19510 Van Buren Blvd. F3-259, Riverside CA. 92508
Office: 951 544-6746 - FAX: 951 977-4351 - www.BoyddProducts.com

## THINGS TO CONSIDER WHEN PURCHASING A BALLISTIC SHIELD

**(1) Many shield companies have their ballistic material tested prior to drilling holes and adding hardware. Demand to see their test data (By a NIJ Certified Lab) showing the bolt hits. If the shield was sent for testing with the hardware installed (as sold), these bolt hits will be shown on the test! If they are not, use extreme caution when purchasing. At the NIJ Level III (Rifle), 7.62x51mm /.308 ammunition traveling at 2750 fps +/- is notorious for penetrating the weakened armor near the holes and/or driving bolts (even Grade 8 or Higher) right through the shield potentially creating a lethal projectile for the end user. Two bolt hits are required for testing. Below is an example of a proper ballistic test with the hardware pre-installed. Note the bolt hit failures on shots 4 and 5. The terminology will state "bolt" if a bolt is present and targeted.**

**AMMUNITION**
Projectile: 7.62x51mm 147gr. M80 Ball Copper Jacket Powder: N133

**STANDARDS / PROCEDURES**
NIJ-STD-0108.01 Level III Required Velocity: 2750 fps ± 50 fps

| SHOT NO. | PROJECTILE WT. (gr.) | POWDER WT. (gr.) | TIME 1 µs ($10^{-6}$) | TIME 2 µs ($10^{-6}$) | VELOCITY 1 ft/s | VELOCITY 2 ft/s | AVERAGE VELOCITY | PENET. P/C | OBLIQUITY | CALIPER BFD | NOTES |
|---|---|---|---|---|---|---|---|---|---|---|---|
| 1 | 147.5 | 39.5 | 1806 | 1812 | 2769 | 2759 | 2764 | P | 0° | | Main area |
| 2 | 147.7 | 39.5 | 1803 | 1808 | 2773 | 2765 | 2769 | P | 0° | | Main area |
| 3 | 148.0 | 39.5 | 1807 | 1815 | 2767 | 2755 | 2761 | P | 0° | | Main area |
| 4 | 148.2 | 39.5 | 1804 | 1810 | 2772 | 2762 | 2767 | C | 0° | | Top Left Bolt |
| 5 | 148.0 | 39.5 | 1805 | 1805 | 2770 | 2770 | 2770 | C | 0° | | Bottom Right Bolt |

**REMARKS:**
P=Partial Penetration
C=Complete Penetration
UH=Unfair Hit

**TEST RESULTS:**
Test sample did not satisfy the ballistic requirements given.

**FOOTNOTES:**

**(4) Be aware of "knock off" shield products. Stay with OEM manufacturers and/or original designers. Chances are the "knock off" will be offered at a reduced price to lure you into thinking you are getting a great deal on the same product. More than likely the shield product will not be made to the same quality standard, will consist of substandard materials or hardware in order to offer the product at "such a bargain." This business practice is unethical to say the least. Don't risk your life or safety buying from a company that engages in the practice of stealing and replicating the ideas of another. You know who the major companies and sole designers are, stick with them.**

**(3) When looking at ballistic reports, be sure the name of the company selling or manufacturing the product is listed. Private labelers should not take manufacturer's word for it, they should pay to send the armor out to a NIJ authorized test facility and confirm the manufacturer's claims and testing. If they do, their name will appear as a customer on the test report. Also, be sure the material, dimensions and weight of the product on the test matches the specifications of the product you intend to purchase. Often, private labelers will use a generic panel test data from the manufacture and provide it as proof of the material's capabilities. Size, shape, weight and thickness all play a role in the ballistic properties of a product and they should match what you are buying. The test date should also be recent. Responsible companies commonly send out a sample of each new lot to be tested to ensure quality control. Below is an example of the customer, weight, dimensions, date and test number from an authorized NIJ testing lab.**

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| Test Sample | | | Ballistic Threat | | | | Results | |
|---|---|---|---|---|---|---|---|---|
| OBL No.: | Model No.: | Weight (lbs.) | Projectile | Shots | Velocity (fps) | | Penetrations | Pass/Fail |
| | | | | | Min. | Max. | | |
| 19218 | N/A | 8.9 | M80 Copper | 12 | 2727 | 2790 | 0 | ***PASS*** |

OREGON BALLISTIC LABORATORIES

## BALLISTIC RESISTANCE TEST - $V_0$

Customer: Boydd Products
OBL ID#: 19218
Test Date: 5/14/2018
Purchase Order:

**TEST SAMPLE**

Serial No.: N/A
Model No.: N/A
Lot No.: N/A
Plies: N/A
Description: Ballistic Shield

Size: 16 X 21
Weight (lb.): 8.9
Thickness: 0.818 0.804 0.819 0.812
Avg. Thk. (in): 0.813

**RANGE SET-UP**

Range to Target: 15 ft.
Screen Dist. Vel. 1 (ft.): 5
Screen Dist. Vel. 2 (ft.): 5
Screen 4 to target (ft): N/A
Primary Vel. Location: 8.25 ft. from target
Striking Velocity: No
Target to Witness: 6 in.
Witness Panel: 0.020" 2024-T3 Alum.
Backing Material: N/A
Obliquity: 0 Degrees
Barrel: .308/1:9/24"

Range #: 2
Temperature: 72.2 °F
Bar. Pressure: 29.90 in. Hg
Rel. Humidity: 53.7 %
Sample Temp. Amb. °F
Recorder: Jesse Crisanti
Gunner: Daniel Chase

Pre Test:
Clay Drops (mm):
Drop Avg (mm):
Clay Temp °F:
Clay Box #:
Post Test:
Clay Drops (mm):
Drop Avg (mm):
Clay Temp °F:

**AMMUNITION**

Projectile: 7.62x51mm 147gr. M80 Ball Copper Jacket
Powder: N133

**STANDARDS / PROCEDURES**

NIJ-STD-0108.01 Level III
Required Velocity: 2750 fps ± 50 fps

**(5) Consider what type of threats are you likely to encounter or evaluate what type of ammunition your own agency carries when selecting a shield (friendly fire?). Many active shooter incidents over the past decade have included either rifles, pistols, or a combination of rifles and pistols. A vast majority of agencies select large body bunker style Level IIIA shields which only protect the user from pistol caliber ammunition. Rifle rated shields are often too heavy or not practical to be used in a high-speed active shooter encounter. You will have to determine what the use will be for when considering what type of shield to issue. Perhaps a compact and agile shield that is lightweight, quickly deployed and rifle rated would be best suited for solo officer responses to active shooter incidents. Whereas larger body bunker style shields may be more beneficial to holding open ground, officer rescue and slower more methodical operations. When selecting a shield type, also consider the ease and efficiency of being able shoot accurately on the move (taking a selective shot in a crowd is a huge consideration), reloading weapons, clearing malfunctions and the type of operational environment (confined space, open space, crowds, obstacles, etc.?). Weight, coverage and protection level all must be factored when choosing a practical shield for patrol, SWAT or another unit.**