

NIJ BA CTP Compliance Test Report



Report Identification Number: 11697-36

Issue/Revision Number:

Report Date: 12/20/2012

200825-0

NVLAP Lab Code

Test Laboratory Name: H.P. White Laboratory

Address: 3114 Scarboro Road

Street, MD 21154

MKU PVT, LIMITED

Customer: 625 KA,638,639, KHUJAUPUR, SALEMPUR MODE

Address: ROOMA, KANPUR-209402

INDIA

Conditioning Laboratory Name: H.P. White Laboratory

Address: 3114 Scarboro Road

Street, MD 21154

Prospective Model Designation: P-10016 ICW MKS-1002

This test report and the results herein are to be used solely for the purpose of determining compliance to the NIJ 0101.06 Body Armor Standard. The test data should not be used to compare the relative performance characteristics between different models of body armor.

Reproduction of this test report is prohibited except in full.

This test report may not be used to claim product certification, approval, or endorsement by NVLAP, NIST or any agency of the Federal Government.

Test results relate only to the items tested.

Authorized Signatory: SHAWN KROUT

Function/Position: CUSTOMER OPERATIONS COORDINATOR

Signature:

Date:

NIJ Hard Armor CTR

NVLAP Lab Code: 200825-0

Test Laboratory Name: H.P. White Laboratory

Report Identification Number: 11697-36

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COMPLIANCE TESTING INFORMATION

Test Start Date: 12/17/18
End Date: 12/18/12

Report Date: 12/20/12

RANGE INFORMATION:

Range Length: 50.3 ft

Velocity 1: 5 ft. 1.524 m
Velocity 2: 5 ft. 1.524 m

Velocity Measurement Units: TIME
Chronographs will report the time of flight.

Data should be entered in μ s (10^{-6} s).

ARMOR DESCRIPTION:

Manufacturer: MKU PVT, LIMITED

Date Rec'd: 12/03/12

Test ID: MKU10-001973
Style: N/A

NIJ Armor Type: 3

SHOT-TO-EDGE REQUIREMENTS:

Threat 1: 2 Inches
Threat 2: 2 Inches

Labels legible and adhered after wear tests?:	<u>YES</u>	(Yes/No)
Labels legible and adhered after conditioning protocol?:	<u>YES</u>	(Yes/No)
Labels meet the requirements of 4.1.5.3		

ARMOR CONSTRUCTION:

Armor Test Configuration: Non-Planar

<u>Plate</u>
Number of Layers: <u>1</u>
Individual Layer Description: LAYER 1, 19mm RIGID POLYETHYLENE FILM.

<u>In Conjunction With Panel (if applicable)</u>
Front Closure (Y/N): <u>No</u>
Number of Layers: <u>39</u>
LAYERS 1-35 AND 37-39, FLEX WOVEN ARAMID FIBER (22X22). LAYER 36, COATED FLEX WOVEN ARAMID FIBER (22X22).

Description of Stitching: <u>NONE</u>

LAYERS 1-20, 21-35, AND 37-39, PERIMETER STITCH. LAYERS 1-35, PERIMETER STITCH. LAYERS 1-20, 2.50" DIAMOND QUILT STITCH. LAYERS 21-35, 1.625" DIAMOND QUILT STITCH. LAYERS 37-39, 1.25" DIAMOND QUILT STITCH. LAYERS 1-20, 21-35 AND 37-39, WITH COTTON STRIP AROUND THE EDGE VIA PERIMETER STITCH.
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Remarks and Revision History: STRAPPING: 2 VERTICAL AND 3 HORIZONTAL.
PANEL HAS DOUBLE RIP STOP CARRIER.

**NATIONAL INSTITUTE OF JUSTICE
COMPLIANCE TEST REPORT**

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NIJ Hard Armor CTR

NVLAP Lab Code: <u>200825-0</u> 1785	Test Laboratory Name: <u>H.P. White Laboratory</u> Report Identification Number: <u>11697-36</u> Issue / Revision Number: _____
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Penetration and BFS Summary Data

Test ID: MKU10-001973
Manufacturer: MKU PVT, LIMITED
Ammunition: 7.62mm 147/FMJ

Report Date: 12/20/12

Test Velocity:	847.3	±9.1 m/s
	(2780)	±30 ft/s

Sample Information										
Sample Number	Soft Armor Panel		Hard Armor Plate		Gross Weight (lbs)	Shot Number	Avg. Vel. (ft/s)	Perf (Y=1/N=0)	BFS (mm)	Note
	Lot Number	Serial Number	Lot Number	Serial Number						
1	1	T-4036	1	C-2786	7.06	1	2779	0	35	
1	1	T-4036	1	C-2786	7.06	2	2805	0	33	
1	1	T-4036	1	C-2786	7.06	3	2815	0		
1	1	T-4036	1	C-2786	7.06	4	2779	0		
1	1	T-4036	1	C-2786	7.06	5	2807	0		
1	1	T-4036	1	C-2786	7.06	6	2787	0		
2	1	T-4037	1	C-2787	7.03	7	2801	0	40	
2	1	T-4037	1	C-2787	7.03	8	2765	0	30	
2	1	T-4037	1	C-2787	7.03	9	2793	0		
2	1	T-4037	1	C-2787	7.03	10	2797	0		
2	1	T-4037	1	C-2787	7.03	11	2804	0		
2	1	T-4037	1	C-2787	7.03	12	2776	0		
3	1	T-4038	1	C-2788	7.01	13	2797	0	38	
3	1	T-4038	1	C-2788	7.01	14	2779	0	30	
3	1	T-4038	1	C-2788	7.01	15	2801	0		
3	1	T-4038	1	C-2788	7.01	16	2793	0		
3	1	T-4038	1	C-2788	7.01	17	2804	0		
3	1	T-4038	1	C-2788	7.01	18	2773	0		
4	1	T-4039	1	C-2789	7.06	19	2793	0	41	
4	1	T-4039	1	C-2789	7.06	20	2797	0	33	
4	1	T-4039	1	C-2789	7.06	21	2776	0		
4	1	T-4039	1	C-2789	7.06	22	2782	0		
4	1	T-4039	1	C-2789	7.06	23	2787	0		
4	1	T-4039	1	C-2789	7.06	24	2801	0		
5	1	T-4044	1	C-2785	7.08	25				
5					7.08	26				
5					7.08	27				
5					7.08	28				
5					7.08	29				
5					7.08	30				

Armor Information	
Plate Subjected to hard armor conditioning	
Soft armor Panel Size (If used)	Plate Size
C-2	250x300
NIJ Armor Type:	
Shots Per Plate (Type IV only):	
	3
	6

Summary:	Perforations: <u>0</u>	BFS Statistics: Count: <u>8</u>	
	Maximum BFS: <u>41 mm</u>		
	Pass - No BFS greater than 44 mm		

Overall P-BFS Summary

Perforations:	This requirement is for all P-BFS tested samples
<u>0</u>	This armor model meets the perforation performance requirements of NIJ Standard-0101.06 Section 7.8.8.
Backface Signature:	This requirement is for all hard armor plate models
Maximum BFS: <u>41 mm</u>	
	This armor model meets the BFS performance requirements of NIJ Standard-0101.06 Section 7.8.8 Item a.

NVLAP Lab Code: 200825-0	Test Laboratory Name: H.P. White Laboratory Report Identification Number: 11697-36 Issue / Revision Number:
Ballistic Limit Summary Data	
Test ID: MKU10-001973 Manufacturer: MKU PVT. LIMITED	Test Velocity: 847.3 ±9.1 m/s (2780) ±30 ft/s
Ammunition: 7.62mm 147/FMJ	Report Date: 12/20/2012

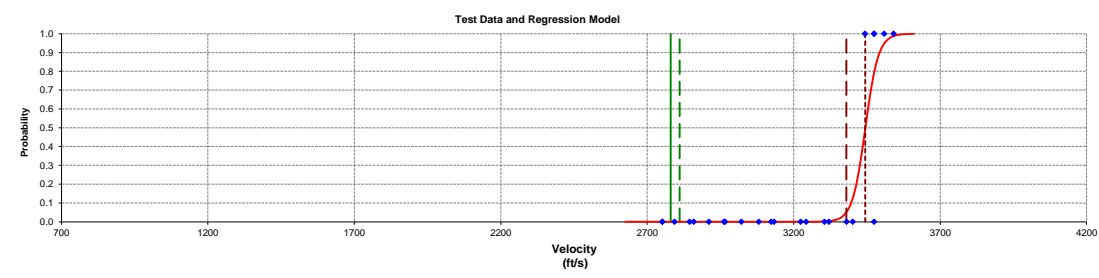
Sample Information						Shot	Avg. Vel.	Perf	Key to Remarks: a - Too close to edge b - Too close to prior impact c - Impact on seam
Sample Number	Soft Armor Panel		Hard Armor Plate		Gross Weight (lbs)				
	Lot Number	Serial Number	Lot Number	Serial Number		Number	(ft/s)	(Y=1/N=0)	
1	1	T-4040	1	C-2790	7.05	1	2752	0	
1	1	T-4040	1	C-2790	7.05	2	2844	0	
1	1	T-4040	1	C-2790	7.05	3	2859	0	
1	1	T-4040	1	C-2790	7.05	4	2962	0	
1	1	T-4040	1	C-2790	7.05	5	2966	0	
1	1	T-4040	1	C-2790	7.05	6	3081	0	
2	1	T-4041	1	C-2791	7.06	7	3133	0	
2	1	T-4041	1	C-2791	7.06	8	3224	0	
2	1	T-4041	1	C-2791	7.06	9	3305	0	
2	1	T-4041	1	C-2791	7.06	10	3401	0	
2	1	T-4041	1	C-2791	7.06	11	3475	1	
2	1	T-4041	1	C-2791	7.06	12	3444	1	
3	1	T-4042	1	C-2792	7.06	13	2752	0	
3	1	T-4042	1	C-2792	7.06	14	2793	0	
3	1	T-4042	1	C-2792	7.06	15	2910	0	
3	1	T-4042	1	C-2792	7.06	16	3021	0	
3	1	T-4042	1	C-2792	7.06	17	3123	0	
3	1	T-4042	1	C-2792	7.06	18	3243	0	
4	1	T-4043	1	C-2793	7.06	19	3320	0	
4	1	T-4043	1	C-2793	7.06	20	3381	0	
4	1	T-4043	1	C-2793	7.06	21	3475	0	
4	1	T-4043	1	C-2793	7.06	22	3541	1	
4	1	T-4043	1	C-2793	7.06	23	3509	1	
4	1	T-4043	1	C-2793	7.06	24	3475	1	
5						25			
5						26			
5						27			
5						28			
5						29			
5						30			

Armor Information	
Plate Subjected to hard armor conditioning	
Soft armor Panel Size (If used)	Plate Size
C-2	250x300
NIJ Armor Type:	3
Shots Per Plate (Type IV only):	6

Regression Analysis	
Estimated V05:	1030 m/s (3379) ft/s
Estimated V50:	1049.8 m/s 3444 ft/s
Probability of perforation at NIJ reference velocity: 847.3 m/sec (2780 ft/s)	
0.0% Acceptable	
NIJ Reference Velocity:	847.3 m/s (2780 ft/s)
Offset:	+ 9.1 m/s + (30 ft/s)
	856.4 m/s (2810 ft/s)
Perforations below 856.4 m/s (2810 ft/s):	
0 Acceptable	

Total Usable Shots:	24	Acceptable
Perforations (Complete Penetrations):	5	
Stops (Partial Penetrations):	19	

Regression Model	
Logistic	



Overall Ballistic Limit Summary	
Perforations below Vref + 9.1 m/sec:	0
This armor model meets the low perforation velocity performance requirements of NIJ Standard-0101.06 Section 7.9.5.	
Probability of perforation at the P-BFS reference velocity	0.0%
This armor model meets the estimated V05 performance requirements of NIJ Standard-0101.06 Section 7.9.5.	

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