based on Test Reports. Any lacking report, non-compliance to any standard or procedure shall be rated as "Failed".

3. BALLISTIC TEST REPORTS

3.1. Purpose: To determine the conformance of the ballistic protection from the submitted NIJ-accredited Laboratory Test Report to the required ballistic protection

3.2. Procedure:

3.2.1. Submission of a complete Ballistic Test Report of the Soft Armor Panels from any NIJ-accredited test facility. Ballistic Test Report should be under the name of the manufacturer.

3.2.2. Submission of a complete Ballistic Test Report of the Ballistic Inserts from any NIJ-accredited test facility. Ballistic Test Report should be under the name of the manufacturer.

3.2.3. The test reports shall be evaluated as to its completeness and compliance to the technical specification.

3.3. Standard:

3.3.1. Conditioning – following are the minimum conditioning requirements:

3.3.1.1. Level IIIA (submerged & tumbled for 10 days as per sec 4 & sec 5 of NIJ 0101.06, respectively)

3.3.1.2. Level III in conjunction with the SAP & HAP (conditioned 11 days, dropped & submerged as per sec 6 of NIJ 0101.06)

3.3.1.3. Special type {5.56mm SS109 (M855)} in conjunction with the SAP & HAP (conditioned, dropped & submerged as per sec 6 of NIJ 0101.06)

3.3.1.4. STANAG 2920 or MIL STD 662-F (Ambient)

3.3.2. The Soft Ballistic Panel should have a minimum level of protection of Level IIIA per NIJ Standard 0101.06 as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (+/- 9 m/s)	BF Deformation (mm) – Max
III A	New	.357 FMJ Flat Nose (FN)	8.1 / 125	448 m/s	44
		.44 Magnum Semi Jacketed Hallow Point (SJHP)	15.6 / 240	436 m/s	
	Conditioned	.357 FMJ Flat Nose (FN)	8.1 / 125	430 m/s	
		.44 Magnum Semi Jacketed Hallow Point (SJHP)	15.6 / 240	408 m/s	

3.3.3. The Soft Ballistic Panel should be compliant to MIL STD 662-F or STANAG 2920 (17-grain, 22 Cal Fragment Simulating Projectile; V50-600 m/s) as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Required Velocity (Minimum)
V50 (STANAG or MIL STD 662-F)	Ambient	.22 Fragment Simulator Projectile	17 gr	600 m/s

3.3.4. The Ballistic Insert should have a minimum level of protection of Level III per NIJ Standard 0101.06 when used in conjunction with the Soft Ballistic Panel as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (+/- 9 m/s)	BFS Deformation (mm) – Max
III	Conditioned (Hard Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847 m/s	44
	New and Conditioned (Flexible Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847 m/s	

3.3.5. The Ballistic Insert shall be able to provide a minimum protection against six (6) shots of Ctg, 5.56mm SS109 (M855) when used in conjunction with the Soft Ballistic Panel and tested under the NIJ Std 0101.06 Special requirements as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (Minimum)	BFS Deformation (mm) – Max
Special type	Conditioned (Hard Armor)	5.56mm SS109 (M855)	62 gr	930 m/s	44
	New and Conditioned (Flexible Armor)	5.56mm SS109 (M855)	62 gr	930 m/s	

3.3.6. There should not be any penetration of any type of ammunition or projectile used to any of the SAP or HAP tested.

3.4. Evaluation – The evaluation should be based on above procedures and standards and Table 4 - Classification of Defects Based on Test Reports. Any lacking report, non-compliance to any standard or procedure shall be rated as "Failed".

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TABLE 1A – SUMMARY OF REQUIREMENTS

RECAPITULATION OF REQUIREMENTS TO BE SUBMITTED DURING POST QUALIFICATION

REQUIREMENTS FOR SUBMISSION	REFERENCE PARAMETERS
Technical drawing of the pattern of soft ballistic panel (front & back) indicating the total protective coverage area.	Overlay tool in measuring the protective coverage area of the Soft Ballistic Panel. (refer to para 1.3.3.7 of test and evaluation procedure)
Technical drawing of the pattern of the ballistic insert indicating the dimension.	Overlay tool in measuring the dimension of the Ballistic Insert (refer to para 1.3.4.2 of test and evaluation procedure)
Manual or brochure of IAV	The manual or brochure should be under the name of the manufacturer
Laboratory Test Result of the fabrics	For evaluation of characteristics of the fabric used in the body armor (refer to para 2.3.1 of the Test and Evaluation Procedure)
Laboratory Test Result of shoulder 25mm quick release buckle, clip-on 20mm buckles for attachment of 30 liter backpack, and side closure buckles	For evaluation of characteristics of the materials submitted (refer to para 1.3.2.1.14 and para 1.3.2.1.15 of the Test and Evaluation Procedure). The test should be under the name of the manufacturer
Test report of the pull load of the drag strap of Body Armor	For test and evaluation on the compliance of the drag strap of the basic vest as per para 2.3.3 of the Test and Evaluation Procedure. The test report should be under the name of the manufacturer
Test report of water bladder	For test and evaluation on the compliance of the water of the basic vest as per para 2.3.4 to 2.3.6 of the Test and Evaluation Procedure. The test report should be under the name of the manufacturer
ISO 9001:2015 indicating the Bidder is a manufacturer of ballistic body armor	The certification should be in the name of the Bidder (manufacturer) and should be updated and within the validity indicated. For evaluation as per requirement of para 2.3.7 of the Test and Evaluation Procedure
Product data sheet from the manufacturer for all materials used in the manufacture of the Armor Vest	For evaluation as per requirement of para 2.3.8 and 2.3.9 of the TEP
Ballistic Test report of the Soft Ballistic Panel under the name of the manufacturer	For evaluation of the ballistic compliance (refer to para 3.3.1 to 3.3.6 of the test and evaluation procedure and Table 1A). The test report should be under the name of the manufacturer
Ballistic Test report of the Ballistic Insert under the name of the manufacturer	For evaluation of the ballistic compliance (refer to para 3.3.1, 3.3.4, 3.3.5 & 3.3.6 of the test and evaluation procedure and Table 2). The test report should be under the name of the manufacturer
Three (3) complete set of IAV	For use on the physical &visual inspection of the IAV (refer to para 1.3.1, to 1.3.8 and Table 2 of the test and evaluation procedure)

Table 2A – ALLOCATION OF SAMPLES

Parameter	Quantity
Physical &visual inspection	3 complete sets
Destructive Physical Inspection (Inspect the SAP that it shall be the same shape & size)	2 panels
Ballistic Test	
NIJ 0101.06 Level IIIA	28 panels
Frag Test per MIL STD 662-F/STANAG 2920	3 panels
NIJ 0101.06 Level III	9 insert w/ 9 panels
NIJ 0101.06 Special Type	9 inserts w/ 9 panels

Note: Each set of IAV shall have corresponding MOLLE pouches, Backpack, Hydration System, Load Bearing Gear, Carrying Bag and Manuals. The samples shall become property of the Philippine Army after the evaluation.

TABLE 3A
CLASSIFICATION OF VISUAL AND PHYSICAL INSPECTION DEFECTS
(Checklist)

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Design and Construction	The design is not the required Modular Lightweight Load-Carrying Equipment (MOLLE) design. Color should be ranger green	X	
	The design cannot accommodate the required MOLLE pouches	X	
	The color is not PHILARPAT	X	
	There is no provisions to accommodate removable soft armor panels (SAP) on the front, back and sides	X	
	There is no provision to accommodate removable hard armor panels (HAP) on the front and back	X	
	The HAP is not stable or swaying/moving when inserted inside the vest	X	
	The provision for the soft ballistic panel or ballistic inserts is visible at the outer portion of the basic vest	X	
	There is no mesh lining on the inner side of the vest	X	
	There is no provision for at least two (2) adjustments: shoulder and outer waist	X	
	It is not easy to don/doff	X	
	Wearing the vest will require assistance from another person	X	
	It does not have quick-release mechanism	X	
	The quick release mechanism is not easily accessible	X	
	The quick release mechanism is not reusable	X	
	The quick-release mechanism took the user more than three (3) seconds to activate	X	
	The quick-release mechanism uses the left or right hand only to activate	X	
	The use of the quick release mechanism requires both hands	X	
	The quick-release mechanism is not activated in a single motion by the hand	X	
	The vest is not completely removed from the body after the quick-release mechanism was activated	X	
	The vest did not remain in one piece after the action	X	
	The re-assembly of the vest after the use of the quick-release mechanism exceeded thirty (30) seconds	X	
	There is no drag strap	X	
	There is no attachment for a 30 liter detachable backpack	X	
	There is no flaps for attaching the removable /adjustable weight distribution system		X
	The serial number is different from that of the soft ballistic panel and ballistic insert	X	
Dimensions	Non-compliance with any of the ff measurements:	X	

Upper Width	Front	28-30 cm
	Back	30-33 cm
Lower Width	Front	46-48 cm
	Back	43-46 cm
Length	Front	41-44 cm
	Back	44-47 cm
Side Panels	Width	16-18 cm
	Length	23-29 cm

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Overall Weight (vest, soft ballistic panel and ballistic insert)	The overall weight of the body armor (Basic Vest. Soft Armor Panel and Hard Armor Panel) is more than 7.5 kgs	X	
Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
Contents of the Label	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Basic Vest" markings		X
	The "Basic Vest" markings is not boldly printed		X
	The font size of "Basic Vest" markings is less than 18		X
	No size indicated	X	
	The size indicated is different from that of the soft ballistic panel or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the body armor is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the soft ballistic panel or ballistic insert	X	
	There is no required warning markings	X	
	The warning markings is different from the ff requirement: "The Basic Vest offers no ballistic protection without the ballistic panels being inserted. See ballistic panel label for protection level provided in accordance with NIJ Standard 0101.06"	X	
	The font size of the warning markings is less than size 14 and not twice larger than the size of the rest of the markings		X
	There are no markings of the proper use and care instructions of the Basic Vest	X	
Shoulder 25mm Quick-Release Buckle	The buckle did not fit 25±1 webbing.	X	
	The buckle slipped or opened in tensile force of 55 kg		X
	The male part did not contain regulation bars in order to adjust the location of the buckle when needed		X
	The male part was not released by pulling a cord		X
	The female part is not single bar with any regulation geometry		X
Clip-on 20mm buckles for attachment of 30 liter backpack	Female was not attached to the male by frontal push and use two hands to assemble the two parts together		X
	Female was attached to the male using two hands to assemble the two parts together		X
	Buckle did not fit 20±1 webbing		X
	Buckle slipped or opened in tensile force of 90 kg		X
	The female part did not contain regulation bars		X
	The male part was not single bar with any regulation geometry.		X
	The geometry of the buckles did not allow for easy possibility to connect the parts together while in the dark, with gloves or behind the back using one hand.		X
	Disconnecting the two parts was not done by pushing two buttons.		X
	The buckle did not provide swivel action		X

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Parameters	Defects	Classification of Defects	
		Major	Minor
Side Closure Buckles	The side flaps of the body armor were not secured to the front panel of the body armor by a two piece buckle.		X
	The side buckle did not have two contact points		X
	Opening and closing the side buckles did not allow for one handed operation when using gloves and during night time		X
	One part of the buckle was not attached to the side flap and the second part to the front panel		X
	The female part was not stitched to the flap using the same MOLLE (PALS) webbing without any additional or different width webbing		X
	The male part was not implemented in the front panel without use of any webbing or additional connection materials		X
	The buckle parts do not have a quick –release cord for easy donning of the vest		X
Soft Ballistic Panel			
Design and Construction	It does not provide full torso area coverage (front, back and sides)	X	
	There is evidence of space or gaps on the sides	X	
	Does not have a protective cover	X	
	The seam of the cover is not heat sealed.	X	
	Any evidence of poor quality seam heat sealing	X	
	Any deviation in size or shape of at least one (1) ballistic layer	X	
	The weight of the SAP is more than 1.95 kgs	X	
Protective Coverage Area	Non-submission of a pattern indicating the actual measurement of the soft ballistic panel	X	
	The protective coverage area is less than 0.27 m²	X	
	The coverage area is not in accordance with any of the ff requirements:	X	

Upper Width X1	Front	27-30 cm
	Back	29-32 cm
Lower Width X2	Front	44-49 cm
	Back	42-45 cm
Length Y	Front	39-43 cm
	Back	43-46 cm
Side Flaps	Width	14-16 cm
	Length	24-27 cm

Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
Contents of the Label	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Soft Ballistic Panel" markings		X
	The "Soft Ballistic Panel" markings is not boldly printed		X
	The font size of "Soft Ballistic Panel" markings is less than 18		X
	Lack of markings of the rated level of protection the soft ballistic panel provide	X	
	The markings is different from the requirement	X	
	The markings is not in bold font		X

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Parameters	Defects	Classification of Defects	
		Major	Minor
Contents of the Label	The font size is less than size 14		X
	No size indicated	X	
	The size indicated is different from that of the soft ballistic panel or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the soft ballistic panel is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the basic vest or ballistic insert	X	
	Lack the markings "Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Soft Ballistic Panel inside the Basic Vest.	X	
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		X
	The markings "Strike Face" or "Wear Face" is not in bold font		X
	Lack of warning markings stating the information that the Soft Ballistic Panel insert is not intended to protect the wearer from rifle fire and sharp edged or pointed instruments.	X	
	The font size of the warning markings is less than 14 font size or at least two times larger than the font size of the rest of the markings excluding the manufacturer identification and logo		X
	There are no markings on the proper use and care instructions of the soft ballistic panel	X	
Ballistic Insert			
Design and construction	The color is not Black or Olive Drab	X	
	The surface is not the required non-glare finish	X	
	Any sign of wrinkles or blisters creasing	X	
	Any sign of cracks or fabric tears	X	
	Any sign of chipped or sharp corners and edges	X	
	Any evidence of inferior workmanship.	X	
	Any sign that at least one (1) sample is different in appearance, size and manner of construction from any sample	X	
Dimension	Non-submission of a pattern indicating the measurements of the ballistic insert	X	
	Non-compliance with any of the ff measurements: Width: 23 cm ± 0.5 cm Length: 28 cm ± 0.5 cm	X	
	The weight per plate is more than the required 1.7 kgs	X	
Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Ballistic Insert" markings		X
	The "Ballistic Insert" markings is not boldly printed		X
	The font size of "Ballistic Insert" markings is less than 18		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Label	Lack of markings of the rated level of protection the soft ballistic panel provide	X	
	The markings is different from the requirement	X	
	The markings is not in bold font		X
	The font size is less than size 14		X
	No size indicated	X	
	The size indicated is different from that of the ballistic plate or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the ballistic plate is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the basic vest or ballistic insert	X	
	Lack the markings "Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Ballistic Plate inside the Basic Vest.	X	
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		X
	The markings "Strike Face" or "Wear Face" is not in bold font		X
	Lack of warning markings stating the information that the ballistic insert should be used in conjunction with the soft ballistic panel in order to attain the stated level of protection	X	
	The font size of the warning markings is less than 14 font size or at least 2 times larger than the font size of the rest of the markings		X
Adjustable Load Bearing System (ALBS)	No ALBS provided	X	
	There is no Hip Load Bearing Gear (HLBG)	X	
	There is no Weight Distribution Mechanism (WDM)	X	
	The HLBG is not a MOLLE design	X	
	The HLBG does not have provision for easy attachment/detachment of the WDM	X	
	The design of the HLBG did not allow the wearer to bend fully to either side easily	X	
	The HLBG cannot be used on its own	X	
	The WDM is not capable to distribute the weight of the vest to the hips, shoulder and back	X	
	The WDM is not capable to distribute the weight of the backpack to the hips, shoulder and back	X	
	There is no provision to quickly release/detach the WDM from the HLBG	X	
	The MOLLE design cannot accommodated the ammunition magazine pouches	X	
Backpack	Does not have MOLLE webbings for attaching extra compatible pouches.	X	
	It does not have compartments in the front and both sides	X	
	It does not have compartment for the helmet	X	
	It does not have two (2) adjustable shoulder straps with paddings for use if not attached to the vest	X	
	The adjustable shoulder straps do not have paddings	X	
	The shoulder straps are not concealable when used integrated with the vest	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Hydration System	Weight of the bladder and tube is more than 210 grams		X
Water Bladder	Is not 0.4mm thick Thermoplastic Polyurethane (TPU) film for superior durability strength, abrasion resistance and flexibility.	X	
	Is not made of single seam construction but instead of perimeter welding	X	
	Is not a fully reversible design for easy cleaning and drying		X
	Does not have wide slider opening for east filling that glides over tick rails for a secure seal		X
	Does not have a volume capacity of at least 2 liters		X
Tube, connectors and accessories	Does not have quick disconnecting plug-n-play connector at drink tube with auto-shut-off for ease of filling and cleaning	X	
	Does not have the bite valve with dust cover	X	
System Requirements	No ammunition pouches provided	X	
	The ammunition pouches are not MOLLE compatible	X	
	The ammunition pouches cannot accommodate three (3) M16A1/M653/M4 Magazines (30 rounds)	X	
	The ammunition pouches cannot accommodate two (2) M14 Magazines	X	
	The basic material is different from that of the Basic vest	X	
	No carrying bag provided	X	
	The basic material of the carrying bag is different from that of the Basic Vest	X	
	No manual on the equipment's use and maintenance in hard and e-copy provided	X	
	The manual is not in the name of the manufacturer	X	
	The equipment described in the brochure or manual is different from the submitted sample	X	
	Not all components of the IAV shall be labeled in accordance with the NIJ Standards for Body Armor		X
TOTAL TEST POINTS		**123**	**49**

TABLE 4A

CLASSIFICATION OF DEFECTS BASED ON TEST REPORTS

Parameters	Defects	Classification of Defects	
		Major	Minor
Documentary requirements			
ISO Certification	No ISO 2001:2015 Certification submitted (minimum)	X	
	The certification provided is already expired	X	
	The certification provided did not specify that the proponent is a manufacturer of ballistic body armor	X	
Product Data Sheet	No Product Data Sheet submitted	X	
	Product Data Sheet submitted is incomplete	X	
Detailed Drawings	No detailed drawings of all components of the Armor Vest was provided	X	
	Drawings submitted were incomplete	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Fabric	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color	X	
	The fabric sample is less than two (2) meters	X	
Basic Material	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
Basic Material	Not Nylon	X	
Construction	Not Ripstop	X	
Coating	Not Polyurethane	X	
Weight g/m²	More than 270		X
Color	Not PHILARPAT	X	
Color Quality	More than 2.0		X
Tensile Strength (N/50mm)			
Warp	Less than 2,800	X	
Filling	Less than 2,500	X	
Tearing Strength (N)			
Warp	Less than 450	X	
Filling	Less than 350	X	
Hydrostatic Pressure (mm)	Less than 1,500		X
Hydrostatic Pressure (mm) After three washes	Less than 350		X
Water Repellency (Spray Rating)	Less than 4		X
Spray Rating after three washes	Less than 3		X
Dimensional Stability (%)	More than ±3	X	
Color Fastness			
Light	5 (minimum)		X
Weathering	4 (minimum)		X
Perspiration Acid	4 (minimum)		X
Perspiration Alkaline	4 (minimum)		X
Washing	4 (minimum)		X
Wet and Dry rub	4 (minimum)		X
Abrasion Resistance	Less than 10,000	X	
pH	Not within 4-9		X
Determination of antibacterial activity of antibacterial finished products	Not strong antibacterial effect	X	
Lining Fabric			
Basic Material	No fabric sample was submitted	X	
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not Nylon	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Lining Fabric			
Construction	Not Ripstop 4 ± 1.5mm		X
Weight g/m²	More than 175		X
Tensile Strength (N)			
Warp	Less than 700 min	X	
Filling	Less than 400 min	X	
Tear Strength (N)			
Warp	Less than 40 min	X	
Filling	Less than 30 min	X	
Hydrostatic Pressure (cm)	More or Less than 150		X
Dimensional Stability	3% or more		X
Inner Mesh Material			
Basic Material	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not Polyester	X	
Color	Not Black or Olive Drab	X	
Thickness (mm)	Not within 3.5 ± 0.5		X
Weight g/m²	Not within 520 ± 15%		X
Tensile Strength (N)			X
Warp	Less than 1,000		X
Filling	Less than 300		X
Tear Strength (N)			X
Warp	Less than 160		X
Filling	Less than 65		X
Color Fastness			
Water	Less than 4		X
Perspiration	Less than 4		X
Rubbing Dry Wet	 Less than 4 Less than 4		 X X
Washing	Less than 4		X
Dry-Cleaning	Less than 4		X
Curve holes count (10cm) Warp Weft	 Less than 4 Less than 6		 X X
Nylon Webbing for MOLLE (A-A-55301)			
Raw material	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color		X
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not 100% Nylon Textured Yarn	X	
Width (inch)	Not within 1 ±1/16		X
Picks/inch	Less than 36		X
Weave	Not Tubular bound by a plain weave binder		X

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Parameters	Defects	Classification of Defects	
		Major	Minor
Nylon Webbing for MOLLE (A-A-55301)			
Weight oz/linear Yard	1 inch - Less than 0.5		X
Warp Ends Full width Binder Warps Face and Back	 Less than 15 Less than 101		 X X
Breaking Strength (lbs)	Less than 1,000		X
Thickness (inch)	Not within 0.046 – 0.07		X
Color	PHILARPAT		X
Color Fastness to Light	Less than 4		X
Color Fastness to Laundering	Less than 4		X
Color Fastness to Dry Crocking	Less than 3.5		X
pH	Not within 8-5		X
Nylon Webbing (MIL-W-17337F Class 2)			
Raw material	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color		X
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not 100% Nylon	X	
Width (inch)	Not within ¾ ± 1/16		X
	Not within 1 ± 1/16		X
	Not within 1 ½ ± 1/16		X
	Not within 2 ± 1/16		X
Picks/inch	Less than 96		X
Weave	Not Double Plain Weave bound together by binder warp		X
Weight oz/linear Yard	¾ inch – Less than 0.53 1 inch – Less than 0.71 1 ½ inch – Less than 1.07 2 inch – Less than 1.42		X X X X
Yarn warp	¾ inch – Less than 99 1 inch – Less than 119 1 ½ inch – Less than 179 2 inch – Less than 239		X X X X
Breaking Strength, lbs	¾ inch – Less than 1000 1 inch – Less than 1200 1 ½ inch – Less than 1800 2 inch – Less than 2200	X X X X	
Thickness (inch)	Not within 0.038 – 0.05		X
Color	PHILARPAT		X
Non fibrous material	More than 4%		X
Color Fastness to Light (20H)	Less than 4		X
Color Fastness to Laundering	Less than 4		X
Color Fastness to Crocking	Less than Dry – 4 Less than Wet – 3		X X
pH	Not within 8-5		X

Parameters	Defects				Classification of Defects	
					Major	Minor
Binding Webbing						
Raw material	No fabric sample was submitted				X	
	The fabric sample is not PHILARPAT in color					X
	The fabric sample is less than two (2) meters				X	
	No Test report was provided				X	
	The test report is not in the name of the manufacturer				X	
	Incomplete Test report provided				X	
	Any test report did not follow the required test protocol				X	
Width (inch)	Not within ¾ ± 1/32					X
	Not within 1 ± 1/32					X
Picks/inch	Less than 66					X
Weave	Not Plain					X
Weight oz/linear Yard	¾ inch – More than 0.2					X
Yarns	¾ inch – Less than 150					X
	1 inch – Less than 200					X
Thickness (inch)	Not within 0.015 – 0.025					X
Breaking Strength resistance to Light	¾ inch – More than 25%					X
	1 inch – More than 25%					X
Breaking Strength resistance to heat	¾ inch – More than 25%					X
	1 inch – More than 25%					X
Elongation at break % min	¾ inch – Less than 18					X
	1 inch – Less than 18					X
Color	PHILARPAT					X
Color Fastness to Light (20H)	Less than 4					X
Color Fastness to Laundering	Less than 4					X
Color Fastness to Crocking	Less than Dry – 4					X
	Less than Wet – 3					X
pH	Not within 8-5					X
Hook and Loop Fasteners						
	No fabric sample was submitted				X	
	The fabric sample is less than two (2) meters				X	
	No Test report was provided				X	
	The test report is not in the name of the manufacturer				X	
	Incomplete Test report provided				X	
	Any test report did not follow the required test protocol				X	
	Not 100% nylon with selvage				X	
Width, mm	¾ inch	1 inch	2 inch	4 inch		
	20±1	25 ± 1	50 ± 1	100 ± 1		X
Weight, gr linear/yard	¾ inch	1 inch	2 inch	4 inch		
Hook, (minimum)	3.4	4.5	9	14.4		X
Loop (minimum)	4.1	5.9	12.6	22.4		X
Breaking Strength lbf	¾ inch	1 inch	2 inch	4 inch		
Hook, (minimum)	80	100	170	320		X
Loop (minimum)	50	75	165	280		X
Shear Strength lbf (minimum) after 3 Launderings	67	10	10	10		X
Peel Strength lbf (minimum) after 3 Launderings	1.0	1.0	1.0	1.0		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Hook and Loop Fasteners			
Thickness inch (min) Hook Loop	 Less than 0.050 Less than 0.095		 X X
Length Dimensional Stability, % (max)	More than 3		X
Color Fastness to Light	Less than 4		X
Color Fastness to Laundering	Less than 4 (3 cycles)		X
Soft Protection Panels Cover			
Material	Not PA		X
Coating	Not PU		X
Weight (g/m²)	Not within 273 ±5%		X
Adhesion Warp Filling	 Less than 35 Less than 35		 X X
Breaking Strength (strip) Warp Filling	 Less than 120 Less than 115		 X X
Elongation Warp Filling	 40% max 40% max		 X X
Tear Strength Warp Filling	 Less than 4 kgs Less than 3.5 kgs		 X X
Air Porosity	Presence of Bubbles		X
High Frequency Welding (Width of 4 ±0.5 mm)	Not within 40 kg/5 cm		X
Shoulder 25mm Quick-Release Buckle	Made from metallic material	X	
	Buckle slipped or opened in tensile force of less than 55 kg	X	
Clip-on 20mm buckles for attachment of 30 L backpack	Buckle slipped or opened in tensile force of less than 90 kg	X	
Drag strap pull load capacity	Less than 120 kgs	X	
TPU film used for the water bladder	Not Bisphenol-A (BPA) and Polyvinyl chloride (PVC) free	X	
Drinking surfaces of the water bladder	Any presence of anti-microbial agents applied	X	
Water Bladder	Did not meet or exceed USFDA or EU safety standards	X	
BALLISTIC TEST			
Undertaking	Non submission of the required undertaking as per para 3.4	X	
Soft Ballistic Panel	No ballistic test report provided	X	
	The test report is not in the name of the manufacturer	X	
	The ballistic test report provided is incomplete	X	
	The ballisitc test was not conducted in an NIJ-accredited test laboratory	X	
	The ballistic report is not within the required period stipulated in the BDS	X	
	The ballistic test report did not follow any of the required test protocol	X	
	Any evidence that the samples tested is not the same as that of any of the samples submitted for PQ	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Soft Ballistic Panel	Any penetration or perforation on any panel tested	X	
	Any V_{50} less than 600 m/s	X	
Ballistic Insert	No ballistic test report provided	X	
	The test report is not in the name of the manufacturer	X	
	The ballistic test report provided is incomplete	X	
	The ballisitc test was not conducted in an NIJ-accredited test laboratory	X	
	The ballistic test report did not follow any of the required test protocol	X	
	Any evidence that the samples tested is not the same as that of any of the samples submitted for PQ	X	
	Any penetration or perforation on any panel tested	X	
	Did not not passed the Special Type Level	X	
TOTAL TEST POINTS		98	116

B. PRE – DELIVERY INSPECTION

SECTION 1B – GENERAL

1.1. AUTHORITY: The Test and Evaluation (T&E) is being conducted in line with the provisions of the RA 9184.

1.2. OBJECTIVES: The objective of this T&E is determine the compliance to the technical specifications of the samples selected at random during the Pre-Delivery Inspection (PDI).

1.3. SCOPE: This T&E Procedures will be conducted only on samples of Integrated Armor Vest (IAV) System taken randomly by the PDI Team.

1.4. METHODOLOGY: The tests include visual, physical, dimensional, laboratory, and ballistics test of the body armor. Records check and evaluation of third party publications will also be conducted as appropriate.

1.5. ACCEPTANCE CRITERIA: The rating that will be applied for this test will be based on Sampling Procedures and Tables for Inspection by Attributes - MIL STD 105E. Any Major defect or sixteen (16) or more minor defects found shall be a ground for non-acceptance of the delivery. Correction of defects should be allowed only once.

1.6. SAMPLES: Refer to Table 1B - Allocation of Samples.

SECTION 2B – PROCEDURES

1. PHYSICAL INSPECTION

1.1. Purpose: To determine the conformance of the physical characteristics of the force protection equipment to the required specifications.

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1.2. Procedure:

1.2.1. Visually and physically inspect the design and components of the IAV (basic vest, soft ballistic panel, ballistic inserts, ALBS belt, removable backpack and hydration system).

1.2.2. Measure the dimensions and weight of the IAV.

1.2.3. Manually inspect the layers of at least one (1) Soft Ballistic Panel by Destructive Physical Inspection.

1.2.4. Inspect the Label permanency with the following procedure:

1.2.4.1. A representative area of the label markings shall be rubbed by hand for 15 secs with a cotton cloth soaked with distilled water.

1.2.4.2. The same area shall then be rubbed by hand for 15 secs with a cotton cloth soaked with denatured alcohol (methylated spirit).

1.2.4.3. Finally, the same area shall then be rubbed by hand for 15 secs with cotton cloth soaked with isopropyl alcohol.

1.3. Standard:

1.3.1. The maximum overall weight of the body armor (Basic Vest. Soft Armor Panel and Hard Armor Panel) should be 7.5 kgs.

1.3.2. **Basic Vest**

1.3.2.1. Design and Construction

1.3.2.1.1. Should be Modular Lightweight Load-Carrying Equipment (MOLLE) design.

1.3.2.1.2. Philippine Army Pattern (PHILARPAT) in color

1.3.2.1.3. Should have provisions to accommodate removable soft armor panels (SAP) on the front, back and sides.

1.3.2.1.4. Should have provisions to accommodate removable hard armor panels (HAP) on the front and back which should be stable or not swaying/moving when inserted inside.

1.3.2.1.5. The provisions for the soft ballistic panel and ballistic inserts should not be visible at the outer portion of the basic vest.

1.3.2.1.6. Should have a mesh lining on the inner side of the vest.

1.3.2.1.7. It shall have provisions for outlets that would allow rapid drainage of trapped fluids.

1.3.2.1.8. Should have provisions for at least two (2) adjustments: shoulder and outer waist.

1.3.2.1.9. It should have provision for a quick-release mechanism that is easily accessible and reusable. In removing/releasing the vest from the user's body using the quick-release mechanism, it should take a maximum of three (3) seconds using either his left/right hand in a single motion with minimal effort. The quick release mechanism should enable the vest to be removed from the body. The vest should remain in one piece after the action and it is completely removed from the body. The re-assembly of the vest after the use of the quick-release mechanism should not exceed thirty (30) seconds.

1.3.2.1.10. It should have a drag strap.

1.3.2.1.11. It should have an attachment for a 30 liter detachable backpack.

1.3.2.1.12. Should have two flaps in the inner part for attaching the removable/adjustable weight distribution system.

1.3.2.1.13. The serial number should be the same with the soft ballistic panel and ballistic insert.

1.3.2.1.14. Shoulder 25mm Quick-Release Buckle.

1.3.2.1.14.1. The buckle should fit 25±1 webbing. Buckle will not slip or open in tensile force of 55 kg.

1.3.2.1.14.2. The male part should contain regulation bars in order to adjust the location of the buckle when needed.

1.3.2.1.14.3. The male part should allow releasing by pulling a cord.

1.3.2.1.14.4. The female part should be single bar without any regulation geometry.

1.3.2.1.14.5. Buckles shall be made from non-metallic material.

1.3.2.1.15. Clip-on 20mm buckles for attachment of 30 liter backpack.

1.3.2.1.15.1. Female should be attached to the male by frontal push and should use only one and to assemble the two parts together.

1.3.2.1.15.2. Buckle should fit 20±1 webbing and should not slip or open in tensile force of 90 kg.

1.3.2.1.15.3. The female part should contain regulation bars.

1.3.2.1.15.4. The male part should be single bar without any regulation geometry.

1.3.2.1.15.5. The geometry of the buckles should allow for easy possibility to connect the parts together while in the dark, with gloves, behind the back using one hand.

1.3.2.1.15.6. Buckles shall be made from non-metallic material.

1.3.2.1.15.7. Disconnecting the two parts should be done by pushing two buttons.

1.3.2.1.15.8. The buckle should provide swivel action.

1.3.2.1.16. Side Closure Buckles.

1.3.2.1.16.1. The side flaps of the body armor should be secured to the front panel of the body armor by a two piece buckle.

1.3.2.1.16.2. The side buckle should have two contact points.

1.3.2.1.16.3. Opening and closing the side buckles should allow for one handed operation.

1.3.2.1.16.4. One part of the buckle should attach to the side flap and the second part to the front panel.

1.3.2.1.16.5. The female part should be stitched to the flap using the same MOLLE (PALS) webbing

1.3.2.1.16.6. The male part should be implemented in the front panel.

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1.3.2.1.16.7. The buckle parts will not separate or break under pressure of minimum 170 kg.

1.3.2.1.16.8. The buckle parts shall have a quick-release cord for easy doffing of the vest and shall remain in one piece.

1.3.2.2. Dimensions

Upper Width	Front	28-30 cm
	Back	30-33 cm
Lower Width	Front	46-48 cm
	Back	43-46 cm
Length	Front	41-44 cm
	Back	44-47 cm
Side Panels	Width	16-18 cm
	Length	23-29 cm

1.3.2.3. Label – should be permanently marked and written in English language. It shall have the following information:

Name, logo, or other identification of the manufacturer
Address of Manufacturer
"Basic Vest" boldly printed with at least 18 font size.
Size
Model Designation
Date of Manufacture
Serial Number (shall be the same with soft ballistic panel and ballistic insert)

A warning of at least 14 font size and at least twice the font size of the rest of the markings, stating the following "This Basic Vest offers no ballistic protection without the ballistic panels being inserted. See ballistic panel label for protection level provided in accordance with NIJ Standard 0101.06"

Proper use and care instructions for Basic Vest

1.3.3. **Soft Armor Panel**

1.3.3.1. Should have full torso area coverage (front, back and sides).

1.3.3.2. The side portion should have no space or gaps.
1.3.3.3. Should have a protective cover
1.3.3.4. Seams of the cover should be heat sealed.
1.3.3.5. All ballistic layers shall have the same size and shape.
1.3.3.6. The maximum weight of the SAP should be 1.95 kgs.
1.3.3.7. The minimum protective coverage area should be 0.27 m². The dimensions of the ballistic layer should be:

Upper Width X1	Front	27-30 cm
	Back	29-32 cm
Lower Width X2	Front	44-49 cm
	Back	42-45 cm

Length Y	Front	39-43 cm
	Back	43-46 cm
Side Flaps	Width	14-16 cm
	Length	24-27 cm

Note: The bidder/manufacturer shall provide a pattern indicating the measurement of the soft ballistic panel that conforms to the required specification. The pattern will be an overlay tool in measuring the Soft Ballistic panel.

1.3.3.8. Label - should be permanently marked and written in English language. It shall have the following information:

Name, logo or other identification of the manufacturer
Address of manufacturer
"Soft Ballistic Panel" boldly printed with at least 18 font size
Rated level of protection, in accordance with NIJ Standard 0101.06 boldly printed with minimum 14 font size
Size
Model Designation
Date of manufacture
Serial Number (shall be the same with Basic Vest and Ballistic Insert)
"Strike face" or "Wear face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Soft Ballistic Panel inside the Basic Vest.
A warning with font size at least 14 font size (Arial) and at least twice the font size of the rest of the markings, stating the information that the Soft Ballistic Panel insert is not intended to protect the wearer from rifle fire and sharp edged or pointed instruments.
Proper use and care instructions

1.3.4. **Ballistic Insert**

1.3.4.1. Shall have the following dimensions:

Dimension		Tolerance
Width	23 cm	± 0.5 cm
Length	28 cm	± 0.5 cm

Note: The bidder/manufacturer shall provide a pattern indicating the measurement of the ballistic insert that conforms to the required specification. The pattern will be an overlay tool in measuring the ballistic insert.

1.3.4.2. Should have the maximum weight of 1.7 kgs.
1.3.4.3. Should have a Black or Olive Drab cover with non-glare finish.
1.3.4.4. Should be free from wrinkles, blisters, cracks or fabric tears, creasing, chipped or sharp corners and edges, or other evidences of inferior workmanship.

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1.3.4.5. All samples should be identical in appearance, size and manner of construction.

1.3.4.6. Label - should be permanently attached and written in English language. It should have the following information:

Name, logo or other identification of the manufacturer
Address of manufacturer
"Ballistic Insert" boldly printed with at least 18 font size
Rated level of protection, in accordance with NIJ Standard 0101.06 boldly printed with minimum 14 font size
Size
Model Designation
Date of manufacture
Serial Number (shall be the same with basic vest and soft ballistic panel)
"Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Ballistic Insert in the Basic Vest.
A warning with font size at least 14 font size and at least twice the font size of the rest of the markings, stating the information that the ballistic insert should be used in conjunction with the soft ballistic panel in order to attain the stated level of protection

1.3.5. Adjustable Load Bearing System (ALBS)

1.3.5.1. Should be provided per set of FPE
1.3.5.2. Should have two (2) sub-components: Hip Load Bearing Gear (HLBG) and Weight Distribution Mechanism (WDM).
1.3.5.3. The HLBG should have a MOLLE design to accommodate ammunition pouches, pistol and other items.
1.3.5.4. The HLBG should have provision for easy attachment/detachment of the WDM.
1.3.5.5. The design of the HLBG should allow the wearer to bend fully to either side easily.
1.3.5.6. The HLBG can be used on its own.
1.3.5.7. The WDM should be capable to distribute the weight of the vest and/or the backpack to the hips, shoulder and back.
1.3.5.8. There should be a provision to quickly release/detach the WDM from the HLBG.

1.3.6. Backpack

1.3.6.1. Should have MOLLE webbings for attaching extra compatible pouches.
1.3.6.2. It should have compartments in the front and both sides and also for the helmet.
1.3.6.3. It should have two (2) adjustable shoulder straps with paddings for use if not attached to the vest. The shoulder straps should be concealable if used integrated with the vest.

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1.3.7. **Hydration System**

1.3.7.1. Weight of the bladder and tube should be not more than 210 grams.

1.3.7.2. Water Bladder

1.3.7.2.1. Should be 0.4mm thick Thermoplastic Polyurethane (TPU) film for superior durability strength, abrasion resistance and flexibility.

1.3.7.2.2. Should be made of single seam construction instead of perimeter welding.

1.3.7.2.3. Should be fully reversible design for easy cleaning and drying.

1.3.7.2.4. Should have wide slider opening for easy filling that glides over thick rails for a secure seal.

1.3.7.2.5. Should have a volume capacity of not less than two (2) liters.

1.3.7.3. Tube, connectors and accessories

1.3.7.3.1. Should have quick disconnecting plug-n-play connector at drink tube with auto-shut-off for ease of filling and cleaning.

1.3.7.3.2. Should have the blaster bite valve with Dust Cover.

1.3.8. **System Requirements**

1.3.8.1. Each set of IAV shall have three (3) MOLLE compatible ammunition pouches that can fit either three (3) M16A1/M653/M4 Magazines (30 rounds) or two (2) M14 Magazines per set of Armor Vest delivered. The materials of the ammunition pouches shall be the same fabric used in the basic vest.

1.3.8.2. There should be one (1) hand-carry bag for every set of IAV. The material of the hand-carry bag should be the same fabric used in the basic vest.

1.3.8.3. Each set of IAV shall have a brochure or manual containing the description of the equipment and its use and maintenance in hard and e-copy.

1.3.8.4. Five (5) years warranty coverage for the Ballistic Protection of the Body Armor.

1.3.8.5. All components of the IAV shall be labelled in accordance with the NIJ Standards for Body Armor

1.3.9. Evaluation - The evaluation of defects should be based on above standards and procedures and Table 3B – Classification of Physical Inspection Defects.

2. LABORATORY TEST

2.1. Purpose: To determine the compliance of the submitted swatch samples of the basic material of the Basic Vest and the mesh lining, webbings, buckles and the selected samples to the required specifications.

2.2. Procedures:

2.2.1. Subject the 2-meter swatch sample of basic material of the basic vest mesh lining, inner mesh material, webbings, hook and loop fasteners and soft protection panel to fabric test at any Government-recognized/licensed Third Party Textile testing facility and/or any appropriate third-party testing laboratory. Evaluate the test results.

2.2.2. Subject the drag strap of at least one (1) basic vest to pull load test at the manufacturer's facility or any third party testing laboratory. The test shall be observed by the PDI Team. Evaluate the test result.

2.2.3. Submission of product data sheet of all major materials used in the manufacture Armor Vest. Check for completeness.

2.2.4. Submission of detailed drawings of all components of the Armor Vest for delivery. Check for completeness.

2.3. Standard:

2.3.1. The detailed drawings of all components of the Armor Vest for delivery should be complete.

2.3.2. The swatch samples of the basic material of the fabric used in the basic vest should conform to the following requirements:

Characteristics	**Requirement**	**Test Method**
A. Basic Material	Nylon	ISO 1833
Construction	Ripstop	ISO 7211/2
Coating	Polyurethane	
Weight (g/m²)	270 (maximum)	ISO 3801
Color	PHILARPAT	Visual
Color Quality	2.0 (maximum)	Spectrophotometer
Tensile Strength (N/50 mm) Warp Filling	 2,800 (minimum) 2,500 (minimum)	Strip Test ISO 1421:2016 Method 1 ISO 13934-1:2013
Tear Strength (N) Warp Filling	 450 (minimum) 350 (minimum)	Double tear method ISO 4674.1.2016 Method A ISO 13937.4:2000
Hydrostatic Pressure (mm)	1,500 (minimum)	EN ISO 20811:1996
Hydrostatic Pressure (mm) After 3 wash	350 (minimum)	EN ISO 20811:1996 Wash: ISO 6330 4NC, line dry.
Water Repellency (Spray Rating)	4 (minimum)	ISO24920:1992
Dimensional Stability	± 3 % (maximum)	ISO 3759:2000 / ISO 5077:2012
Color Fastness to		
Light	5 (minimum)	BS EN ISO 105-B02
Weathering	4 (minimum)	BS EN ISO 105-B04
Perspiration Acid	4 (minimum)	BS EN ISO 105-E04:2012
Perspiration Alkaline	4 (minimum)	
Washing	4 (minimum)	EN ISO 105-C06 :2010
Wet and Dry rub	4 (minimum)	EN ISO 105-X 12
Abrasion Resistance	10,000 (minimum)	ISO12947-2 Martindale
pH	4-9	EN ISO 3071:2009

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B. Lining Fabric	Requirement	TEST METHOD
Determination of antibacterial activity of antibacterial finished products	Strong antibacterial effect	BS EN ISO 20743
Fungus Resistance	Grade 0	International Standard
Material	Nylon	ISO 1833
Construction	Ripstop 4 ±1.5 mm	ISO 7211/2
Weight (g/m²)	175 (maximum)	EN 12127:1997
Tensile Strength (N) Warp Filling	 700 (minimum) 400 (minimum)	ISO 13934.1:2013 Strip Test
Tear Strength (N) Warp Filling	 Min. 40 Min. 30	ISO 13937.4:2000 Double-shaped method
Hydrostatic Pressure (cm)	150 (minimum)	ISO 811:1981
Dimensional Stability	Less than 3%	ISO 3759:2011 / ISO 5077: 2007
C. Inner Mesh Material		
Material	Polyester	ISO 1833
Color	Black or Olive Drab (OD)	Visual
Construction	3D Spacer Mesh	Visual
Thickness (mm)	3.5 ± 0.5	ASTM D 5736-95:2001
Weight (g\m²)	520 ± 15%	AS 2001.2.13:1987
Tensile Strength (N) Warp Filling	 1,000 (minimum) 300 (minimum)	AS 2001.2.3.1:2001 Strip Test
Tear Strength (N) Warp Filling	 160 (minimum) 65 (minimum)	AS 2001.2.10:1986 Single-shaped method
Color Fastness to		
Water	4 (minimum)	AS 2001.4 E01-2001
Perspiration	4 (minimum)	AS 2001.4 E04-2005
Rubbing Dry Wet	 4 (minimum) 4 (minimum)	AS 2001.4.3 :1995
Color Fastness to		
Washing	4 (minimum)	AS 2001.4.15: 2006
Dry -Cleaning	4 (minimum)	AS 2001.4.16: 1981
Curved holes count (10 cm) Warp Weft	 4 (minimum) 6 (minimum)	Visual
D. Nylon webbing for MOLLE according to A-A-55301		
Raw material	100% Nylon textured yarn	ISO 1833
Width (inch)	1 (±1/16)	ASTM D-3774
Picks/inch (min)	36	ASTM-D-3775
Weave	Shall be a tubular weave bound together by a plain weave binder	Visual
Weight, oz/linear Yard	0.5 (minimum)	ASTM D-3776

D. Nylon webbing for MOLLE according to A-A-55301		
Characteristics	**Requirement**	**TEST METHOD**
Warp Ends (inch) Full width Face and Back Middle Warps	 1 (minimum) 101 (minimum) 15 (minimum)	ASTM-D3775
Breaking strength lbs. (warp)	1000 (min)	FED STD 191/ 4 108
Thickness (inch)	0.046 - 0.07	FED STD 191 / 5030
Color	PHILARPAT	Visual
Color fastness (minimum)	to light (xenon): 4 to laundering: 4 dry crocking: 3.5	AATCC 16 Opt A-1990 AATCC 61-1A AATCC 8
pH	5 - 8	AATCC-81 FED STD 191 (2811) EN ISO 3071:2009

E. Nylon Webbing according to MIL-W-17337F Class 2					
Characteristics	**Requirement**				**TEST METHOD**
Raw material	100% Nylon				Manufacturer's certificate
	Bright, high tenacity continuous multifilament yarns				
Width (inch)	3/4 ± 1/16				ASTM D-3774
	1 ± 1/16				
	1 ½ ± 1/16				
	2 ± 1/16				
Picks/inch (min)	96				ASTM-D-3775
Weave	double plain				Visual
Weight oz/linear Yard (min)	¾ inch		0.53		ASTM 3775 FED STD 191 (5041)
	1 inch		0.71		
	1 ½ inch		1.07		
	2 inch		1.42		
Yarn warp (min)	Width	Ground	Binder	Total	ASTM D-3776
	¾ inch	81	18	99	
	1 inch	97	22	119	
	1 ½ inch	145	34	179	
	2 inch	193	46	239	
Breaking strength, lbs. (min)	¾ inch		1000		FED STD 191/ 4108
	1 inch		1200		
	1 ½ inch		1800		
	2 inch		2200		
Thickness (inch)	0.038 - 0.05				ASTM D 1777 FED STD 191 / 5030
Color	PHILARPAT				Visual
Non fibrous material	Max 4%				FED STD 191
Color fastness min.	to light (20H): 4 to laundering: 4 Crocking: dry 4 / wet 3				FED STD 191 (5660) FED STD 191 (5614) AATCC 8
pH	8 - 5				AATCC-81 EN ISO 3071:2009

F. Binding webbing according to MIL-PRF-5038J Type III

Characteristics	Requirement		TEST METHOD
Material	Nylon		Manufacturer's certificate
Width (inch)	3/4 ± 1/32		ASTM D-3774
	1 ± 1/32		
Picks/inch (min)	66		ASTM-D-3775
Weave	Plain		Visual
Weight oz/linear Yard (max)	¾ inch	0.2	ASTM D-3776 FED STD 191 (5041)
Yarns full width warp (min)	**Width**	**Total**	ASTM 3775 FED STD 191 (5050)
	¾ inch	150	
	1 inch	200	
Breaking strength lbs. (warp) (min)	¾ inch	400	ASTM D-5035 FED STD 191 (4108)
	1 inch	525	
Thickness (inch)	0.015 - 0.025		ASTM D 1777
Breaking strength resistance to light	¾ inch	25% max.	AATCC 111A Option 4
	1 inch	25% max.	
Breaking strength resistance to heat	¾ inch	25% max.	180c I Hour
	1 inch	25% max.	
Elongation at break % min	¾ inch	18	
	1 inch	18	
Color	PHILARPAT		Spectrophotometer
Color fastness min.	to light (20H): good (4) to laundering: fair (4) crocking: dry 4.0 / wet 3.0		FED STD 191 (5660) FED STD 191 (5614) AATCC 8
pH	8 - 5		AATCC-81 EN ISO 3071:2009

G. Hook & Loop fasteners according to A-A-55126B Type II Class 1

Characteristics	Requirements				TEST METHOD
Raw materials	100% nylon with selvage				ISO 1833
Width (mm)	20 ± 1 3/4 inch	25 ± 1 1 inch	50 ± 1 2 inch	100 ± 1 4 inch	Visual
Weight gr lin /yard min Hook Loop	 3.4 4.1	 4.5 5.9	 9 12.6	 14.4 22.4	ASTM-D-3776
Breaking strength lbf (min) Hook Loop	 80 50	 100 75	 170 165	 320 280	ASTM D-5034
Shear Strength lbf (min) After 3 Launderings	6.7	10	10	10	ASTM D 5169
Peel Strength lbf (min) After 3 Launderings	1.0	1.0	1.0	1.0	
Stitch Tear Strength, lbs. (min) Hook Loop	 3.5 6.0	 3.5 6.0	 3.5 6.0	 3.5 6.0	ASTM D 2261

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G. Hook & Loop fasteners according to A-A-55126B Type II Class 1		
Characteristics	**Requirements**	**TEST METHOD**
Thickness, inch (min.) Hook Loop	 0.050 0.095	ASTM D 1777
Length Dimensional Stability, %	3 (maximum)	AATCC 135 Option 3
Color fastness min	Gray Scale for color change for fastness to light:4 to laundering: 4 (3 cycles)	AATCC 16 AATCC 61

H. Soft protection panels cover		
TEST METHOD	**Requirements**	**Characteristics**
Material	PA	
Coating	PU	
Weight (g/m²)	273 ± 5%	
Adhesion Warp Filling	 35 (minimum) 35 (minimum)	 ISO 2411 kg/5 cm
Breaking strength (strip) Warp Filling	 120 (minimum) 115 (minimum)	 ISO 1421 kg/5 cm
Elongation Warp Filling	 Max. 40% Max. 40%	 ISO 1421
Tear strength Warp Filling	 Min. 4 kg Min. 3.5 kg	 ISO 4674 A1
Air porosity	No bubbles	B.S 4F 100 clause 32.1 (7 psi)
High frequency welding (width of 4±0.5mm)	Min. 40 kg/5 cm	ASTM d 882

2.3.3. The pull load capacity of the drag strap should be a minimum of 120 kgs tested from a third party testing laboratory or manufacturer's laboratory/facility.

2.3.4. The TPU film used for the water bladder should have enhanced anti-bacterial properties. It should be Bisphenol-A (BPA) and Polyvinyl chloride (PVC) free tested from a third party testing laboratory.

2.3.5. The drinking surfaces of the water bladder should have no anti-microbial agents applied on it as tested or certified by a third party testing laboratory.

2.3.6. The Water Bladder should meet or exceed USFDA and EU safety standards as certified by USFDA and EU or any accredited USFDA or EU regulating body.

2.3.7. The ISO 9001:2015 certification should indicate that the LCB or SCB is a manufacturer of the ballistic body armor which is part of the IAV.

2.3.8. The product data sheet should indicate all the major materials used in the manufacture of the IAV.

2.3.9. The detailed drawings should indicate all the components of the IAV being offered including the measurements.

2.4. Evaluation – The evaluation should be based on above procedures and standards and Table 4B - Classification of Defects Based on Test Reports. Any lacking report, non-compliance to any standard or procedure shall be rated as "Failed".

3. BALLISTIC TEST

3.1. Purpose: To determine the compliance of the randomly selected samples of Body Armor to the technical specification as representative samples of the whole delivery.

3.2. Procedure:

3.2.1. Subject the Soft Ballistic Panels to a complete ballistic test at any NIJ-accredited test facility. Refer to Table 1B for the allocation of samples to be tested.

3.2.2. Subject the Ballistic Inserts to a complete ballistic test at any NIJ-accredited test facility. Refer to Table 1B for the allocation of samples to be tested.

3.2.3. The ballistic tests shall be observed by the members of the PDI Team.

3.2.4. Evaluate the results.

3.3. Standard:

3.3.1. Conditioning – following are the minimum conditioning requirements:

3.3.1.1. level IIIA (submerged & tumbled for 10 days as per sec 4 & sec 5 of NIJ 0101.06, respectively)

3.3.1.2. Level III in conjunction with the SAP & HAP (conditioned 11 days, dropped & submerged as per sec 6 of NIJ 0101.06)

3.3.1.3. Special type {5.56mm SS109 (M855)} in conjunction with the SAP & HAP (conditioned, dropped & submerged as per sec 6 of NIJ 0101.06)

3.3.1.4. STANAG 2920 or MIL STD 662-F (Ambient)

3.3.2. The Soft Ballistic Panel should have a minimum level of protection of Level IIIA per NIJ Standard 0101.06 as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (+/- 9 m/s)	BF Deformation (mm) – Max
III A	New	.357 FMJ Flat Nose (FN)	8.1 / 125	448 m/s	44
		.44 Magnum Semi Jacketed Hallow Point (SJHP)	15.6 / 240	436 m/s	
	Conditioned	.357 FMJ Flat Nose (FN)	8.1 / 125	430 m/s	
		.44 Magnum Semi Jacketed Hallow Point (SJHP)	15.6 / 240	408 m/s	

3.3.3. The Soft Ballistic Panel should be compliant to MIL STD 662-F or STANAG 2920 (17-grain, 22 Cal Fragment Simulating Projectile; V_{50}-600 m/s) as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Required Velocity (Minimum)
V50 (STANAG or MIL STD 662-F)	Ambient	.22 Fragment Simulator Projectile	17 gr	600 m/s

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3.3.4. The Ballistic Insert shall have a minimum level of protection of Level III per NIJ Standard 0101.06 when used in conjunction with the Soft Ballistic Panel as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (+/- 9 m/s)	BFS Deformation (mm) – Max
III	Conditioned (Hard Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847 m/s	44
	New and Conditioned (Flexible Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847 m/s	

3.3.5. The Ballistic Insert shall be able to provide a minimum protection against six (6) shots of Ctg, 5.56mm SS109 (M855) when used in conjunction with the Soft Ballistic Panel and tested under the NIJ Std 0101.06 Special requirement as follows:

Type / Level		Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (Minimum)	BFS Deformation (mm) – Max
Special type	Conditioned (Hard Armor)	5.56mm SS109 (M855)	62 gr	930 m/s	44
	New and Conditioned (Flexible Armor)	5.56mm SS109 (M855)	62 gr	930 m/s	

3.3.6. There should be no penetration of any ammunition or projectile used at any stage during the ballistic testing of the soft ballistic panel and ballistic insert.

3.3.7. Evaluation - The evaluation of defects should be based on above standards and on Table 3 – Classification of Defects Based on Test Reports.

TABLE 1B – ALLOCATION OF SAMPLES

Parameter	**Quantity**
Physical Inspection(sample size: 125 sets	125
Destructive Physical Inspection (SBP shape & size inspection)	2 panels
Ballistic Test	
NIJ 0101.06 Level IIIA	28 panels
Frag Test per MIL STD 662-F/STANAG 2920	3 panels
NIJ 0101.06 Level III	9 insert w/ 9 panels
NIJ 0101.06 Special Type	9 inserts w/ 9 panels

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TABLE 2B
CLASSIFICATION OF VISUAL AND PHYSICAL INSPECTION DEFECTS
(Checklist)

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Design and Construction	The design is not the required Modular Lightweight Load-Carrying Equipment (MOLLE) design. Color should be ranger green	X	
	The design cannot accommodate the required MOLLE pouches	X	
	The color is not PHILARPAT	X	
	There is no provisions to accommodate removable soft armor panels (SAP) on the front, back and sides	X	
	There is no provision to accommodate removable hard armor panels (HAP) on the front and back	X	
	The HAP is not stable or swaying/moving when inserted inside the vest	X	
	The provision for the soft ballistic panel or ballistic inserts is visible at the outer portion of the basic vest	X	
	There is no mesh lining on the inner side of the vest	X	
	There is no provision for at least two (2) adjustments: shoulder and outer waist	X	
	It is not easy to don/doff	X	
	Wearing the vest will require assistance from another person	X	
	It does not have quick-release mechanism	X	
	The quick release mechanism is not easily accessible	X	
	The quick release mechanism is not reusable	X	
	The quick-release mechanism took the user more than three (3) seconds to activate	X	
	The quick-release mechanism uses the left or right hand only to activate	X	
	The use of the quick release mechanism requires both hands	X	
	The quick-release mechanism is not activated in a single motion by the hand	X	
	The vest is not completely removed from the body after the quick-release mechanism was activated	X	
	The vest did not remain in one piece after the action	X	
	The re-assembly of the vest after the use of the quick-release mechanism exceeded thirty (30) seconds	X	
	There is no drag strap	X	
	There is no attachment for a 30 liter detachable backpack	X	
	There is no flaps for attaching the removable /adjustable weight distribution system		X
	The serial number is different from that of the soft ballistic panel and ballistic insert	X	
Dimensions	Non-compliance with any of the ff measurements:	X	

Upper Width	Front	28-30 cm
	Back	30-33 cm
Lower Width	Front	46-48 cm
	Back	43-46 cm
Length	Front	41-44 cm
	Back	44-47 cm
Side Panels	Width	16-18 cm
	Length	23-29 cm

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Overall Weight (vest, soft ballistic panel and ballistic insert)	The overall weight of the body armor (Basic Vest. Soft Armor Panel and Hard Armor Panel) is more than 7.5 kgs	X	
Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
Contents of the Label	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Basic Vest" markings		X
	The "Basic Vest" markings is not boldly printed		X
	The font size of "Basic Vest" markings is less than 18		X
	No size indicated	X	
	The size indicated is different from that of the soft ballistic panel or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the body armor is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the soft ballistic panel or ballistic insert	X	
	There is no required warning markings	X	
	The warning markings is different from the ff requirement: "The Basic Vest offers no ballistic protection without the ballistic panels being inserted. See ballistic panel label for protection level provided in accordance with NIJ Standard 0101.06"	X	
	The font size of the warning markings is less than size 14 and not twice larger than the size of the rest of the markings		X
	There are no markings of the proper use and care instructions of the Basic Vest	X	
Shoulder 25mm Quick-Release Buckle	The buckle did not fit 25±1 webbing.	X	
	The buckle slipped or opened in tensile force of 55 kg		X
	The male part did not contain regulation bars in order to adjust the location of the buckle when needed		X
	The male part was not released by pulling a cord		X
	The female part is not single bar with any regulation geometry		X
Clip-on 20mm buckles for attachment of 30 liter backpack	Female was not attached to the male by frontal push and use two hands to assemble the two parts together		X
	Female was attached to the male using two hands to assemble the two parts together		X
	Buckle did not fit 20±1 webbing		X
	Buckle slipped or opened in tensile force of 90 kg		X
	The female part did not contain regulation bars		X
	The male part was not single bar with any regulation geometry.		X
	The geometry of the buckles did not allow for easy possibility to connect the parts together while in the dark, with gloves or behind the back using one hand.		X
	Disconnecting the two parts was not done by pushing two buttons.		X
	The buckle did not provide swivel action		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Side Closure Buckles	The side flaps of the body armor were not secured to the front panel of the body armor by a two piece buckle.		X
	The side buckle did not have two contact points		X
	Opening and closing the side buckles did not allow for one handed operation when using gloves and during night time		X
	One part of the buckle was not attached to the side flap and the second part to the front panel		X
	The female part was not stitched to the flap using the same MOLLE (PALS) webbing without any additional or different width webbing		X
	The male part was not implemented in the front panel without use of any webbing or additional connection materials		X
	The buckle parts do not have a quick –release cord for easy donning of the vest		X
Soft Ballistic Panel			
Design and Construction	It does not provide full torso area coverage (front, back and sides)	X	
	There is evidence of space or gaps on the sides	X	
	Does not have a protective cover	X	
	The seam of the cover is not heat sealed.	X	
	Any evidence of poor quality seam heat sealing	X	
	Any deviation in size or shape of at least one (1) ballistic layer	X	
	The weight of the SAP is more than 1.95 kgs	X	
Protective Coverage Area	Non-submission of a pattern indicating the actual measurement of the soft ballistic panel	X	
	The protective coverage area is less than 0.27 m^2	X	
	The coverage area is not in accordance with any of the ff requirements:	X	

Upper Width X1	Front	27-30 cm
	Back	29-32 cm
Lower Width X2	Front	44-49 cm
	Back	42-45 cm
Length Y	Front	39-43 cm
	Back	43-46 cm
Side Flaps	Width	14-16 cm
	Length	24-27 cm

Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
Contents of the Label	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Soft Ballistic Panel" markings		X
	The "Soft Ballistic Panel" markings is not boldly printed		X
	The font size of "Soft Ballistic Panel" markings is less than 18		X
	Lack of markings of the rated level of protection the soft ballistic panel provide	X	
	The markings is different from the requirement	X	
	The markings is not in bold font		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Contents of the Label	The font size is less than size 14		X
	No size indicated	X	
	The size indicated is different from that of the soft ballistic panel or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the soft ballistic panel is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the basic vest or ballistic insert	X	
	Lack the markings "Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Soft Ballistic Panel inside the Basic Vest.	X	
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		X
	The markings "Strike Face" or "Wear Face" is not in bold font		X
	Lack of warning markings stating the information that the Soft Ballistic Panel insert is not intended to protect the wearer from rifle fire and sharp edged or pointed instruments.	X	
	The font size of the warning markings is less than 14 font size or at least two times larger than the font size of the rest of the markings excluding the manufacturer identification and logo		X
	There are no markings on the proper use and care instructions of the soft ballistic panel	X	
Ballistic Insert			
Design and construction	The color is not Black or Olive Drab	X	
	The surface is not the required non-glare finish	X	
	Any sign of wrinkles or blisters creasing	X	
	Any sign of cracks or fabric tears	X	
	Any sign of chipped or sharp corners and edges	X	
	Any evidence of inferior workmanship.	X	
	Any sign that at least one (1) sample is different in appearance, size and manner of construction from any sample	X	
Dimension	Non-submission of a pattern indicating the measurements of the ballistic insert	X	
	Non-compliance with any of the ff measurements: Width 23 cm ± 0.5 cm Length 28 cm ± 0.5 cm	X	
	The weight per plate is more than the required 1.7 kgs	X	
Label	There are no labels	X	
	The label is easily erased	X	
	The label is not in English	X	
	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated	X	
	There is no "Ballistic Insert" markings		X
	The "Ballistic Insert" markings is not boldly printed		X
	The font size of "Ballistic Insert" markings is less than 18		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Label	Lack of markings of the rated level of protection the soft ballistic panel provide	X	
	The markings is different from the requirement	X	
	The markings is not in bold font		X
	The font size is less than size 14		X
	No size indicated	X	
	The size indicated is different from that of the ballistic plate or the ballistic insert	X	
	There is no Model Designation		X
	There is no date of manufacture	X	
	The date of manufacture indicates that the ballistic plate is not brand new	X	
	There is no Serial Number indicated	X	
	The serial number is different from that of the basic vest or ballistic insert	X	
	Lack the markings "Strike Face" or "Wear Face" permanently and boldly marked with at least 18 font size indicating the proper orientation of the Ballistic Plate inside the Basic Vest.	X	
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		X
	The markings "Strike Face" or "Wear Face" is not in bold font		X
	Lack of warning markings stating the information that the ballistic insert should be used in conjunction with the soft ballistic panel in order to attain the stated level of protection	X	
	The font size of the warning markings is less than 14 font size or at least 2 times larger than the font size of the rest of the markings		X
Adjustable Load Bearing System (ALBS)	No ALBS provided	X	
	There is no Hip Load Bearing Gear (HLBG)	X	
	There is no Weight Distribution Mechanism (WDM)	X	
	The HLBG is not a MOLLE design	X	
	The HLBG does not have provision for easy attachment/detachment of the WDM	X	
	The design of the HLBG did not allow the wearer to bend fully to either side easily	X	
	The HLBG cannot be used on its own	X	
	The WDM is not capable to distribute the weight of the vest to the hips, shoulder and back	X	
	The WDM is not capable to distribute the weight of the backpack to the hips, shoulder and back	X	
	There is no provision to quickly release/detach the WDM from the HLBG	X	
	The MOLLE design cannot accommodated the ammunition magazine pouches	X	
Backpack	Does not have MOLLE webbings for attaching extra compatible pouches.	X	
	It does not have compartments in the front and both sides	X	
	It does not have compartment for the helmet	X	
	It does not have two (2) adjustable shoulder straps with paddings for use if not attached to the vest	X	
	The adjustable shoulder straps do not have paddings	X	
	The shoulder straps are not concealable when used integrated with the vest	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Hydration System	Weight of the bladder and tube is more than 210 grams		X
Water Bladder	Is not 0.4mm thick Thermoplastic Polyurethane (TPU) film for superior durability strength, abrasion resistance and flexibility.	X	
	Is not made of single seam construction but instead of perimeter welding	X	
	Is not a fully reversible design for easy cleaning and drying		X
	Does not have wide slider opening for east filling that glides over tick rails for a secure seal		X
	Does not have a volume capacity of at least 2 liters		X
Tube, connectors and accessories	Does not have Quick Disconnecting Plug-n-Play Connector at drink tube with auto-shut-off for ease of filling and cleaning	X	
	Does not have the Bite Valve with Dust Cover	X	
System Requirements	No ammunition pouches provided	X	
	The ammunition pouches are not MOLLE compatible	X	
	The ammunition pouches cannot accommodate three (3) M16A1/M653/M4 Magazines (30 rounds)	X	
	The ammunition pouches cannot accommodate two (2) M14 Magazines	X	
	The basic material is different from that of the Basic vest	X	
	No carrying bag provided	X	
	The basic material of the carrying bag is different from that of the Basic Vest	X	
	No manual on the equipment's use and maintenance in hard and e-copy provided	X	
	The manual is not in the name of the manufacturer	X	
	The equipment described in the brochure or manual is different from the submitted sample	X	
	Not all components of the IAV shall be labeled in accordance with the NIJ Standards for Body Armor		X
TOTAL TEST POINTS		**123**	**49**

TABLE 3B

CLASSIFICATION OF DEFECTS BASED ON TEST REPORTS

Parameters	Defects	Classification of Defects	
		Major	Minor
Documentary requirements			
ISO Certification	No ISO 2001:2015 Certification submitted (minimum)	X	
	The certification provided is already expired	X	
	The certification provided did not specify that the proponent is a manufacturer of ballistic body armor	X	
Product Data Sheet	No Product Data Sheet submitted	X	
	Product Data Sheet submitted is incomplete	X	
Detailed Drawings	No detailed drawings of all components of the Armor Vest was provided	X	
	Drawings submitted were incomplete	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Basic Vest			
Fabric	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color	X	
	The fabric sample is less than two (2) meters	X	
Basic Material	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
Basic Material	Not Nylon	X	
Construction	Not Ripstop	X	
Coating	Not Polyurethane	X	
Weight g/m²	More than 270		X
Color	Not PHILARPAT	X	
Color Quality	More than 2.0		X
Tensile Strength (N/50mm)			
Warp	Less than 2,800	X	
Filling	Less than 2,500	X	
Tearing Strength (N)			
Warp	Less than 450	X	
Filling	Less than 350	X	
Hydrostatic Pressure (mm)	Less than 1,500		X
Hydrostatic Pressure (mm) After three washes	Less than 350		X
Water Repellency (Spray Rating)	Less than 4		X
Spray Rating after three washes	Less than 3		X
Dimensional Stability (%)	More than ±3	X	
Color Fastness			
Light	5 (minimum)		X
Weathering	4 (minimum)		X
Perspiration Acid	4 (minimum)		X
Perspiration Alkaline	4 (minimum)		X
Washing	4 (minimum)		X
Wet and Dry rub	4 (minimum)		X
Abrasion Resistance	Less than 10,000	X	
pH	Not within 4-9		X
Determination of antibacterial activity of antibacterial finished products	Not strong antibacterial effect	X	
Lining Fabric			
Basic Material	No fabric sample was submitted	X	
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not Nylon	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Lining Fabric			
Construction	Not Ripstop 4 ± 1.5mm		X
Weight g/m²	More than 175		X
Tensile Strength (N)			
Warp	Less than 700 min	X	
Filling	Less than 400 min	X	
Tear Strength (N)			
Warp	Less than 40 min	X	
Filling	Less than 30 min	X	
Hydrostatic Pressure (cm)	More or Less than 150		X
Dimensional Stability	3% or more		X
Inner Mesh Material			
Basic Material	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not Polyester	X	
Color	Not Black or Olive Drab	X	
Thickness (mm)	Not within 3.5 ± 0.5		X
Weight g/m²	Not within 520 ± 15%		X
Tensile Strength (N)			X
Warp	Less than 1,000		X
Filling	Less than 300		X
Tear Strength (N)			X
Warp	Less than 160		X
Filling	Less than 65		X
Color Fastness			
Water	Less than 4		X
Perspiration	Less than 4		X
Rubbing Dry Wet	 Less than 4 Less than 4		 X X
Washing	Less than 4		X
Dry-Cleaning	Less than 4		X
Curve holes count (10cm) Warp Weft	 Less than 4 Less than 6		 X X
Nylon Webbing for MOLLE (A-A-55301)			
Raw material	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color		X
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not 100% Nylon Textured Yarn	X	
Width (inch)	Not within 1 ±1/16		X
Picks/inch	Less than 36		X
Weave	Not Tubular bound by a plain weave binder		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Nylon Webbing for MOLLE (A-A-55301)			
Weight oz/linear Yard	1 inch - Less than 0.5		X
Warp Ends Full width Binder Warps Face and Back	 Less than 15 Less than 101		 X X
Breaking Strength (lbs)	Less than 1,000		X
Thickness (inch)	Not within 0.046 – 0.07		X
Color	PHILARPAT		X
Color Fastness to Light	Less than 4		X
Color Fastness to Laundering	Less than 4		X
Color Fastness to Dry Crocking	Less than 3.5		X
pH	Not within 8-5		X
Nylon Webbing (MIL-W-17337F Class 2)			
Raw material	No fabric sample was submitted	X	
	The fabric sample is not PHILARPAT in color		X
	The fabric sample is less than two (2) meters	X	
	No Test report was provided	X	
	The test report is not in the name of the manufacturer	X	
	Incomplete Test report provided	X	
	Any test report did not follow the required test protocol	X	
	Not 100% Nylon	X	
Width (inch)	Not within ¾ ± 1/16		X
	Not within 1 ± 1/16		X
	Not within 1 ½ ± 1/16		X
	Not within 2 ± 1/16		X
Picks/inch	Less than 96		X
Weave	Not Double Plain Weave bound together by binder warp		X
Weight oz/linear Yard	¾ inch – Less than 0.53 1 inch – Less than 0.71 1 ½ inch – Less than 1.07 2 inch – Less than 1.42		X X X X
Yarn warp	¾ inch – Less than 99 1 inch – Less than 119 1 ½ inch – Less than 179 2 inch – Less than 239		X X X X
Breaking Strength, lbs	¾ inch – Less than 1000 1 inch – Less than 1200 1 ½ inch – Less than 1800 2 inch – Less than 2200	X X X X	
Thickness (inch)	Not within 0.038 – 0.05		X
Color	PHILARPAT		X
Non fibrous material	More than 4%		X
Color Fastness to Light (20H)	Less than 4		X
Color Fastness to Laundering	Less than 4		X
Color Fastness to Crocking	Less than Dry – 4 Less than Wet – 3		X X
pH	Not within 8-5		X

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Parameters	Defects				Classification of Defects	
					Major	Minor
Binding Webbing						
Raw material	No fabric sample was submitted				X	
	The fabric sample is not PHILARPAT in color					X
	The fabric sample is less than two (2) meters				X	
	No Test report was provided				X	
	The test report is not in the name of the manufacturer				X	
	Incomplete Test report provided				X	
	Any test report did not follow the required test protocol				X	
Width (inch)	Not within ¾ ± 1/32					X
	Not within 1 ± 1/32					X
Picks/inch	Less than 66					X
Weave	Not Plain					X
Weight oz/linear Yard	¾ inch – More than 0.2					X
Yarns	¾ inch – Less than 150					X
	1 inch – Less than 200					X
Thickness (inch)	Not within 0.015 – 0.025					X
Breaking Strength resistance to Light	¾ inch – More than 25%					X
	1 inch – More than 25%					X
Breaking Strength resistance to heat	¾ inch – More than 25%					X
	1 inch – More than 25%					X
Elongation at break % min	¾ inch – Less than 18					X
	1 inch – Less than 18					X
Color	PHILARPAT					X
Color Fastness to Light (20H)	Less than 4					X
Color Fastness to Laundering	Less than 4					X
Color Fastness to Crocking	Less than Dry – 4 Less than Wet – 3					X X
pH	Not within 8-5					X
Hook and Loop Fasteners						
	No fabric sample was submitted				X	
	The fabric sample is less than two (2) meters				X	
	No Test report was provided				X	
	The test report is not in the name of the manufacturer				X	
	Incomplete Test report provided				X	
	Any test report did not follow the required test protocol				X	
	Not 100% nylon with selvage				X	
Width, mm	¾ inch	1 inch	2 inch	4 inch		
	20±1	25 ± 1	50 ± 1	100 ± 1		X
Weight, gr linear/yard	¾ inch	1 inch	2 inch	4 inch		
Hook, (minimum)	3.4	4.5	9	14.4		X
Loop (minimum)	4.1	5.9	12.6	22.4		X
Breaking Strength lbf	¾ inch	1 inch	2 inch	4 inch		
Hook, (minimum)	80	100	170	320		X
Loop (minimum)	50	75	165	280		X
Shear Strength lbf (minimum) after 3 Launderings	67	10	10	10		X
Peel Strength lbf (minimum) after 3 Launderings	1.0	1.0	1.0	1.0		X

Parameters	Defects	Classification of Defects	
		Major	Minor
Hook and Loop Fasteners			
Thickness inch (min) Hook Loop	 Less than 0.050 Less than 0.095		 X X
Length Dimensional Stability, % (max)	More than 3		X
Color Fastness to Light	Less than 4		X
Color Fastness to Laundering	Less than 4 (3 cycles)		X
Soft Protection Panels Cover			
Material	Not PA		X
Coating	Not PU		X
Weight (g/m²)	Not within 273 ±5%		X
Adhesion Warp Filling	 Less than 35 Less than 35		 X X
Breaking Strength (strip) Warp Filling	 Less than 120 Less than 115		 X X
Elongation Warp Filling	 40% max 40% max		 X X
Tear Strength Warp Filling	 Less than 4 kgs Less than 3.5 kgs		 X X
Air Porosity	Presence of Bubbles		X
High Frequency Welding (Width of 4 ±0.5 mm)	Not within 40 kg/5 cm		X
Shoulder 25mm Quick-Release Buckle	Made from metallic material	X	
	Buckle slipped or opened in tensile force of less than 55 kg	X	
Clip-on 20mm buckles for attachment of 30 L backpack	Buckle slipped or opened in tensile force of less than 90 kg	X	
Drag strap pull load capacity	Less than 120 kgs	X	
TPU film used for the water bladder	Not Bisphenol-A (BPA) and Polyvinyl chloride (PVC) free	X	
Drinking surfaces of the water bladder	Any presence of anti-microbial agents applied	X	
Water Bladder	Did not meet or exceed USFDA or EU safety standards	X	
BALLISTIC TEST			
Undertaking	Non submission of the required undertaking as per para 3.4	X	
Soft Ballistic Panel	No ballistic test report provided	X	
	The test report is not in the name of the manufacturer	X	
	The ballistic test report provided is incomplete	X	
	The ballisitc test was not conducted in an NIJ-accredited test laboratory	X	
	The ballistic report is not within the required period stipulated in the BDS	X	
	The ballistic test report did not follow any of the required test protocol	X	
	Any evidence that the samples tested is not the same as that of any of the samples submitted for PQ	X	

Parameters	Defects	Classification of Defects	
		Major	Minor
Soft Ballistic Panel	Any penetration or perforation on any panel tested	X	
	Any V_{50} less than 600 m/s	X	
Ballistic Insert	No ballistic test report provided	X	
	The test report is not in the name of the manufacturer	X	
	The ballistic test report provided is incomplete	X	
	The ballisitc test was not conducted in an NIJ-accredited test laboratory	X	
	The ballistic test report did not follow any of the required test protocol	X	
	Any evidence that the samples tested is not the same as that of any of the samples submitted for PQ	X	
	Any penetration or perforation on any panel tested	X	
	Did not not passed the Special Type Level	X	
TOTAL TEST POINTS		**98**	**116**

B. FINAL INSPECTION

SECTION 1C – GENERAL

1.1. AUTHORITY: This procedure is being conducted in line with the provisions of the RA 9184.

1.2. OBJECTIVES: The objective of this procedure is ensure the completeness of the delivery at the delivery site and that the items delivered are one and the same from those that were inspected during the Pre-delivery inspection.

1.3. SCOPE: This procedure will be conducted on the delivered Force Protection Equipment (FPE) which were previously inspected during the Pre-delivery inspection (PDI) at the final delivery place.

1.4. METHODOLOGY: The procedure will involve visual inspection and accounting of the completeness of the items delivered.

1.5 SAMPLES: 100% of items delivered

SECTION 2C – PROCEDURES

1. PHYSICAL COUNT

To determine the completeness of the items delivered, its consistency in terms of items inspected during Pre-Delivery Inspection vis-à-vis the actual IAV delivered, and physical state of the delivered items.

2. PROCEDURE:

2.1. Account for the completeness (quantity) of the FPE delivered.

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2.2. Visually inspect the FPE for the completeness of components (basic vest, soft ballistic panels, ballistic inserts, ALBS, Backpack, Hydration System and Ammunition Pouches) including the serial numbers and accessories.

2.3. Visually inspect the selected samples for the physical state of the delivered items.

3. STANDARD:

3.1. The total FPE delivered shall be complete in quantity based on the contract.

3.2. The total delivered FPE shall be complete including its accessories.

3.3. The serial numbers of the randomly selected samples shall be in accordance with the specifications and the same to the serial numbers inspected during the Pre-Delivery Inspection.

3.4. There shall be no damage that could affect the functionality and appearance of the FPE.

3.5. The delivery should include a Product Liability Insurance coverage for five (5) years upon acceptance of the delivery amounting to:

Death = Php1,000,000.00
Injury = Php 500,000.00

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