

# **TOWN OF STONINGTON POLICE DEPARTMENT**



**BID SPECIFICATIONS**

# **PERSONAL BODY ARMOR**



**Research and Development**  
Product Specification Form

441023

**AX-SERIES BALLISTIC SYSTEM**  
**LEVEL II MALE AXII**

Revision: 05/09/2014

**NIJ Certification**

AXII satisfies the requirements of NIJ-Standard-0101.06 Level II and the Compliance Testing Program.

AXII weight is 0.63 pounds per square foot. Thickness is 0.17 inches.

**NIJ Compliance Test Data - Protection Level Specifications**

**Threat 1 - Low Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New 9mm V50 (fps/mps)		Conditioned 9mm V50 (fps/mps)		New 9mm BFS (mm/in)		Conditioned 9mm BFS (mm/in)		Certification Date	Berry (Yes/No)
AXII	C1	1794	547	1659	506	31.62	1.24	30.85	1.21	01/10/2014	Y
	C5					30.93	1.22	26.53	1.04		

**Threat 2 - High Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New 357Mag V50 (fps/mps)		Conditioned 357Mag V50 (fps/mps)		New 357Mag BFS (mm/in)		Conditioned 357Mag BFS (mm/in)		Certification Date	Berry (Yes/No)
AXII	C1	1761	537	1565	477	36.47	1.44	36.00	1.42	01/10/2014	Y
	C5					31.20	1.23	29.85	1.18		

**Ballistic Panel Materials**

All materials shall be new without flaws that affect appearance, durability, and function. The ballistic panels shall be constructed of a matrix of Woven Aramid and UD Polyethylene fabrics. No other ballistic material shall be used.

**Ballistic Panel Cover Material**

Each ballistic panel shall be covered in 100% weldable Nylon 210D double wall Ripstop with TPU coating.

**Panel Construction**

All submitted vests shall have uniform layer count throughout the entire ballistic panel. If not, the vests shall be rejected.



## Research and Development

### Product Specification Form

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#### Special Threat Testing

AXII has been tested in accordance with the FBI Body Armor Test Protocol requirements at an NIJ independent ballistic laboratory. The threats used for this ballistic resistance test were:

- 9-mm NATO, 124-grain full metal jacketed (FMJ) projectiles
- 9-mm, 127-grain supreme expansion technology (SXT) projectiles
- .40-cal., 165-grain S&W speer gold dot hollow point (GDHP) projectiles
- .45-cal. Auto, 230-grain brass-jacketed hollow point (BJHP) projectiles
- 9-mm, 147-grain jacketed hollow point (JHP) projectiles

Projectiles were fired from a universal receiver, which was fitted with the appropriate barrel and mounted on a Chesapeake Testing mount.

i The areal density of ballistic materials, specially para-aramid, for ballistic and stab/spike resistance systems may be affected by as much as 10% by ambient atmospheric conditions including, but not limited to relative humidity and temperature. Therefore, when calculating areal density of ballistic systems PBE, Inc. uses "dry weight." Dry weight is defined as the areal density of the fabric after all moisture has been removed from the material.

**Research and Development**  
Product Specification Form

441023

**AX-SERIES BALLISTIC SYSTEM**  
**LEVEL II FEMALE AXIIF**

Revision: 09/15/2014

**NIJ Certification**

AXIIF satisfies the requirements of NIJ-Standard-0101.06 Level II and the Compliance Testing Program.

AXIIF weight is 0.63 pounds per square foot. Thickness is 0.17 inches.

**NIJ Compliance Test Data - Protection Level Specifications**

**Threat 1 - Low Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New 9mm V50 (fps/mps)		Conditioned 9mm V50 (fps/mps)		New 9mm BFS (mm/in)		Conditioned 9mm BFS (mm/in)		Certification Date	Berry (Yes/No)
		1783	543	1725	526	31.98	1.26	30.45	1.20		
<b>AXIIF</b>	C1									05/09/2014	Y
	C5					28.58	1.13	23.92	0.94		

**Threat 2 - High Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New .357Mag V50 (fps/mps)		Conditioned .357Mag V50 (fps/mps)		New .357Mag BFS (mm/in)		Conditioned .357Mag BFS (mm/in)		Certification Date	Berry (Yes/No)
		1734	529	1678	511	37.33	1.47	34.52	1.36		
<b>AXIIF</b>	C1									05/09/2014	Y
	C5					32.67	1.29	28.65	1.13		

**Ballistic Panel Materials**

All materials shall be new without flaws that affect appearance, durability, and function. The ballistic panels shall be constructed of a matrix of Woven Aramid and UD Polyethylene fabrics. No other ballistic material shall be used.

**Ballistic Panel Cover Material**

Each ballistic panel shall be covered in 100% weldable Nylon 200D double wall Ripstop with TPU coating.

**Panel Construction**

All submitted vests shall have uniform layer count throughout the entire ballistic panel. If not, the vests shall be rejected.

i The areal density of ballistic materials, specially para-aramid, for ballistic and stab/spike resistance systems may be affected by as much as 10% by ambient atmospheric conditions including, but not limited to relative humidity and temperature. Therefore, when calculating areal density of ballistic systems PBE, Inc. uses "dry weight." Dry weight is defined as the areal density of the fabric after all moisture has been removed from the material.

# Elite® Concealable Carrier Male

3/14/2014

## 1. Unique System Features

- 1.1. Self-Suspending Ballistic System (SSBS) prevents ballistic panels from rolling and sagging inside the carrier
- 1.2. Ergonomically designed for a tailored fit, appearance, convenience, and minimum visibility
- 1.3. Easy-access to ballistic suspension through pull-back shoulder design for easy doffing and donning
- 1.4. Smart-Fabric technology offers abrasion resistant and moisture management as well as comfort

## 2. Base System Features

- 2.1. Carrier exterior fabric: Active Stretch (85% polyester 15% spandex) treated with Aegis® anti-microbial, and Micro-Spacer Mesh inset (100% polyester) with HeiQ moisture management and anti-microbial properties
- 2.2. Carrier exterior color options: Navy (BEB), Black (BKA), Lt. Tan (TNB), White (WHA), Ranger Green 02 (GNR-02)\*
- 2.3. Carrier interior fabric: Active Stretch (85% polyester 15% spandex) with Micro-Spacer Mesh inset (100% polyester) treated with HeiQ moisture management and anti-microbial properties
- 2.4. Carrier interior color is the same as exterior color.
- 2.5. Combo PowerNet stretch plate pocket perfectly fits plate sizes:
  - 2.5.1. Front: 6" x 8" and 8" x 10"
  - 2.5.2. Back: 6" x 8" and 8" x 10"
- 2.6. One 5" x 8" trauma plate (option of soft or steel)
- 2.7. Two 2" x 9" Breathe-O-Prene® shoulder straps
- 2.8. Four 2" x 12" elastic side straps with exclusive Elite PVC hook tabs in dyed to match colors. Adjustable side straps offer 8-point adjustability
- 2.9. One elastic cummerbund: 4" x 19" for sizes up to 48 and 4" x 27" for sizes 50 and up
- 2.10. Easy access panel removal with external YKK standard zipper on outer lower-torso
- 2.11. Branded loop fastener used for side strap attachment points
- 2.12. Narrow split front tail design provides a secure, less bulky fit
- 2.13. Available without tails

## 3. Optional System Features

- 3.1. ThorShield™ adds protection against Taser® or electroshock weapons
- 3.2. Additional Active-Stretch carrier
- 3.3. Speed plates
- 3.4. Trauma insert plates
- 3.5. 4" x 12" removable sides elastic straps with exclusive Elite PVC hook tabs in dyed to match colors
- 3.6. Elastic removable cummerbund
- 3.7. R20-D accessory carrier as a tactical option compatible with the concealable ballistics

## 4. Ballistic System Performance

- 4.1. Protection level options are NIJ .06 level II, IIA, IIIA
- 4.2. The ballistics packages are certified from C1 to C5
- 4.3. **Optional:** NIJ- Standard- 0115.00 certified spike protection packages with protection levels S-PL1, S-PL2 and S-PL3
- 4.4. Refer to the ballistics specifications

# Elite® Concealable Carrier Male

3/14/2014

## 5. Manufacturing Standards

All manufacturing processes follow the American Standards for Testing and Materials (ASTM) listed below as they apply to textile manufacturing and measuring. Every product is subjected to strict quality standards beginning with close inspections of fabric and other raw material when they are received. In-process quality monitoring continues as fabric and trim items are cut and manufactured into finished goods. A final inspection of each product insures full compliance with standards and a quality product for the customer

ASTM D-204 - Sewing Threads

ASTM D-6193 - Standard Practice for Stitches & Seam

ASTM D-1777 - Standard Method for Testing Thickness of Textile Materials

ASTM D-3776 - Mass per Unit Area (Weight) of Woven Fabric

ANSI/ISO/ASQ Q9001-2000 Certification

## 6. Quality Management System

Point Blank Body Armor was successful in securing registration to ISO9001:2008 Standards in 2009. The Quality Management System developed to support this international quality standard embraces the concept of "continuous improvement" and a closed loop set of checks and balances on key product characteristics and key company performance measurements. Data is gathered on a "real time" basis and is analyzed routinely to ensure that the manufacturing processes are achieving the desired results. Products are analyzed throughout the processes to ensure the required product design performance required is achieved. The most current and innovative techniques and equipment are utilized in each of the analysis methods. All measurement devices are in a calibration system that is traceable to the National Institute of Testing and Standards to ensure the accuracy of the data. Point Blank Body Armor works tirelessly to ensure that a world class product is provided

## 7. Sizes

Available in 38 through 72, with eight available lengths for front and eight for the back. Length selections are: S1, S2, R, L1, L2, L3, L4, and L5. Also available in sizes 60 through 72 with an S3 length

## 8. Ballistic Labeling

- 8.1. Label material will withstand normal wear and cleaning and remain readable during the entire warranted life of the armor or carrier
- 8.2. All soft body armor is labeled in strict adherence to the labeling requirement set forth in NIJ-Standard- 0101.06
- 8.3. Serial number assignments and marking of all ballistic components insure full traceability from receipt by the manufacturing facility through testing, assembly, and issue to the individual customer. The ballistic panel labeling shall include, but not be limited to the following:

Name of Manufacturer	Serial Number
Level of Protection	Model of Vest
NIJ 0101.06	Manufacture Location
Date of Manufacture	Care Instructions
Date of Issue	Warranty Period
Size	



## Elite® Concealable Carrier Male

3/14/2014

### 9. Stab Resistance Labeling

- 9.1. Label material will withstand normal wear and cleaning and remain readable during the entire warranted life of the armor or carrier
- 9.2. All soft body armor is labeled in strict adherence to the labeling requirement set forth in NIJ-Standard-0115.00
- 9.3. Serial number assignments and marking of all stab resistant components insure full traceability from receipt by the manufacturing facility through testing, assembly, and issue to the individual customer. The stab resistant panel labeling shall include, but not be limited to the following:

Name of Manufacture  
Level of Protection  
NIJ- Standard- 0115.00 Requirements  
Date of Manufacture  
Size  
Date of Issue  
Serial Number  
Model  
Lot Number  
Warning  
Care Instructions  
Identification Figure\*

\*Note:

- Edge Blade has a solid blue square with the protection level inside
- Spike has a solid green triangle with the protection level inside



### 10. Carrier Labeling

- 10.1. Label material will withstand normal wear and cleaning
- 10.2. The label will remain readable during the entire warranted life of the carrier.
- 10.3. The label shall include, but not limited to the following:

Name of Manufacturer  
Fabric Content  
Size  
Care Instructions  
Protection Warning

### 11. Warranty

Refer to the Standard Warranty



# Elite® Concealable Carrier Female

3/14/2014

## 1. Unique System Features

- 1.1. Self-Suspending Ballistic System (SSBS) prevents ballistic panels from rolling and sagging inside the carrier
- 1.2. Ergonomically designed for a tailored fit, appearance, convenience, and minimum visibility
- 1.3. Contoured shape forms around the female frame and bust area
- 1.4. Easy-access to ballistic suspension through pull-back shoulder design for easy doffing and donning
- 1.5. Smart-Fabric technology offers abrasion resistance and moisture management as well as comfort

## 2. Base System Features

- 2.1. Carrier exterior fabric: Active Stretch (85% polyester 15% spandex) treated with Aegis® anti-microbial, and Micro-Spacer Mesh inset (100% polyester) with HeiQ moisture management and anti-microbial properties
- 2.2. Carrier exterior color options: Navy (BEB), Black (BKA), Lt. Tan (TNB), White (WHA), Ranger Green 02 (GNR-02)\*
- 2.3. Carrier interior fabric: Active Stretch (85% polyester 15% spandex) with Micro-Spacer Mesh inset (100% polyester) treated with HeiQ moisture management and anti-microbial properties
- 2.4. Carrier interior color is the same as exterior color.
- 2.5. Combo PowerNet stretch plate pocket perfectly fits plate sizes:
  - 2.5.1. Front: 6" x 8" and 8" x 10"
  - 2.5.2. Back: 6" x 8" and 8" x 10"
- 2.6. One 5" x 8" trauma plate (option of soft or steel)
- 2.7. Two 2" x 7" Breathe-O-Prene® shoulder straps
- 2.8. Four 2" x 10" elastic side straps with exclusive Elite PVC hook tabs offer 8-point adjustability
- 2.9. 3" x 13.5" elastic removable cummerbund stabilizes vest and provides a secure fit
- 2.10. Easy access panel removal with external YKK standard zipper on outer lower-torso
- 2.11. Branded loop fastener used for side strap attachment points
- 2.12. Narrow cut shirt tail construction in front and rear for a secure, less bulky fit

## 3. Optional System Features

- 3.1. ThorShield™ adds protection against Taser® or electroshock weapons
- 3.2. Additional Active-Stretch carrier
- 3.3. Speed plates
- 3.4. Trauma insert plates
- 3.5. 4" x 10" removable sides elastic straps with exclusive Elite PVC hook tabs
- 3.6. R20-D accessory carrier as a tactical option compatible with the concealable ballistics

## 4. Ballistic System Performance

- 4.1. Protection level options are NIJ .06 level II, IIA, IIIA
- 4.2. The ballistics packages are certified from C1 to C5
- 4.3. **Optional:** NIJ- Standard- 0115.00 certified spike protection packages with protection levels S-PL1, S-PL2 and S-PL3
- 4.4. Refer to the ballistics specifications

## Elite® Concealable Carrier Female

3/14/2014

### 5. Manufacturing Standards

All manufacturing processes follow the American Standards for Testing and Materials (ASTM) listed below as they apply to textile manufacturing and measuring. Every product is subjected to strict quality standards beginning with close inspections of fabric and other raw material when they are received. In-process quality monitoring continues as fabric and trim items are cut and manufactured into finished goods. A final inspection of each product insures full compliance with standards and a quality product for the customer

ASTM D-204 - Sewing Threads

ASTM D-6193 - Standard Practice for Stitches & Seam

ASTM D-1777 - Standard Method for Testing Thickness of Textile Materials

ASTM D-3776 - Mass per Unit Area (Weight) of Woven Fabric

ANSI/ISO/ASQ Q9001-2000 Certification

### 6. Quality Management System

Point Blank Body Armor was successful in securing registration to ISO9001:2008 Standards in 2009. The Quality Management System developed to support this international quality standard embraces the concept of "continuous improvement" and a closed loop set of checks and balances on key product characteristics and key company performance measurements. Data is gathered on a "real time" basis and is analyzed routinely to ensure that the manufacturing processes are achieving the desired results. Products are analyzed throughout the processes to ensure the required product design performance required is achieved. The most current and innovative techniques and equipment are utilized in each of the analysis methods. All measurement devices are in a calibration system that is traceable to the National Institute of Testing and Standards to ensure the accuracy of the data.

Point Blank Body Armor works tirelessly to ensure that a world class product is provided

### 7. Sizes

Available in SM1, SM, MD, LG, LG1, LG2, LG3, LG4, LG5, and LG6 with eight lengths for the front and eight for the back. Length selections are: S1, S2, R, L1, L2, L3, L4, and L5

### 8. Ballistic Labeling

- 8.1. Label material will withstand normal wear and cleaning and remain readable during the entire warranted life of the armor or carrier
- 8.2. All soft body armor is labeled in strict adherence to the labeling requirement set forth in NIJ-Standard- 0101.06
- 8.3. Serial number assignments and marking of all ballistic components insure full traceability from receipt by the manufacturing facility through testing, assembly, and issue to the individual customer. The ballistic panel labeling shall include, but not be limited to the following:

Name of Manufacturer  
Level of Protection  
NIJ 0101.06  
Date of Manufacture  
Date of Issue  
Size

Serial Number  
Model of Vest  
Manufacture Location  
Care Instructions  
Warranty Period



## Elite® Concealable Carrier Female

3/14/2014

### 9. Stab Resistance Labeling

- 9.1. Label material will withstand normal wear and cleaning and remain readable during the entire warranted life of the armor or carrier
- 9.2. All soft body armor is labeled in strict adherence to the labeling requirement set forth in NIJ-Standard-0115.00
- 9.3. Serial number assignments and marking of all stab resistant components insure full traceability from receipt by the manufacturing facility through testing, assembly, and issue to the individual customer. The stab resistant panel labeling shall include, but not be limited to the following:

Name of Manufacture  
Level of Protection  
NIJ- Standard- 0115.00 Requirements  
Date of Manufacture  
Size  
Date of Issue  
Serial Number  
Model  
Lot Number  
Warning  
Care Instructions  
Identification Figure\*

\*Note:

- Edge Blade has a solid blue square with the protection level inside
- Spike has a solid green triangle with the protection level inside



### 10. Carrier Labeling

- 10.1. Label material will withstand normal wear and cleaning
- 10.2. The label will remain readable during the entire warranted life of the carrier.
- 10.3. The label shall include, but not limited to the following:

Name of Manufacturer  
Fabric Content  
Size  
Care Instructions  
Protection Warning

### 11. Warranty

Refer to the Standard Warranty

**Research and Development**  
Product Specification Form

441023

**AX-SERIES BALLISTIC SYSTEM**  
**LEVEL IIIA MALE AXIIIA**

Revision: 09/15/2014

**NIJ Certification**

AXIIIA satisfies the requirements of NIJ-Standard-0101.06 Level IIIA and the Compliance Testing Program.

AXIIIA weight is 0.87 pounds per square foot. Thickness is 0.20 inches.

**NIJ Compliance Test Data - Protection Level Specifications**

**Threat 1 - Low Caliber**

Model / Test ID #	Cert Size (C1-C5)	New 357 Sig V50 (fps/mps)		Conditioned 357 Sig V50 (fps/mps)		New 357 Sig BFS (mm/in)		Conditioned 357 Sig BFS (mm/in)		Certification Date	Berry (Yes/No)
AXIIIA	C1	1870	570	1855	566	29.76	1.17	30.60	1.20	10/08/2013	Y
	C5					28.31	1.11	29.42	1.16		

**Threat 2 - High Caliber**

Model / Test ID #	Cert Size (C1-C5)	New 44mag V50 (fps/mps)		Conditioned 44mag V50 (fps/mps)		New 44mag BFS (mm/in)		Conditioned 44mag BFS (mm/in)		Certification Date	Berry (Yes/No)
AXIIIA	C1	1745	532	1770	540	39.18	1.54	40.30	1.59	10/08/2013	Y
	C5					33.81	1.33	36.08	1.42		

**Special Threat Test**  
**Summary Results (V50)**

Model / Test ID #	FBI Compliant	DEA Compliant	2gr. RCC	4gr. RCC	16gr. RCC	17 gr. FSP	64 gr. RCC	Clay/Air
AXIIIA	Yes	Yes	2880	2601	2099	N/A	1772	Clay
			3074	2721	2306	2114	1876	Air



## Research and Development

### Product Specification Form

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#### Ballistic Panel Materials

All materials shall be new without flaws that affect appearance, durability, and function. The ballistic panels shall be constructed of a matrix of Woven Aramid and UD Polyethylene fabrics. No other ballistic material shall be used.

#### Ballistic Panel Cover Material

Each ballistic panel shall be covered in 100% weldable Nylon 210D double wall Ripstop with TPU coating.

#### Panel Construction

All submitted vests shall have uniform layer count throughout the entire ballistic panel. If not, the vests shall be rejected.

#### Special Threat Testing

AXIIIA has been tested in accordance with the FBI Body Armor Test Protocol requirements at an NIJ independent ballistic laboratory. The threats used for this ballistic resistance test were:

- 9-mm NATO, 124-grain full metal jacketed (FMJ) projectiles
- .40-cal., 165-grain S&W speer gold dot hollow point (GDHP) projectiles
- .45 Auto, 230-grain brass jacketed hollow point (BJHP) projectiles
- 9-mm, 147-grain jacketed hollow point (JHP) projectiles
- 9-mm, 127-grain supreme expansion technology (SXT) projectiles

Projectiles were fired from a universal receiver which was fitted with the appropriate barrel and mounted on a Chesapeake Testing mount; unless noted as a contact shot in which projectiles were fired from the appropriate hand gun.

The AXIIIA has also been tested in compliance with the DEA Test Protocol requirements.

i The areal density of ballistic materials, specially para-aramid, for ballistic and stab/spike resistance systems may be affected by as much as 10% by ambient atmospheric conditions including, but not limited to relative humidity and temperature. Therefore, when calculating areal density of ballistic systems PBE, Inc. uses "dry weight." Dry weight is defined as the areal density of the fabric after all moisture has been removed from the material.

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09/15/2014

**Research and Development**  
Product Specification Form

441023

**AX-SERIES BALLISTIC SYSTEM**  
**LEVEL IIIA FEMALE AXIIIAF**

Revision: 09/15/2014

**NIJ Certification**

AXIIIAF satisfies the requirements of NIJ-Standard-0101.06 Level IIIA and the Compliance Testing Program.

AXIIIAF weight is 0.87 pounds per square foot. Thickness is 0.20 inches.

**NIJ Compliance Test Data - Protection Level Specifications**

**Threat 1 - Low Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New 357 Sig V50 (fps / mps)		Conditioned 357 Sig V50 (fps / mps)		New 357 Sig BFS (mm / in)		Conditioned 357 Sig BFS (mm / in)		Certification Date	Berry (Yes/No)
AXIIIAF	C1	1884	574	1882	574	31.03	1.22	27.65	1.09	07/22/2013	Y
	C5					27.77	1.09	27.70	1.09		

**Threat 2 - High Caliber**

Model/ Test ID #	Cert Size (C1-C5)	New 44mag V50 (fps / mps)		Conditioned 44mag V50 (fps / mps)		New 44mag BFS (mm / in)		Conditioned 44mag BFS (mm / in)		Certification Date	Berry (Yes/No)
AXIIIAF	C1	1744	532	1711	522	38.88	1.53	36.38	1.43	07/22/2013	Y
	C5					35.41	1.39	33.48	1.32		

**Ballistic Panel Materials**

All materials shall be new without flaws that affect appearance, durability, and function. The ballistic panels shall be constructed of a matrix of Woven Aramid and UD Polyethylene fabrics. No other ballistic material shall be used.

**Ballistic Panel Cover Material**

Each ballistic panel shall be covered in 100% weldable Nylon 210D double wall Ripstop with TPU coating.

**Panel Construction**

All submitted vests shall have uniform layer count throughout the entire ballistic panel. If not, the vests shall be rejected.

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i The areal density of ballistic materials, specially para-aramid, for ballistic and stab/spike resistance systems may be affected by as much as 10% by ambient atmospheric conditions including, but not limited to relative humidity and temperature. Therefore, when calculating areal density of ballistic systems PBE, Inc. uses "dry weight." Dry weight is defined as the areal density of the fabric after all moisture has been removed from the material.