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HEADQUARTERS PHILIPPINEARMY

OFFICE OF THE ARMY CHIEF QUARTERMASTER

Fort Andres Bonifacio, Metro Manila

TEST AND EVALUATION PROCEDURE (TEP)

MILITARY BODY ARMOR, MODEL 2 QM SPEC NR IE-22MBAM2

POST QUALIFICATION INSPECTION A.

SECTION 1 - GENERAL

- AUTHORITY: The Test and Evaluation (T&E) is being conducted in line with the 1.1 provisions of the RA 9184.
- OBJECTIVES: The objective of this T&E is to determine the responsiveness of the Bidder with the Lowest Calculated Bid (LCB) to the technical specification as endorsed by the Bids and Awards Committee (BAC).
- SCOPE: This T&E Procedure will be conducted on the samples of MILITARY BODY 1.3 ARMOR, MODEL 2 hereinafter also referred to as MBA2, for brevity, test reports, certification and brochures submitted by the Bidder with the LCB/SCB as part of the post
- METHODOLOGY: The tests include physical inspection and evaluation of 1.4 documents that will support the compliance of the MBA2 to the specification. Records check will also be conducted as appropriate including third party publications.
- POST QUALIFICATION CRITERIA: Post Qualification evaluation shall be based on 1.5 a Pass (P) or Fail (F) criteria. Any major or minor defect found shall be evaluated as "Failed". Classification of defects should be based on Table 3A.
- SAMPLES: Refer to Table 2A Allocation of Samples for the required samples. 1.6

SECTION 2 - PROCEDURES

PHYSICAL INSPECTION 1.

- Purpose: To determine the conformance of the physical characteristics of the MBA2 to the minimum requirements of the specifications.
 - 1.2 Procedure:
- 1.2.1 Visually and physically inspect the design and components of the MBA2 (basic vest, soft ballistic panel and ballistic inserts)
 - 1.2.2 Inspect the Label permanency with the following procedure:
- 1.2.2.1 A representative area of the label markings shall be rubbed by hand for 15 secs with a cotton cloth soaked with distilled water.

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1.2.2.2 The same area shall then be rubbed by hand for 15 secs with a cotton cloth soaked with denatured alcohol (methylated spirit). 1.2.2.3

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

1.3.2.1.4 removable hard armor panels (HAP) on the front and back which should be stable or not

1.3.2.1.5 It shall have provisions for outlets that would allow rapid drainage of trapped fluids. 1.3.2.1.6

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

1.3.2.1.7 It should have provision for a quick-release mechanism that is easily accessible and reusable. 1.3.2.1.8

Should have a drag strap.

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

1.3.3 Soft Armor Panel

The maximum weight of the SAP should be 1.95 kgs.

1.3.3.2 Label - should be permanently marked and written in

English language.

English language.

1.3.4 Ballistic Insert

> 1.3.4.1 Should have the maximum weight of 1.7 kgs. 1.3.4.2

Should have Black or Olive Drab cover with non-glare

finish.

1.3.4.3 Label - should be permanently attached and written in

1.3.5 System Requirements

1.3.5.1 Each set of MBA2 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 appearance of the ammunition pouches shall be the same color as the basic vest.



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- 1.3.5.2 There should be one (1) hand-carry bag for every set of MBA2. The appearance of the hand-carry bag should be the same color as the basic vest.
- 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 and other required pertinent documents.

2.2 Procedure:

- 2.2.3 Submission of ISO 9001:2015 Certification indicating that the Bidder is a manufacturer of ballistic body armor and that the scope is for the design, production, and manufacturing of ballistic armor (minimum), among others.
- 2.2.5 Submission of detailed drawings of all components of the MBA2 being offered.
- 2.4. Evaluation The evaluation should be based on above procedures and standards and Table 3B - Classification of Defects Based on Test Reports. Any lacking report, non-compliance to any standard or procedure shall be rated as "Failed".

TABLE 1A - SUMMARY OF REQUIREMENTS

RECAPITULATION OF REQUIREMENTS TO BE SUBMITTED DURING POST QUALIFICATION

a) Manual or brochure of MRA2	REFERENCE PARAMETERS
a) Manual or brochure of MBA2	The manual or brochure should be under the name of the
b) ISO 9001-2015 indicating the Didden	mandiacturer
manufacturer of MBA2 and that the scope is for the design, production, and manufacturing of ballistic armor (minimum), among others	(manufactures) and the Bidder
c) Three (3) complete set of MBA2	For use on the physical &visual inspection of the MBA2 (refer to para 1.3.1, to 1.3.5 and Table 2A of the test and evaluation procedure)

TABLE 2A - ALLOCATION OF SAMPLES

Parameter	
Physical & visual inspection	Quantity
, mopodion	3 complete sets

Note: Each set of MBA2 shall have corresponding MOLLE pouches, Carrying Bag and Manuals. The samples shall become property of the Philippine Army after the evaluation.



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TABLE 3A

CLASSIFICATION OF VISUAL AND PHYSICAL INSPECTION DEFECTS

Parameters			Classification of Defects	
			Mino	
Basic Vest	The design is not the required Modular Lightweight Load-Carrying Equipment			
Design and Construction	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	Χ		
	There is no provision to accommodate removable hard armor panels (HAP) on the front and back	Χ		
	The provision for the soft ballistic panel or ballistic inserts is visible at the outer portion of the basic vest	Χ		
	There is no provision for at least two (2) adjustments: shoulder and outer waist	X		
	It does not have quick-release mechanism	X		
	The vest is not completely removed from the body after the quick-release mechanism was activated	X		
Basic Vest	\(\frac{1}{2}\)			
Design and	The vest did not remain in one piece after the action	Χ		
Construction	There is no drag strap	Χ		
Ooristruction	The serial number is different from that of the soft ballistic panel and ballistic insert	Χ		
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 6 kgs	Χ		
Label	There are no labels	Χ		
	The label is easily erased	Χ		
	The label is not in English	Χ		
Contents of the Label	Lack name, logo, or other identification of the manufacturer	Χ		
	There is no "Basic Vest" markings		X	
	There is no Serial Number indicated	X		
	The serial number is different from that of the soft ballistic panel or ballistic insert	Χ		
Basic Vest				
Soft Ballistic Panel				
Design and	It does not provide full torso area coverage (front, back and sides)	Χ		
Construction	Does not have a protective cover	Χ		
	The weight of the SAP is more than 1.95 kgs	Χ		
Label	There are no labels	X		
	The label is easily erased	Χ		
	The label is not in English	Χ		
	Lack name, logo, or other identification of the manufacturer	Χ		
	There is no "Soft Ballistic Panel" markings		Χ	
	Lack of markings of the rated level of protection the soft ballistic panel provide	Χ		
	There is no Serial Number indicated	Χ		
	The serial number is different from that of the basic vest or ballistic insert	Χ		
	Lack the markings "Strike Face" or "Wear Face" permanently and boldly marked	Χ		



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Parameters	Defects			
Ballistic Insert		Major	Minor	
Design and	The color is not Black or Olive Drab			
Construction	The color is not black or Olive Drab	X		
	The weight per plate is more than the required 1.7 kgs	Х		
Contents of the 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		
	There is no "Ballistic Insert" markings		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	X		
	The label is not in English	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		
	Basic vest	X		
	No carrying bag provided	X		
	The appearance of the basic material of the carrying bag is of different color from that of the Basic Vest	X		
	No manual on the equipment's use and maintenance in hard and e-copy provided	X		
0 1 5	The manual is not in the name of the manufacturer	X		
System Requirements	The equipment described in the brochure or manual is different from the submitted sample	X		
TOTAL TEST POINTS		51	3	

B. PRE - DELIVERY INSPECTION

SECTION 1 - 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 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 Military Body Armor, Model 2 hereinafter also referred to as **MBA2**, for brevity, taken randomly by the PDI Team.



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- 1.4 METHODOLOGY: The tests include visual, physical, dimensional, laboratory, and ballistics test of the MBA2. 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 Nineteen (19) 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 2 - PROCEDURES

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 components of the MBA2 (basic vest, soft ballistic panel, ballistic inserts)
 - 1.2.2 Measure the dimensions and weight of the MBA2
- 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 MBA2 (Basic Vest. Soft Armor Panel and Hard Armor Panel) should be 6 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.



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

1.3.2.1.8 It should be easy to don on/don off without requiring assistance from others.

1.3.2.1.9 Should have 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 the user a maximum of three (3) seconds using either his left/right hand in a single motion with minimal effort. The vest should remain in one piece after the action, or when 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 The serial number should be the same with the soft ballistic panel and ballistic insert.

1.3.2.1.12 Shoulder 25mm Quick-Release Buckle

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

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

1.3.2.1.12.3 The male part should allow

releasing by pulling a cord.

1.3.2.1.12.4 The female part should be single

bar without any regulation geometry.

1.3.2.1.12.5 Buckles shall be made from non-

metallic material.

1.3.2.1.13 Side Closure Buckles

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

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1.3.2.1.13.2 The side buckle should have two

contact points.

1.3.2.1.13.3 Opening and closing the side

buckles should allow for one handed operation.

1.3.2.1.13.4 One part of the buckle should

attach to the side flap and the second part to the front panel.

1.3.2.1.13.5 The female part should be

stitched to the flap using the same MOLLE (PALS) webbing.

1.3.2.1.13.6 The male part should be

implemented in the front panel.

1.3.2.1.13.7 The buckle parts will not

separate or break under pressure of minimum 170 kg.

1.3.2.1.13.8 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 Dimension

1.1	Front	28-30 cm
Upper Width	Back	30-33 cm
Lower	Front	46-48 cm
Width	Back	43-46 cm
	Front	41-44 cm
Length	Back	44-47 cm
	Width	21-23 cm
Side Panels	Length	23-29 cm

1.3.2.3 Label – shall 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 1½ times larger than 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



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1.3.3 Soft Ballistic 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 maximum protective coverage area should be 0.3470

m². The coverage area of the ballistic layer should be:

Upper Width	Front	27-30 cm
X1	Back	29-32 cm
Lower Width	Front	44-49 cm
X2	Back	42-45 cm
Length Y	Front	39-43 cm
	Back	43-46 cm
Side Flaps	Width	19-21 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 - shall 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 and at least 1½ times larger than the font size of the rest of the markings excluding the manufacturer identification and logo, 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



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1.3.4 Ballistic Insert

1.3.4.1 Shall have the following dimensions:

Dimer	nsion	Tolerance
Width	23 cm	± 0.5 cm
Length	28 cm	± 0.5 cm

Note: The bidder/manufacturer shall provide a pattern indicating the actual 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 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 marked and written in English language. It shall 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 1 ½ times larger than 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 System Requirements

1.3.5.1 Each set of MBA2 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.



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- 1.3.5.2 There should be one (1) hand-carry bag for every set of MBA2. The material of the hand-carry bag should be the same fabric used in the basic vest.
- 1.3.5.3 Each set of MBA2 shall have a brochure or manual containing the description of the equipment and its use and maintenance in hard and ecopy.
- 1.3.5.4 Five (5) years warranty coverage for the Ballistic Protection of the MBA2.
- 1.3.5.5 All components of the MBA2 shall be labeled in accordance with the NIJ Standards for Body Armor.
- 1.4 Evaluation The evaluation of defects should be based on above standards and procedures and Table 3B Classification of Physical Inspection Defects.

3. 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 of MBA2. Check for completeness.
- 2.2.4 Submission of detailed drawings of all components of the MBA2 for delivery. Check for completeness.

2.3 Standard:

- 2.3.1 The product data sheet of all major materials used in the manufacture of the MBA2 should be complete.
- 2.3.2 The detailed drawings should indicate all the components of the MBA2 being offered including the measurements.
- 2.3.3 The swatch samples of the basic material of the fabric used in the basic vest should conform to the following requirements:



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	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	1.5	Spectrophotometer
Tensile Strength (N/50 mm)		Strip Test
Warp	2,800 (minimum)	ISO 1421:2016 Method 1
Filling	2,500 (minimum)	ISO 13934-1:2013
Tear Strength (N)		Double tear method
Warp	450 (minimum)	ISO 4674.1.2016 Method A
Filling	350 (minimum)	ISO 13937.4:2000
Hydrostatic Pressure (mm)	1,500 (minimum)	EN ISO 20811:1996
Hydrostatic Pressure (mm)	350 (minimum)	EN ISO 20811:1996
After 3 wash		Wash: ISO 6330 4NC, line dry.
Water Repellency (Spray Rating)	4 (minimum)	ISO24920:1992
Spray Rating after 3 washes	3 (minimum)	ISO24920:1992
		Wash: ISO6330 4NC, line dry.
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
рН	4-9	EN ISO 3071:2009
Determination of antibacterial	Strong antibacterial effect	BS EN ISO 20743
activity of antibacterial finished products		
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	700 (minimum)	ISO 13934.1:2013 Strip Test	
Filling	400 (minimum)	·	
Tear Strength (N)		ISO 13027 4:2000 Double abaned	
Warp	Min. 40	ISO 13937.4:2000 Double-shaped method	
Filling	Min. 30	method	
Hydrostatic Pressure (cm)	150 (minimum)	ISO 811:1981	
Dimensional Stability	Less than 3%	ISO 3759:2011 / ISO 5077: 2007	
C. Inner Mesh Material	Requirement	TEST METHOD	
Material	Polyester	ISO 1833	
Color	Black or Olive Drab (OD)	Visual	



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C. Inner Mesh Material	Requirement	TEST METHOD	
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	1000 (minimum)	AS 2001.2.3.1:2001 Strip Test	
Filling	300 (minimum)		
Tear Strength (N)		40,0004,040,4000,01	
Warp	Min. 160	AS 2001.2.10:1986 Single-shaped	
Filling	Min. 65	method	
Color Fastness to			
Water	4 (minimum)	AS 2001.4 E01-2001	
Perspiration	4 (minimum)	AS 2001.4 E04-2005	
Rubbing			
Dry	4 (minimum)	AS 2001.4.3 :1995	
Wet	4 (minimum)		
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)		7.0 200 11 11 10 100 1	
Warp	4 (minimum)	Visual	
Weft	4 (minimum)	,	
D. Nylon webbing for MOLLE			
Characteristics	Requirement	TEST METHOD	
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	Visual	
	weave binder		
Weight, oz/linear Yard	0.5 (minimum)	ASTM D-3776	
Warp Ends (inch)			
Full width	1 (minimum)	ASTM-D3775	
Face and Back	15 (minimum)		
Middle Warps	101 (minimum)		
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	AATCC 16 Opt A-1990	
, ,	to laundering: 4	AATCC 61-1A	
	dry crocking: 3.5	AATCC 8	
		AATCC-81	
рН	5-8	FED STD 191 (2811)	
		EN ISO 3071:2009	

E. Nylon Webbing accord	ding to MIL-W-17337F Class 2	
Characteristics	Requirement	TEST METHOD
Raw material	100% Nylon	Manufacturer's certificate
	Bright, high tenacity continuous	
	multifilament yarns	



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Characteristics	Requirement			TEST METHOD		
Width (inch)	$3/4 \pm 1/16$					
	1 ± 1/16				A O.T. A D. 0774	
	1 ½ ± 1/16				ASTM D-3774	
		2 ± 1/	/16			
Picks/inch (min)		96			ASTM-D-3775	
Weave		double	plain		Visual	
Weight oz/linear Yard (min)	3/4 inch		0.53			
	1 inch		0.71		FED STD 101 (5041)	
	1 ½ inch		1.07		FED STD 191 (5041)	
	2 inch		1.42			
Yarn warp (min)	Width	Ground	Binder	Total		
	3/4 inch	81	18	99	ASTM D-3776	
	1 inch	97	22	119	AST W D-3776	
	1 ½ inch	145	34	179		
	2 inch	193	46	239		
Breaking strength, lbs. (min)	³ / ₄ inch 1000					
	1 inc		1200		FED STD 191/4108	
	1 ½ in		1800		- 125 515 1517 4100	
TL'-1/'L\	2 inc		2200)		
Thickness (inch)		0.038 -	0.05		ASTM D 1777	
Color		DLIII AD	DAT		FED STD 191 / 5030	
Non fibrous material	PHILARPAT Max 4%			Visual FED STD 191		
Color fastness min.	to light (20H): 4				FED STD 191 (5660) FED STD	
Color fastness min.		to launder			191 (5614)	
	Cro	cking: dry			AATCC 8	
рН		8-5	. , , , , ,		AATCC-81 EN ISO 3071:2009	

F. Binding webbing according	ng to MIL-PRF	-5038J Type III	
Characteristics	Requirement		TEST METHOD
Raw material	Nylon		Manufacturer's certificate
Width (inch)	3/4 ± 1/32 1 ± 1/32		ASTM D-3774
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	A OTA 4 2775
	¾ inch	150	ASTM 3775
	1 inch	200	FED STD 191 (5050)
Breaking strength lbs. (warp)	¾ inch	400	ASTM D-5035
(min)	1 inch	525	FED STD 191 (4108)
Thickness (inch)	0.0	15 - 0.025	ASTM D 1777
Breaking strength resistance	¾ inch	25% max.	AATCC 111A
to light	1 inch	25% max.	Option 4



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F. Binding webbing according to MIL-PRF-5038J Type III				
Characteristics	Requirement		TEST METHOD	
Breaking strength resistance	¾ inch	25% max.	1000	
to heat	1 inch	25% max.	180c I Hour	
Elongation at break % min	3/4 inch 18 1 inch 18			
Color	PH	ILARPAT	Visual	
	to light (20H): good (4)	FED STD 191 (5660) FED STD	
Color fastness min.	olor fastness min. to laundering: fair (4) crocking: dry 4.0 / wet 3.0		191 (5614)	
			AATCC 8	
рН		9.5	AATCC-81	
рп	8-5		EN ISO 3071:2009	

G. Hook & Loop fasteners a	ccording to	A-A-55126	B Type II	Class 1	
Characteristics		Require	ements		TEST METHOD
Raw materials	10	0% nylon v	with selvag	je	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
Thickness, inch (min.) Hook Loop		0.0			ASTM D 1777
Length Dimensional Stability, % (max.)		3			AATCC 135 Option 3
Color fastness min	Gray Scale	e for color o to ligh aundering:	nt:4		AATCC 16 AATCC 61

H. Soft protection panels cover TEST METHOD	Requirements	Characteristics
	requirements	Characteristics
Material	PA PA	
Coating	PU	
Weight (g/m²)	273 ± 5%	
Adhesion		
Warp	35 (minimum)	ISO 2411
Filling	35 (minimum)	kg/5 cm



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H. Soft protection panels cover TEST METHOD	Requirements	Characteristics
Breaking strength (strip)	•	
Warp	120 (minimum)	ISO 1421
Filling	115 (minimum)	kg/5 cm
Elongation		
Warp	Max. 40%	ISO 1421
Filling	Max. 40%	
Tear strength		
Warp	Min. 4 kg	ISO 4674 A1
Filling	Min. 3.5 kg	
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

- 2.3.4 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.
- 2.4 Evaluation The evaluation of defects 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 procedure shall be rated as "Failed".

3. BALLISTIC TEST

3.1 Purpose:

To determine the compliance of the randomly selected samples of MBA2 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)



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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:

Т	ype / Level	Ammunition	Bullet Weight (gram/grains) Nominal Mass	Bullet Velocity (+/- 9 m/s)	BF Deformation (mm) – Max
		.357 FMJ Flat Nose (FN)	8.1 / 125	448 m/s	
	New	.44 Magnum Semi Jacketed Hallow Point (SJHP)	15.6 / 240	436 m/s	
IIIA		.357 FMJ Flat Nose (FN)	8.1 / 125	430 m/s	44
	Conditioned	.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 / Lev	el	Ammunition	Bullet Weight (gram/grains) Nominal Mass	Required Velocity (Minimum)
V50 (STANAG or MIL STD 662-F)	Ambient	.22 Fragment Simulator Projectile	17 gr	600s

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
	Conditioned (Hard Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847 m/s	4.4
111	New and Conditioned (Flexible Armor)	7.62mm FMJ-Steel (US M80)	9.6 / 147	847s	44

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	Conditioned (Hard Armor)	5.56mm SS109 (M855)	62 gr	930 m/s	
type	New and Conditioned (Flexible Armor)	5.56mm SS109 (M855)	62 gr	930s	44

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.



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3.4 Evaluation - The evaluation of defects should be based on above standards and on Table 4B – Classification of Defects Based on Test Reports.

TABLE 1B - ALLOCATION OF SAMPLES

	Parameter	Quantity
1.	Physical Inspection	As per MIL STD 105E
2.	Destructive Physical Inspection (SBP shape & size inspection)	2 panels
3.	Ballistic Test	
	a. NIJ 0101.06 Level IIIA	28 panels
	b. Frag Test per MIL STD 662-F/STANAG 2920	3 panels
	c. NIJ 0101.06 Level III	9 insert w/ 9 panels
	d. NIJ 0101.06 Special Type	9 inserts w/ 9 panels

Table 2B - ACCEPTANCE CRITERIA

SAMPLE SIZE	GENERAL INSPECTIONBest	Table III – A General Inspe ACCEPTABLE C	
	LEVEL	Major (0.10)	Minor (1.5)
	II – Double Sampling	1st (Acc - 0; Re - 2)	1 st (Acc – 3; Re – 7)
As per MIL	Plan for Normal	2 nd (Acc – 1; Re – 2)	2 nd (Acc – 8; Re – 9)
STD 105E	Inspection		

TABLE 3B

CLASSIFICATION OF VISUAL AND PHYSICAL INSPECTION DEFECTS (Checklist)

Parameters	Defects		fication efects
		Major	Minor
Basic Vest			
Design and Construction	The design is not the required Modular Lightweight Load-Carrying Equipment (MOLLE) design.	Х	
	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	Х	
	There is no provision to accommodate removable hard armor panels (HAP) on the front and back	Х	
	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	Х	
	There is no mesh lining on the inner side of the vest	Χ	
	There is no provision for at least two (2) adjustments: shoulder and outer waist	X	
	It is not easy to don on/don off	X	
	Wearing the vest will require assistance from another person	X	
	It does not have quick-release mechanism	Χ	
	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		Χ



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Parameters	Defects			000000000000000000000000000000000000000	fication efects		
					Major	Minor	
Basic Vest	T ==				X		
		The quick-release mechanism uses the left or right hand only to activate					
			ase mechanism req		X		
				d in a single motion by the han			
Design and		s not complet was activated		the body after the quick-rele	ase X		
Construction	The vest di	d not remain i	n one piece after the	e action	X		
				of the quick-release mechan	iem		
	exceeded t	hirty (30) seco	onds		X		
	There is no	drag strap			X		
	The serial	number is diffe	erent from that of the	he soft ballistic panel and balli	stic		
	insert			,	X		
Dimensions	Non-compl	ance with any	of the ff measurem	ents:			
			Front	28-30 cm		Χ	
	Up	per Width	Back	30-33 cm		X	
	10	wer Width	Front	46-48 cm		X	
	LO	MAGI AAIGILI	Back	43-46 cm			
	10	ngth	Front	41-44 cm		X	
	Le	ngui	Back	44-47 cm		X	
	Sid	de Panels	Width	21-23 cm		Χ	
	Sic	ic r alleis	Length	23-29 cm		Χ	
panel and ballistic insert) Label		el) is more tha			X		
Label	There are no labels The label is easily erased						
		not in English			X		
Contents of the			identification of the	manufacturor	X		
Label				mandiacturei	^	Χ	
Labor	Address of Manufacturer not indicated There is not "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	
			est markings is less	strair 10	X	^	
		No size indicated The size indicated is different from that of the soft ballistic panel or the ballistic					
	insert	aloatoa lo allio	Tone from that or the	sort banistic parter of the banis	X		
		Model Design	ation			Χ	
		date of manuf			X		
				ody armor is not brand new	X		
		The date of manufacture indicates that the body armor is not brand new There is no Serial Number indicated					
	The serial number is different from that of the soft ballistic panel or ballistic insert						
	There is no required warning markings						
	The warning markings is different from the ff requirement:						
		a mainings is t	different from the ff i	requirement:			
	inserted. So	Vest offers no ee ballistic pa	ballistic protection nel label for protect	requirement: without the ballistic panels be tion level provided in accordar		Χ	
	inserted. So with NIJ Sta The font size	Vest offers not bee ballistic parandard 0101.0 tee of the warn	ballistic protection nel label for protect 6"	without the ballistic panels be	nce	X	



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Parameters	ers Defects				fication efects	
				Major	Mino	
Basic Vest					,	
Shoulder 25mm Quick-	The buckle did not fit 25±1 v				X	
Release Buckle	The buckle slipped or open			X		
	The male part did not con location of the buckle when		ars in order to adjust the	;	Χ	
	The male part was not relea				Χ	
	The female part is not single				Χ	
Side Closure Buckles	The side flaps of the body a the body armor by a two pie		ecured to the front panel o	f	Χ	
	The side buckle did not have	e two contact poir	nts		X	
	Opening and closing the s operation when using gloves			I	Χ	
	One part of the buckle was part to the front panel				Χ	
	The female part was not so (PALS) webbing without any				Χ	
	The male part was not imple webbing or additional conne		nt panel without use of any	1	Χ	
	The buckle parts release wa	s not done by pu	lling a cord downward		Χ	
	Connection of the two sides to part onto the male front part	together was not o	done by pushing the female	,	Χ	
	While connected together the male part was not fully hidden by the female part					
Soft Ballistic Panel						
Design and	It does not provide full torso	area coverage (fi	ont, back and sides)	X		
Construction	There is evidence of space of				Χ	
	Does not have a protective of			X		
	The seam of the cover is not			X		
Design and	Any evidence of poor quality	seam heat sealir	na		Χ	
Construction	Any deviation in size or shap		0	X		
	The weight of the SAP is mo	X				
Protective Coverage Area	Non-submission of a pattern soft ballistic panel					
	The protective coverage are	X				
	The coverage area is not in			1 1		
	The coverage area is not in a	Front			X	
	Upper Width X1		27-30 cm		X	
		Back	29-32 cm		X	
	Lower Width X2	Front	44-49 cm		X	
		Back	42-45 cm		X	
	Length Y	Front	39-43 cm		X	
	Cengur	Back	43-46 cm			
	0.1. =	Front	19-21 cm		X	
	Side Flaps	Back	24-27 cm		Λ	
Label	There are no labels	X				
more of t	The label is easily erased			X		
	The label is not in English	***************************************		X	4-	
Contents of the Label	Lack name, logo, or other ide	antification of the	manufacturor	X		
Contonto of the Label	Address of Manufacturer not		manuracturer		V	
				-	X	
	There is no "Soft Ballistic Par	nei markings			X	



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Parameters	Defects		fication efects				
		Major	Minor				
Contents of the Label	The "Soft Ballistic Panel" markings is not boldly printed		X				
	The font size of "Soft Ballistic Panel" markings is less than 18		Χ				
	Lack of markings of the rated level of protection the soft ballistic panel provide	Х					
	The markings is different from the requirement	X					
	The markings is not in bold font		X				
	The font size is less than size 14						
	No size indicated	X	X				
	The size indicated is different from that of the soft ballistic panel or the ballistic insert	Х					
	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.	Χ					
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		Χ				
	The markings "Strike Face" or "Wear Face" is not in bold font		Χ				
	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	Χ					
	edged or pointed instruments.						
	The font size of the warning markings is less than 14 font size or at least 1 ½ times larger than the font size of the rest of the markings excluding the manufacturer identification and logo		Χ				
	There are no markings on the proper use and care instructions of the soft ballistic panel		Χ				
Ballistic Insert	ballistic pariel						
Damstic macit	The color is not Black or Olive Drab	V					
	The surface is not the required non-glare finish	Х	Χ				
	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.	Χ					
	Any sign that at least one (1) sample is different in appearance, size and manner of construction from any sample	Х					
Dimension	Non-submission of a pattern indicating the measurements of the ballistic insert	Χ					
	Non-compliance with any of the ff measurements:						
	Dimension Tolerance						
	Width 23 cm ± 0.5 cm		Χ				
	Length 28 cm ± 0.5 cm		X				
Contents of the Labor	The weight per plate is more than the required 1.7 kgs	Х					
Contents of the Label	There are no labels	X					
	The label is easily erased	X					



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Parameters	Defects		fication efects
		Major	Mino
Contents of the Label	The label is not in English	Χ	
	Lack name, logo, or other identification of the manufacturer	X	
	Address of Manufacturer not indicated		Χ
	There is no "Ballistic Insert" markings		Χ
	The "Ballistic Insert" markings is not boldly printed		Χ
	The font size of "Ballistic Insert" markings is less than 18		Χ
	Lack of markings of the rated level of protection the soft ballistic panel provide	Х	
	The markings is different from the requirement	X	
	The markings is not in bold font		Χ
	The font size is less than size 14		Χ
	No size indicated	Χ	
	The size indicated is different from that of the ballistic plate or the ballistic insert	Х	
	There is no Model Designation		Χ
	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	Х	
	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.	Х	
	The font size of the markings "Strike Face" or "Wear Face" is less than 18		Χ
	The markings "Strike Face" or "Wear Face" is not in bold font		Χ
	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	Χ	
	The font size of the warning markings is less than 14 font size or at least 1 ½ times larger than the font size of the rest of the markings		Χ
System Requirements	No ammunition pouches provided	Х	
	The ammunition pouches are not MOLLE compatible	X	
	The ammunition pouches cannot accommodate three (3) M16A1/M653/M4 Magazines (30 rounds)	Χ	
	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	Х	
	No manual on the equipment's use and maintenance in hard and e-copy provided	Χ	
	The manual is not in the name of the manufacturer	X	
System Requirements	The equipment described in the brochure or manual is different from the submitted sample	Х	
1	Not all components of the MBA2 shall be labeled in accordance with the NIJ Standards for Body Armor		X
TOTAL TEST POINTS		88	65



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TABLE 4B

CLASSIFICATION OF DEFECTS BASED ON TEST REPORTS

Parameters	Defects		fication efects
			Mino
Product Data Sheet	No Product Data Sheet submitted	Major X	
Detailed Drawings	Product Data Sheet submitted is incomplete		X
	No detailed drawings of all components of the Armor Vest was provided	Χ	
*	Any test report did not follow the required test protocol	Χ	
Basic Vest			
Basic Material	Not Nylon	Χ	
Construction	Not Ripstop	Χ	
Coating	Not Polyurethane	Χ	
Weight g/m ²	More than 270		X
Color	Not PHILARPAT	Χ	
Color Quality	More than 2.5		X
Tensile Strength (N/50mm)			
Warp	Less than 2,800	Χ	
Filling	Less than 2,500	X	
Tearing Strength (N)	,		
Warp	Less than 450	Χ	
Filling	Less than 350	X	
Hydrostatic Pressure (mm)	Less than 1,500		X
Hydrostatic Pressure (mm)	i i i i i i i i i i i i i i i i i i i		
After three washes	Less than 350		X
Water Repellency (Spray			
Rating)	Less than 4		X
Spray Rating after three	1 0		
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		V	
Ph	Less than 10,000	X	
	Not within 4-9	Χ	
Determination of antibacterial activity of antibacterial finished products	Not strong antibacterial effect	Χ	
Lining Fabric			
Basic Material	No fabric sample was submitted	Χ	
	The fabric sample is not Olive Drab in color		X
· · · · · · · · · · · · · · · · · · ·	The fabric sample is less than two (2) meters	Χ	
	No Test report was provided	X	



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Parameters	Defects		fication efects
		Major	Minor
Lining Fabric	7		
Basic Material	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	
Construction	Not Ripstop 4 ± 1.5mm		X
Weight g/m ²	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		Х
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	
Basic Material	Any test report did not follow the required test protocol	X	
	Not Polyester	X	
Thickness (mm)	Not within 3.5 ± 0.5		Х
Weight g/m ²	Not within 520 ± 15%		X
Tensile Strength (N)			
Warp	Less than 1,000		Χ
Filling	Less than 300		X
Tear Strength (N)			
Warp	Less than 160		X
Filling	Less than 65		X
Color Fastness			
Water	More or Less than 4		Х
Perspiration	More or Less than 4		X
Rubbing	WOTO OF EGGO UTGIT T		
Dry	More or Less than 4		Х
Wet	More or Less than 4		X
Washing	More or Less than 4		X
Dry-Cleaning	More or Less than 4		X
Curve holes count (10cm)	more of 2000 than 1		
Warp	Less than 4		Χ
Weft	Less than 6		X
Nylon Webbing for MOLLE	1		
Raw material	No fabric sample was submitted	X	
	The fabric sample is not Olive Drab 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	



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Parameters	Defects	Classif of De		
		Major	Minor	
Raw material	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	
Weight oz/linear Yard	Not within 1 inch -0.5 min		X	
Warp Ends (inch)				
Full width	More or Less than 1		X	
Face and Back	More or Less than 15		X	
Middle Warps	More or Less than 101		X	
Breaking Strength (lbs)	Less than 1,000		Χ	
Thickness (inch)	Not within 0.046 – 0.07		X	
Color	PHILARPAT	X		
Curvature	More of Less than 1/4 inch within a yard		Χ	
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		Χ	
Ph	Not within 8-5		X	
Nylon 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		
	Not 100% Nylon	X		
	Not Bright, high tenacity continuous multifilament yarn		X	
Width (inch)	Not within $\frac{3}{4} \pm \frac{1}{16}$		X	
Triadi (Hiori)	Not within 1 ± 1/16		X	
	Not within $1\frac{1}{2} \pm 1/16$			
	Not within 2 ± 1/16		X	
Picks/inch	Less than 96 min	-	X	
Weave	Not Double Plain Weave bound together by binder warp		X	
**************************************	Less than 3/4 inch – 0.53 min	-	X	
	Less than 1 inch – 0.71 min		X	
	Less than 1 ½ inch – 1.07 min		X	
	Less than 2 inch – 1.42 min	-	X	
Thickness (inch)	Not within 0.038 – 0.05		X	
Color	Not within 0.036 – 0.03		X	
Non fibrous material	More than 4%	-	X	
Color Fastness to Light (20H)	Less than 4		X	
Color Fastness to Light (2017)	Less than 4		X	
Color Fastness to Crocking	Less than 4 Less than Dry – 4		X	
OOIOI I dolligoo la Ciackillà	Less than Dry – 4 Less than Wet – 3			
Ph			X	
EH	Not within 8-5		Χ	



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Parameters	Defects			Classif of De		
					Major	Minor
Binding Webbing					X	
Raw material	No fabric sample was submitted					
		ple is not PHILAF			X	
	The fabric sam	ple is less than tw	vo (2) meters		X	
	No Test report	was provided			X	
	The test report	is not in the nam	e of the manufa	cturer	X	
	Incomplete Tes	st report provided			X	
	Any test report	did not follow the	required test pr	otocol	X	
	Not Bright, high	h tenacity light an	d heat resistant	nylon		X
Width (inch)			$1\frac{3}{4} \pm \frac{1}{32}$			X
		Not within	n 1 ± 1/32			X
Picks/inch			han 66			X
Weave	-		Plain			X
Weight oz/linear Yard			3 ³ / ₄ inch – 0.2		-	X
veight ozhinear rara			s 1 inch – 0.3			X
Thickness (inch)			.015 – 0.025			X
Breaking Strength resistance			4 inch – 25%			X
to Light			inch – 25%			X
Breaking Strength resistance			4 inch – 25%			X
to heat	More than 1 inch – 25%					X
Elongation at break % min	Less than ¾ inch – 18					Χ
	Less than 1 inch – 18					Χ
Color		PHILA	RPAT			Χ
Color Fastness to Light (20H)		Less	than 4			Χ
Color Fastness to Laundering		Less	than 4			Χ
Color Fastness to Crocking		Less tha	n Dry – 4			X
	Less than Wet – 3					Χ
Ph		Not wit	thin 8-5			X
Hook and Loop Fasteners						
		No fabric sampl	e was submitted		X	
	The fabric sample is not Olive Drab in color					
	The fabric sample is less than two (2) meters					
Hook and Loop Fasteners	11101	No Test repor		IIICICI S	X	
riodk and Edop i dotoriors	The feet i	report is not in the		nufacturar	X	
	1116 (65(1	Incomplete Test			X	
	Anutoatr					
	Any test i	eport did not follo		est protocoi	X	
		Not 100% nylo		T	X	
Width (inches)	3/4 inch 20 ± 1	1 inch 25 ± 1	2 inch 50 ± 1	4 inch 100 ± 1		Χ
Weight gr lin /yard						
Hook (minimum)	3.4	4.5	9	14.4		Χ
Loop (minimum)	4.1	5.9	12.6	22.4		Χ
Breaking strength lbf						
Hook (minimum)	80	100	170	320		Χ
Loop (minimum)	50	75	165	280		Χ
Shear Strength lbf (min) After 3 Launderings	6.7	10	10	10		Χ
Peel Strength lbf (min) After 3 Launderings	1.0	1.0	1.0	1.0		Χ



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Parameters	Defects			Classification of Defects		
					Major	Minor
Stitch Tear Strength, lbs.						
Hook (minimum)	3.5	3.5	3.5	3.5		X
Loop (minimum)	6.0	6.0	6.0	6.0		X
Thickness inch (min)						
Hook		Less tha				X
Loop		Less tha	an 0.095			X
Length Dimensional Stability, % (max)		More	than 3			X
Color Fastness to Light		Less t	than 4			X
Color Fastness to Laundering		Less than 4	4 (3 cycles)			X
Soft Protection Panels Cover						
Material		Not	PA			X
Coating		Not				X
Weight (g/m²)		Not within				X
Adhesion			2.02070			
Warp		Less th	nan 35			X
Filling		Less th				X
Breaking Strength (strip)		2000 (1	ian oo			
Warp		Less th	an 120			Х
Filling		Less th				X
Elongation		L033 (11	an 110			^
Warp		40%	may			Х
Filling		40%				X
Tear Strength		4070	IIIax			X
Warp	-	Loop the	n Akaa			V
Filling		Less that				X
		Less than				X
Air Porosity		Presence of	of Buddles			Χ
High Frequency Welding (Width of 4 ±0.5 mm)		Not within 4	40 kg/5 cm			X
Shoulder 25mm Quick- Release Buckle	Not mad	le from Acetal/Po	lyoxymethylene	material	Χ	
Drag strap pull load capacity		Less than	120 kgs		Χ	
BALLISTIC TEST	-					
Undertaking	Non submission	of the required u	indertaking as p	er para 3.4	X	
Soft Ballistic Panel	No ballistic test report provided			X		
		s not in the name	of the manufac	turer	X	
		report provided			X	
Soft Ballistic Panel				-accredited test	X	
core ballotto i anoi	The ballisitc test was not conducted in an NIJ-accredited test laboratory					
	The ballistic report is not within the required period stipulated in the BDS					
	The ballistic test report did not follow any of the required test protocol					
	Any evidence th	at the samples to		same as that of	Х	
		or perforation on		d	Χ	
			any paner teste	u		
	Any BFD above 44mm Any V ₅₀ less than 600 m/s				X	



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Parameters	Defects	Classification of Defects	
		Major	Minor
Ballistic Insert	No ballistic test report provided	X	
	The test report is not in the name of the manufacturer	Χ	
	The ballistic test report provided is incomplete	Χ	
	The ballisitc test was not conducted in an NIJ-accredited test laboratory	Х	
	The ballistic test report did not follow any of the required test protocol	Χ	
	Any evidence that the samples tested is not the same as that of any of the samples submitted for PQ	Χ	
	Any penetration or perforation on any panel tested	Χ	
	Did not passed the Special Type Level	X	
TOTAL TEST POINTS		83	117

C. FINAL INSPECTION

SECTION 1 - 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 to 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 Military Body Armor, Model 2, hereinafter also referred to as **MBA2**, for brevity 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 2 - PROCEDURES

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 MBA2 delivered, and physical state of the delivered items.

2. Procedure:

2.1. Account for the completeness (quantity) of the MBA2 delivered.



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- 2.2. Visually inspect the MBA2 for the completeness of components (basic vest, soft ballistic panels, ballistic inserts and Ammunition Pouches) including the serial numbers and accessories.
- 2.3. Visually inspect the selected samples for the physical state of the delivered items.

Standard:

- 3.1. The total MBA2 delivered shall be complete in quantity based on the contract.
- 3.2. The total delivered MBA2 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 - PhP500,000.00

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