

**NATIONAL INSTITUTE OF JUSTICE  
COMPLIANCE TEST REPORT**

NIJ Standard 0101.04  
September 2000

**COMPLIANCE TESTING INFORMATION**

**FACILITY DESCRIPTION:**

Test Laboratory: United States Test Laboratory, LLC  
Test Start Date: 04/04/05

Report Number: 05N048  
Report Date: 04/04/05

**TESTING CERTIFICATION:**

Laboratory Representative: Richard W. Mouser  
Name

Witnessed by: \_\_\_\_\_  
Name

\_\_\_\_\_  
Representing

**ARMOR DESCRIPTION:**

Manufacturer: ArmorShield LLC  
Date Rec'd: 03/31/05  
\*Ballistic Material: Hybrid

\*Ballistic Material Choices

<i>Aramid</i>	<i>PBO</i>	<i>Ceramic</i>	<i>Metal</i>
<i>Polyethylene</i>	<i>Hybrid</i>	<i>Composite</i>	<i>Other</i>

Model: AS-VGT3-3A  
Style: N/A  
Male/Female: Male

NIJ Armor Type: 3A Enter as: 1, 2A, 2, 3A, 3, 4, or Special  
NIJ STD-0101.03 Compliant: No

**SAMPLE DESCRIPTION:**

	Penetration-Backface Signature (P-BFS)										Baseline Ballistic Limit										
	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5		Sample 6		Sample 7		Sample 8		Sample 9		Sample 10		
	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	
Size:	LARGE	LARGE	LARGE	LARGE	LARGE	LARGE	LARGE	LARGE	LARGE	LARGE											
Panel Serial Number:	23096305	23096305	23096304	23096304	23096303	23096303	23096301	23096301	23096302	23096302											
Plate Serial Number:	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A	N/A											
Lot Number:	002	002	002	002	002	002	002	002	002	002											
Gross Weight (lb.):	3.75	4.35	3.76	4.34	3.74	4.36	3.74	4.34	3.74	4.34											

**TEST DESCRIPTION:**

	Penetration-Backface Signature (P-BFS)										Baseline Ballistic Limit										
	Sample 1		Sample 2		Sample 3		Sample 4		Sample 5		Sample 6		Sample 7		Sample 8		Sample 9		Sample 10		
	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	Front	Back	
Test Condition:	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Wet	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry	Dry
Threat Ammunition:	9mm	9mm	9mm	9mm	.44 Mag	.44 Mag	.44 Mag	.44 Mag	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm	9mm
Bullet (grain/type):	124/FMJ	124/FMJ	124/FMJ	124/FMJ	240/SJHP	240/SJHP	240/SJHP	240/SJHP	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ	124/FMJ
NIJ Reference Velocity (ft/s):	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430	1430
Provided BL Lower Velocity (ft/s):																					
Bullet Manufacturer:	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.	Rem.
Bullet Lot Number:	23558	23558	23558	23558	22847	22847	22847	22847	23558	23558	23558	23558	23558	23558	23558	23558	23558	23558	23558	23558	23558
Test Barrel Manufacturer:	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S	H.S
Test Barrel Length (in):	10.0	10.0	10.0	10.0	10.0	10.0	10.0	10.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0	14.0

**ARMOR CONSTRUCTION:**

	Front Panel	Rear Panel
Front Closure (Y/N):	N	N
Removable Carrier (Y/N):	Y	Y
Number of Layers:	29	29
Description of Stitching:	Layers 1-24: 3" horizontal bar tack at top center and bottom center.	Layers 1-24: 3" horizontal bar tack at top center and bottom center.
Individual Layer Description:	Layers 1-24: Flex aramid film. Layers 25-28: Plastic (0.014" thick). Layers 29: Foam (0.157" thick).	Layers 1-24: Flex aramid film. Layers 25-28: Plastic (0.014" thick). Layers 29: Foam (0.157" thick).

**REMARKS:**

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## HANDLOAD VERIFICATION WORKSHEET

Report Number: 05N048  
Report Date: 04/04/05  
NIJ Armor Type: 3A

TEST CONDITIONS:  
Ambient Temp: 70 F  
Rel. Humidity: 39 %

TEST DIMENSIONS:  
Range Length: 16.40 ft.  
Velocity 1: 5.73 ft.  
Velocity 2: 4.09 ft.

Ammunition: 9mm 124/FMJ  
Test Date: 04/04/05

Ammunition: .44 Mag 240/SJHP  
Test Date: 04/04/05

Test Round 1							Test Round 2						
Shot No.	Charge (grain)	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	Shot No.	Charge (grain)	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)
1	6.2	4064	1409	2896	1411	1410	1	13.8	3958	1447	2815	1451	1449
2	6.3	3956	1448	2819	1449	1449	2	13.7	3964	1445	2820	1449	1447
3	6.2	4014	1427	2860	1428	1428	3	13.7	3997	1433	2844	1436	1435
4	6.2	3930	1458	2800	1459	1458	4	13.7	4035	1420	2871	1423	1421
5	6.1	4083	1403	2910	1404	1403	5	13.7	4019	1425	2859	1429	1427
6	6.2	4026	1423	2869	1424	1423	6	13.7	4027	1422	2866	1425	1424
7	6.2	4015	1427	2861	1428	1427	7	13.7	4036	1419	2872	1422	1421
8	6.3	3925	1459	2798	1460	1460	8	13.7	4013	1427	2856	1430	1429
9	6.2	4047	1415	2884	1416	1416	9	13.7	4016	1426	2858	1429	1428
10	6.3	4050	1414	2886	1415	1415	10	13.7	4020	1425	2860	1428	1427

Mean: 6.2

Mean: 1429

Mean: 13.7

Mean: 1431

Test Round 1	
NIJ Reference Velocity:	1430 ft/s
Handload (NIJ Reference ± 10 ft/s):	1429 ft/s
Range (NIJ Reference ± 30 ft/s):	1400    1460 ft/s

Test Round 2	
NIJ Reference Velocity:	1430 ft/s
Handload (NIJ Reference ± 10 ft/s):	1431 ft/s
Range (NIJ Reference ± 30 ft/s):	1400    1460 ft/s

Min	Max
1403	1460 ft/s

Min	Max
1421	1449 ft/s

**NOTE:**

Velocity input for time factor requires microsecond (10<sup>-6</sup>) format.

Conduct handload verification test for each new compliance test series.

Use 3-shot series (Sec. 5.11.1) to check handload viability within each compliance series when there are significant breaks during testing.

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**Daily Wet Conditioning Spray Calibration**

**Manufacturer:** ArmorShield LLC  
**Model:** AS-VGT3-3A

**Report Number:** 05N048  
**Report Date:** 04/04/05

**Calibration Date:**

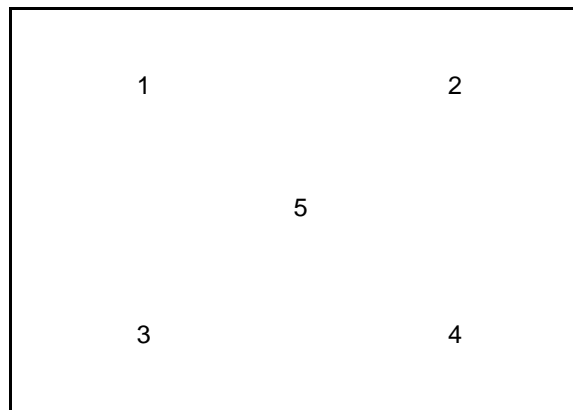
04/04/05					
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Gauge Location	Interval (min)						
	15	15	15	15	15	15	
1	1.0						inches
2	1.5						inches
3	1.0						inches
4	0.6						inches
5	1.3						inches

<b>Average:</b>	1.1						inches
<b>Requirement:</b>	1.0	1.0	1.0	1.0	1.0	1.0	inches
<b>Pass:</b>	Y	N	N	N	N	N	

**Required Flow Rate:** 4.0 +/- 0.8 in/hr      1.0 +/- 0.2 in/0.25 hr  
**Conditioning Surface Dimensions:** 30.0 x 30.0 inches square

**Gauge Locations**



Top View

Spray Conditioning

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## Drop Test Results

Sample/Panel: Sample 1 Front  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 70 F  
 RH: 39 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 2  
 Time of Day: 0747 hrs  
 Clay Temperature: 90 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
19	19	19	19	18	19
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 2  
 Time of Day:        hrs  
 Clay Temperature:        deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>N</b>

Sample/Panel: Sample 1 Back

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 70 F  
 RH: 39 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 2  
 Time of Day: 0819 hrs  
 Clay Temperature: 88 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
21	21	21	19	19	20
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 2  
 Time of Day:        hrs  
 Clay Temperature:        deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>N</b>

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Sample/Panel: Sample 2 Front  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 70 F  
 RH: 39 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 2  
 Time of Day: 0832 hrs  
 Clay Temperature: 84 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
21	22	21	20	18	20
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 2  
 Time of Day:        hrs  
 Clay Temperature:        deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>N</b>

Sample/Panel: Sample 2 Back

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 70 F  
 RH: 39 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 2  
 Time of Day: 0847 hrs  
 Clay Temperature: 83 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
20	21	20	19	19	20
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 2  
 Time of Day: 0857 hrs  
 Clay Temperature: 83 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
18	19	16	20	19	18
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

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## Drop Test Results

Sample/Panel: Sample 3 Front  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 72 F  
 RH: 40 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 1  
 Time of Day: 0950 hrs  
 Clay Temperature: 85 deg. F

	Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Depth of Indent:	21	20	21	19	18	20
						Requirement: <b>19 ± 2 mm</b>
						Pass: <b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 1  
 Time of Day:          hrs  
 Clay Temperature:          deg. F

	Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Depth of Indent:						
						Requirement: <b>19 ± 2 mm</b>
						Pass: <b>N</b>

Sample/Panel: Sample 3 Back

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 72 F  
 RH: 40 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 1  
 Time of Day: 1027 hrs  
 Clay Temperature: 83 deg. F

	Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Depth of Indent:	22	19	18	19	18	19
						Requirement: <b>19 ± 2 mm</b>
						Pass: <b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 1  
 Time of Day:          hrs  
 Clay Temperature:          deg. F

	Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Depth of Indent:						
						Requirement: <b>19 ± 2 mm</b>
						Pass: <b>N</b>

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## Drop Test Results

Sample/Panel: Sample 4 Front  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 72 F  
 RH: 40 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 1  
 Time of Day: 1038 hrs  
 Clay Temperature: 85 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
22	19	20	19	18	20
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 1  
 Time of Day:        hrs  
 Clay Temperature:        deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>N</b>

Sample/Panel: Sample 4 Back

Test Date: 04/04/05  
 Range Conditions:  
 Temperature: 72 F  
 RH: 40 %

Report Number: 05N048  
 Report Date: 04/04/05

**Pre-Test Drop Calibration:**

Block ID: 1  
 Time of Day: 1051 hrs  
 Clay Temperature: 83 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
23	19	18	19	18	19
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

**Post-Test Drop Calibration:**

Block ID: 1  
 Time of Day: 1103 hrs  
 Clay Temperature: 82 deg. F

Drop 1	Drop 2	Drop 3	Drop 4	Drop 5	Avg.
17	16	18	19	19	18
Requirement:					<b>19 ± 2 mm</b>
Pass:					<b>Y</b>

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## Penetration and BFS Firing Data - Sample 1

Sample No: Sample 1  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Ammunition: 9mm 124/FMJ  
 Conditioning: Wet  
 Test Date: 04/04/05

Report Number: 05N048  
 Report Date: 04/04/05  
 NIJ Armor Type: 3A

Panel Serial No: 23096305  
 Plate Serial No: N/A

Panel Serial No: 23096305  
 Plate Serial No: N/A

FRONT PANEL											BACK PANEL											COMPLIANCE		
Shot No.	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Shot No.	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Front Panel	Back Panel	
1	4064	1409	2896	1411	1410		Y	N		22	1	4001	1432	2851	1433	1432		Y	N		24	Y	Y	
2	3994	1434	2846	1435	1435		Y	N			2	3947	1451	2813	1452	1452		Y	N			Y	Y	
3	3941	1453	2808	1455	1454		Y	N		22	3	3940	1454	2808	1455	1454		Y	N		21	Y	Y	
4	4075	1406	2904	1407	1406	Y	Y	N			4	3956	1448	2819	1449	1449	Y	Y	N			Y	Y	
5	3970	1443	2829	1444	1443	Y	Y	N			5	4010	1428	2858	1429	1429	Y	Y	N			Y	Y	
6	3971	1442	2829	1444	1443		Y	N			6	3920	1461	2794	1462	1462		Y	N			Y	Y	
7		0		0							7		0		0									
8		0		0							8		0		0									

Velocity input for time factor requires microsecond (10<sup>-6</sup>) format.

Firing Sequence Start: 0807 hrs  
 Firing Sequence End: 0815 hrs  
 Duration: 8 min

Firing Sequence Start: 0821 hrs  
 Firing Sequence End: 0828 hrs  
 Duration: 7 min

**TEST CONDITIONS:**

Ambient Temp: 70 F  
 Rel. Humidity: 39 %

**TEST DIMENSIONS:**

Range Length: 16.40 ft.  
 Velocity 1: 5.73 ft.  
 Velocity 2: 4.09 ft.

**VELOCITY SUMMARY:**

	Min	Max	
Front Panel 0°	1410	1454	ft/s
Front Panel 30°	1406	1443	ft/s
Back Panel 0°	1432	1462	ft/s
Back Panel 30°	1429	1449	ft/s

Handload Verification Velocity: 1429 ft/s  
 NIJ Reference Velocity: 1430 ft/s  
 Velocity Range: 1400 1460 ft/s

**NOTE:**

- a - Excessive velocity
- b - Insufficient velocity
- c - Too close to edge
- d - Too close to prior impact
- e - Excessive total impacts (test terminated)
- f - Excessive area impacts (test terminated)
- g - Impact on seam



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## Penetration and BFS Firing Data - Sample 2

Sample No: Sample 2  
 Manufacturer: ArmorShield LLC  
 Model: AS-VGT3-3A

Ammunition: 9mm 124/FMJ  
 Conditioning: Wet  
 Test Date: 04/04/05

Report Number: 05N048  
 Report Date: 04/04/05  
 NIJ Armor Type: 3A

Panel Serial No: 23096304  
 Plate Serial No: N/A

Panel Serial No: 23096304  
 Plate Serial No: N/A

FRONT PANEL											BACK PANEL											COMPLIANCE				
Shot No.	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Shot No.	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Front Panel	Back Panel			
1	3925	1459	2797	1460	1460		Y	N		23	1	3937	1455	2806	1456	1455		Y	N		25	Y	Y			
2	3930	1458	2800	1459	1458		Y	N		26	2	4021	1425	2866	1425	1425		Y	N			Y	Y			
3	3942	1453	2809	1454	1454		Y	N			3	3932	1457	2802	1458	1457		Y	N		19	Y	Y			
4	4093	1399	2915	1401	1400	Y	Y	N			4	3950	1450	2815	1451	1451	Y	Y	N			Y	Y			
5	4032	1421	2873	1422	1421	Y	Y	N			5	3922	1460	2798	1460	1460	Y	Y	N			Y	Y			
6	3927	1459	2799	1459	1459		Y	N			6	4022	1424	2866	1425	1425		Y	N			Y	Y			
7		0		0							7		0		0											
8		0		0							8		0		0											

Velocity input for time factor requires microsecond (10<sup>-6</sup>) format.

Firing Sequence Start: 0834 hrs  
 Firing Sequence End: 0840 hrs  
 Duration: 6 min

Firing Sequence Start: 0846 hrs  
 Firing Sequence End: 0854 hrs  
 Duration: 8 min

**TEST CONDITIONS:**

Ambient Temp: 70 F  
 Rel. Humidity: 39 %

**TEST DIMENSIONS:**

Range Length: 16.40 ft.  
 Velocity 1: 5.73 ft.  
 Velocity 2: 4.09 ft.

**VELOCITY SUMMARY:**

	Min	Max	
Front Panel 0°	1454	1460	ft/s
Front Panel 30°	1400	1421	ft/s
Back Panel 0°	1425	1457	ft/s
Back Panel 30°	1451	1460	ft/s

Handload Verification Velocity: 1429 ft/s  
 NIJ Reference Velocity: 1430 ft/s  
 Velocity Range: 1400 1460 ft/s

**NOTE:**

- a - Excessive velocity
- b - Insufficient velocity
- c - Too close to edge
- d - Too close to prior impact
- e - Excessive total impacts (test terminated)
- f - Excessive area impacts (test terminated)
- g - Impact on seam

# NATIONAL INSTITUTE OF JUSTICE COMPLIANCE TEST REPORT

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## Penetration and BFS Firing Data - Sample 3

**Sample No:** Sample 3  
**Manufacturer:** ArmorShield LLC  
**Model:** AS-VGT3-3A

**Ammunition:** .44 Mag 240/SJHP  
**Conditioning:** Wet  
**Test Date:** 04/04/05

**Report Number:** 05N048  
**Report Date:** 04/04/05  
**NIJ Armor Type:** 3A

**Panel Serial No:** 23096303  
**Plate Serial No:** N/A

**Panel Serial No:** 23096303  
**Plate Serial No:** N/A

FRONT PANEL											BACK PANEL											COMPLIANCE		
Shot No.	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Shot No.	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Front Panel	Back Panel	
1	3981	1439	2833	1442	1440		Y	N		37	1	3986	1437	2836	1440	1439		Y	N		35	Y	Y	
2	3989	1436	2839	1439	1437		Y	N		39	2	4022	1424	2862	1427	1426		Y	N			Y	Y	
3	4003	1431	2849	1434	1432		Y	N			3	3976	1441	2829	1444	1442		Y	N		31	Y	Y	
4	4032	1421	2869	1424	1422	Y	Y	N			4	4029	1422	2867	1425	1423	Y	Y	N			Y	Y	
5	3959	1447	2817	1450	1448	Y	Y	N			5	3976	1441	2829	1444	1442	Y	Y	N			Y	Y	
6	4045	1416	2878	1419	1418		Y	N			6	3987	1437	2837	1440	1438		Y	N			Y	Y	
7		0		0							7		0		0									
8		0		0							8		0		0									

Velocity input for time factor requires microsecond (10<sup>-6</sup>) format.

**Firing Sequence Start:** 1016 hrs  
**Firing Sequence End:** 1021 hrs  
**Duration:** 5 min

**Firing Sequence Start:** 1027 hrs  
**Firing Sequence End:** 1034 hrs  
**Duration:** 7 min

**TEST CONDITIONS:**

Ambient Temp: 72 F  
Rel. Humidity: 40 %

**TEST DIMENSIONS:**

Range Length: 16.40 ft.  
Velocity 1: 5.73 ft.  
Velocity 2: 4.09 ft.

**VELOCITY SUMMARY:**

	Min	Max	
Front Panel 0°:	1418	1440	ft/s
Front Panel 30°:	1422	1448	ft/s
Back Panel 0°:	1426	1442	ft/s
Back Panel 30°:	1423	1442	ft/s

**Handload Verification Velocity:** 1431 ft/s  
**NIJ Reference Velocity:** 1430 ft/s  
**Velocity Range:** 1400 1460 ft/s

**NOTE:**

- a - Excessive velocity
- b - Insufficient velocity
- c - Too close to edge
- d - Too close to prior impact
- e - Excessive total impacts (test terminated)
- f - Excessive area impacts (test terminated)
- g - Impact on seam

# NATIONAL INSTITUTE OF JUSTICE COMPLIANCE TEST REPORT

NIJ Standard 0101.04  
September 2000

## Penetration and BFS Firing Data - Sample 4

**Sample No:** Sample 4  
**Manufacturer:** ArmorShield LLC  
**Model:** AS-VGT3-3A

**Ammunition:** .44 Mag 240/SJHP  
**Conditioning:** Wet  
**Test Date:** 04/04/05

**Report Number:** 05N048  
**Report Date:** 04/04/05  
**NIJ Armor Type:** 3A

**Panel Serial No:** 23096301  
**Plate Serial No:** N/A

**Panel Serial No:** 23096301  
**Plate Serial No:** N/A

FRONT PANEL											BACK PANEL											COMPLIANCE				
Shot No.	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Shot No.	Time 1 (μs)	Vel. 1 (ft/s)	Time 2 (μs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	30° (Y)	Fair (Y/N)	Penetrate (Y/N)	Note	BFS (mm)	Front Panel	Back Panel			
1	4012	1428	2855	1431	1429		Y	N		35	1	3993	1435	2842	1437	1436		Y	N			35	Y	Y		
2	4044	1416	2878	1419	1418		Y	N			2	3986	1437	2836	1440	1439		Y	N			37	Y	Y		
3	3999	1432	2847	1435	1434		Y	N		34	3	4000	1432	2847	1435	1433		Y	N				Y	Y		
4	3995	1434	2842	1437	1436	Y	Y	N			4	4010	1428	2854	1431	1430	Y	Y	N				Y	Y		
5	3973	1442	2827	1445	1443	Y	Y	N			5	3994	1434	2843	1437	1436	Y	Y	N				Y	Y		
6	3983	1438	2834	1441	1440		Y	N			6	4017	1426	2857	1430	1428		Y	N				Y	Y		
7		0		0							7		0		0											
8		0		0							8		0		0											

Velocity input for time factor requires microsecond (10<sup>-6</sup>) format.

**Firing Sequence Start:** 1040 hrs  
**Firing Sequence End:** 1046 hrs  
**Duration:** 6 min

**Firing Sequence Start:** 1053 hrs  
**Firing Sequence End:** 1100 hrs  
**Duration:** 7 min

**TEST CONDITIONS:**

Ambient Temp: 72 F  
Rel. Humidity: 40 %

**TEST DIMENSIONS:**

Range Length: 16.40 ft.  
Velocity 1: 5.73 ft.  
Velocity 2: 4.09 ft.

**VELOCITY SUMMARY:**

	Min	Max	
Front Panel 0°:	1418	1440	ft/s
Front Panel 30°:	1436	1443	ft/s
Back Panel 0°:	1428	1439	ft/s
Back Panel 30°:	1430	1436	ft/s

**Handload Verification Velocity:** 1431 ft/s  
**NIJ Reference Velocity:** 1430 ft/s  
**Velocity Range:** 1400 | 1460 ft/s

**NOTE:**

- a - Excessive velocity
- b - Insufficient velocity
- c - Too close to edge
- d - Too close to prior impact
- e - Excessive total impacts (test terminated)
- f - Excessive area impacts (test terminated)
- g - Impact on seam

# NATIONAL INSTITUTE OF JUSTICE COMPLIANCE TEST REPORT

NIJ Standard 0101.04  
September 2000

## Ballistic Limit Firing Data

Manufacturer: ArmorShield LLC  
Model: AS-VGT3-3A  
Test Date: 04/04/05

Ammunition: 9mm                      124/FMJ  
Conditioning: Dry

Report Number: 05N048  
Report Date: 04/04/05  
NIJ Armor Type: 3A

Enter NIJ Armor Types III and IV Sample Number(s) in Remarks Column as Applicable

BL PANEL 1									BL PANEL 2															
Shot No.	Time 1 (µs)	Vel. 1 (ft/s)	Time 2 (µs)	Vel. 2 (ft/s)	Vel. Avg. (ft/s)	Penetration		Remarks	Used (Y/N)	Shot No.	Time 1 (µs)	Velocity (ft/s)	Time 1 (µs)	Velocity (ft/s)	Vel. Avg. (ft/s)	Penetration		Remarks	Used (Y/N)					
						C	P									C	P							
1	3301	1735	2351	1738	1736		X		N	1	3263	1755	2323	1759	1757	X			Y					
2	3164	1810	2254	1812	1811		X		Y	2	3353	1708	2388	1711	1709		X		N					
3	3076	1862	2189	1866	1864	X			N	3	3266	1754	2327	1755	1755		X		Y					
4	3117	1838	2220	1840	1839	X			Y	4	3166	1809	2254	1812	1811	X			Y					
5	3189	1796	2271	1799	1797	X			Y	5	3203	1788	2280	1792	1790		X		Y					
6	3252	1761	2315	1765	1763		X		Y	6	3214	1782	2289	1785	1783		X		Y					
7	3190	1796	2272	1798	1797		X		Y	7	3141	1824	2237	1826	1825	X			Y					
8	3137	1826	2234	1829	1827	X			Y	8	3220	1779	2293	1782	1780	X			Y					
9	3143	1822	2238	1825	1824	X			Y	9	3268	1753	2327	1755	1754	X			Y					
10	3262	1756	2323	1759	1757		X		Y	10	3362	1704	2394	1706	1705		X		N					
11	3214	1782	2288	1785	1784	X			Y	11	3258	1758	2321	1760	1759		X		Y					
12	3260	1757	2321	1760	1759		X		Y	12	3311	1730	2359	1732	1731		X		Y					
13		0		0						13		0		0										
14		0		0						14		0		0										
15		0		0						15		0		0										
<b>Count:</b>									12	6	6				10	<b>Count:</b>								
															12	5	7				10			

**INSTRUCTIONS:**

1. Fill in shaded cells - all others are automatic calculations
2. Enter an "x" to designate complete or partial penetrations
3. Enter a "y" to designate use of the shot for calculation purposes - calculation group must include highest partial and lowest complete.
4. Velocity input for time factor requires microsecond (10-6) format.

**TEST CONDITIONS:**

Ambient Temp: 72 F  
Rel. Humidity: 43 %

**TEST DIMENSIONS:**

Range Length: 16.40 ft.  
Velocity 1: 5.73 ft.  
Velocity 2: 4.09 ft.

Provided Lower Velocity: \_\_\_\_\_ ft/s

Calculated Lower Velocity: 1655 ft/s

Calculated Upper Velocity: 1805 ft/s

Calculated First Shot Velocity: 1730 ft/s

Velocity Results:

	Min	Max
Panel 1:	1736	1864
Panel 2:	1705	1825

Remarks: Enter Sample No. e.g., 5...10

- a - Too close to edge
- b - Too close to prior impact
- c - Impact on seam

**CLAY BLOCK TEMPERATURE:**

Pre-Test: 88 F  
Post Test: 86 F

# NATIONAL INSTITUTE OF JUSTICE COMPLIANCE TEST REPORT

NIJ Standard 0101.04  
September 2000

## NIJ BASELINE BALLISTIC LIMIT CALCULATION

Manufacturer: ArmorShield LLC  
Model: AS-VGT3-3A  
Test Date: 04/04/05

Ammunition: 9mm 124/FMJ  
Conditioning: Dry

Report Number: 05N048  
Report Date: 04/04/05  
NIJ Armor Type: 3A

BL PANEL 1				BL PANEL 2			
Shot No.	Velocity (ft/s)	Penetration		Shot No.	Velocity (ft/s)	Penetration	
		Complete	Partial			Complete	Partial
				1	1757	X	
2	1811		X				
				3	1755		X
4	1839	X		4	1811	X	
5	1797	X		5	1790		X
6	1763		X	6	1783		X
7	1797		X	7	1825	X	
8	1827	X		8	1780	X	
9	1824	X		9	1754	X	
10	1757		X				
11	1784	X		11	1759		X
12	1759		X	12	1731		X
Count:	10	5	5	Count:	10	5	5

BALLISTIC LIMIT SUMMARY		
Panel 1 BL:	1796	ft/s
Velocity Range:	82	ft/s
Standard Deviation ( $\sigma$ ):	30	ft/s
Panel 2 BL:	1774	ft/s
Velocity Range:	94	ft/s
Standard Deviation ( $\sigma$ ):	29	ft/s
Difference Panel 1 to 2:	22	ft/s
Panel 1 & 2 Average BL:	1785	ft/s

PAGE WILL AUTOMATICALLY CALCULATE

# NATIONAL INSTITUTE OF JUSTICE COMPLIANCE TEST REPORT

NIJ Standard 0101.04  
September 2000

## Summary of Results

Armor Manufacturer: ArmorShield LLC  
Armor Model No: AS-VGT3-3A

Armor Style: N/A  
NIJ Armor Type: 3A

Report Number: 05N048  
Report Date: 04/04/05

PENETRATION AND BACKFACE SIGNATURE												
Test Samples (b)					Ballistic Threat					Results		
Item Number	Serial Number	Panel	Weight (lbs)	No. of Plies	Caliber	Obliquity (degrees)	Req'd Shots	Velocity (ft/s)		Penetration (Y/N)	BFS (mm)	
								Max.	Min.		BFS 1	BFS 2
Sample 1	23096305	Front	3.75	26	9mm	0	4	1454	1410	N	22	22
	23096305	Back	4.35	26	9mm	0	4	1462	1432	N	24	21
Sample 2	23096304	Front	3.76	26	9mm	0	4	1460	1454	N	23	26
	23096304	Back	4.34	26	9mm	0	4	1457	1425	N	25	19
Sample 3	23096303	Front	3.74	26	.44 Mag	0	4	1440	1418	N	37	39
	23096303	Back	4.36	26	.44 Mag	0	4	1442	1426	N	35	31
Sample 4	23096301	Front	3.74	26	.44 Mag	0	4	1440	1418	N	35	34
	23096301	Back	4.34	26	.44 Mag	0	4	1439	1428	N	35	37

<b>NOTES:</b>	
Maximum BFS:	44 mm
Ballistic Material:	Hybrid
<b>Model Compliance: YES</b>	

P-BFS Result	NIJ Baseline Ballistic Limit
Penetration: <u>Pass</u>	<b>Panel 1:</b> Type: <u>10</u> shots Ballistic Limit: <u>1796</u> ft/s Std Dev. (σ): <u>30</u> ft/s
BFS: <u>Pass</u>	
	<b>Panel 2:</b> Type: <u>10</u> shots Ballistic Limit: <u>1774</u> ft/s Std Dev. (σ): <u>29</u> ft/s

**CERTIFICATION:**

Test Data Certification: Richard W. Mouser  
Name  
  
Signature

Witnessed by: \_\_\_\_\_  
Name Representing