

H.P. WHITE LABORATORY, INC.

3114 Scarborough Road

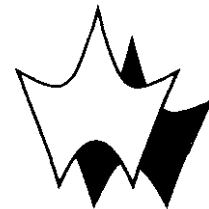
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October 6, 2003
[HPWLI 9128-03A]

Fortress Pacific Corporation
4F-4, No. 26, Sec. 2
Min-Chuan E. Rd.
Taipei, Taiwan
REPUBLIC OF CHINA

Attention: Echo Chu

Dear Echo Chu:

Your FAXed letter dated September 30, 2003 and related correspondence requested Ballistic Testing of a "Level III Ballistic Shield" received on September 3, 2003 via DHL.

Testing was conducted on an indoor range at ambient conditions in accordance with your instructions and modified provisions of **NIJ-STD-0108.01, BALLISTIC RESISTANCE OF POLICE BODY ARMOR**, dated September 1985, at a Level III threat level, using caliber 7.62 x 51mm, 149 grain, M80 Ball ammunition at one end. The sample was mounted 50.0 feet from the muzzle of a test barrel. Redundant pairs of lumiline screens were located at 6.5 feet and 9.5 feet. Together with electronic chronographs, they provided bullet velocities at 8.0 feet. At the other end, the same ammunition was used to determine the Probable Ballistic Limit [V50] in accordance with provisions of **MIL-STD-662**. The sample was mounted 15.0 feet from the muzzle of a test barrel. Redundant pairs of lumiline screens were located at 5.0 feet and 10.0 feet. Together with electronic chronographs, they provided bullet velocities at 7.5 feet. Tables I and II provide a summary of information on the attached Data Records.

This report is based entirely on data obtained from testing the sample submitted. It may or may not be typical of results that would be obtained from other samples of the same or similar design and construction. It should not be considered an endorsement of quality by H.P. White Laboratory, Inc.

Thank you for the opportunity to conduct these tests. The test panels will be returned via DHL. If you should have any questions, please feel free to contact us.

Very truly yours,

H.P. WHITE LABORATORY, INC.

Lester W. Roane

LWR/mw
[Enclosures]

Fortress Pacific Corporation
 Attention: Echo Chu
 October 6, 2003
 HPWLI 9128-03A
 Page 2

TABLE I – Summary of Results – Penetration Test
 [Fortress Pacific Level III Ballistic Shield]
 [NIJ-STD-0108.01]

Number	Test Sample		Caliber	Ballistic Threat			Results [Penetrations]
	Thickness [in.] [a]	Weight [lbs.]		Shots [b]	Velocity		
					Maximum	Minimum	
HPW-1	0.940	25.93	7.62, M80	5	2800	2711	0

[a] – Average of four corner thicknesses
 [b] – At the corners and in the center of an 8-inch square

TABLE II – Summary of Results – V50 Test
 [Fortress Pacific Level III Ballistic Shield]
 [MIL-STD-662]

Number	Test Sample		Ballistic Threat		Ballistic Limit [fps]		
	Thickness [in.] [a]	Weight [lb.]	Caliber	Shots Total/V50	V50 BL [P]	High Partial	Low Complete
HPW-1	0.940	25.93	7.62, M80	9/6	2822	2814	2811

(a) – Average of four corner thicknesses



H.P. White Laboratory, Inc.

BALLISTIC RESISTANCE TEST

Client : FORTRESS PACIFIC CORP.

Job No. : 9128-03

Test Date : 10-06-03

TEST PANEL

Manufacturer : FORTRESS PACIFIC CORP./DYNEEMA
 Size : 31 1/2 x 20 in.
 Thicknesses : 0.943, 0.929, 0.940 , 0.948 in.
 Avg. Thick. : 0.940 in.
 Description : BALLISTIC SHIELD

Sample No. : HPW-1
 Weight : 25.93 lbs.
 Hardness : NA
 Plies/Laminates : NA

Date Rec'd. : 9-30-03
 Via : DHL
 Returned : DHL

SET-UP

Shot Spacing : 4 DN 8" SQUARE - 1 IN CENTER
 Witness Panel : 0.020", 2024-T3 ALUMINUM
 Obliquity : 0 deg.
 Backing Material : NA
 Conditioning : AMBIENT

Primary Vel. Screens : 6.5 ft., 9.5 ft.
 Primary Vel. Location : 8.0 ft. From Muzzle
 Residual Vel. Screens : NA
 Residual Vel. Location : NA
 Range to Target : 50.0 ft.
 Target to Wit. : 6.0 in.

Range No. : 5
 Temp. : 72 F
 BP : 30.12 in. Hg
 RH : 56%
 Barrel No./Gun : TEST BARREL
 Gunner : B. WILLIAMSON
 Recorder : UNGER

AMMUNITION

(1) : 7.62mm Ball, M80, 149 gr.
 (2) :
 (3) :
 (4) :

Lot No. : WRA-67
 Lot No. :
 Lot No. :
 Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : NIJ-STD-0108.01
 (2) : THREAT LEVEL : III
 (3) : REQUIRED VELOCITY : 2700-2800 fps.

Shot No.	Ammo.	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Penetration	Footnotes
1	1	1071	2801	1072	2799	2800	None	
2	1	1106	2712	1107	2710	2711	None	
3	1	1095	2740	1096	2737	2738	None	
4	1	1086	2762	1087	2760	2761	None	
5	1	1100	2727	1101	2725	2726	None	

REMARKS :

FOOTNOTES :



H.P. White Laboratory, Inc.

PROTECTION BALLISTIC LIMIT TEST, V50 BL(P)

Client : FORTRESS PACIFIC CORP.

Job No. : 9128-03

Test Date : 10-06-03

TEST PANEL

Manufacturer : FORTRESS PACIFIC CORP./DYNEEMA
 Size : 31 1/2 x 20 in.
 Thicknesses : 0.943, 0.940, 0.929, 0.948 in.
 Avg. Thick. : 0.940 in.
 Required BL(P) : NA
 Description : BALLISTIC SHIELD

Sample No. : HPW-1
 Heat No. : NA
 Weight : 25.93 lbs.
 Hardness : NA
 Plies/Laminates : NA

Date Rec'd. : 9/3/03
 Via : DHL
 Returned : DHL

SET-UP

Shot Spacing : 2" MINIMUM
 Witness Panel : 0.020", 2024-T3 ALUMINUM
 Obliquity : 0 deg.
 Backing Material : NA
 Conditioning : AMBIENT

Primary Vel. Screens : 5.0 ft., 10.0 ft.
 Primary Vel. Location : 7.5 ft. From Muzzle
 Residual Vel. Screens : NA
 Residual Vel. Location : NA
 Range to Target : 15.0 ft.
 Target to Wit. : 6.0 in.

Range No. : 5
 Temp. : 72 F
 BP : 30.15 in. Hg
 RH : 56%
 Barrel No./Gun : TEST BARREL
 Gunner : B. WILLIAMSON
 Recorder : UNGER

AMMUNITION

Projectile : 7.62mm Ball, M80, 149 gr.
 Powder : N133

Lot No. : WRA-67

APPLICABLE STANDARDS OR PROCEDURES

- (1) : MIL-STD-662F
- (2) :
- (3) :

Shot No.	Powder/Seating	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Result	Include in V50	Footnotes
1	45.0	1650	3030	1652	3027	3028	C		
2	43.0	1728	2894	1730	2890	2892	C	Y	
3	40.0	1840	2717	1842	2714	2716	P		
4	41.5	1785	2801	1785	2801	2801	P	Y	
5	42.5	1778	2812	1779	2811	2811	C	Y	
6	42.0	1767	2830	1768	2828	2829	C	Y	
7	40.0	1825	2740	1826	2738	2739	P		
8	41.0	1794	2787	1795	2786	2786	P	Y	
9	42.0	1777	2814	1777	2814	2814	P	Y	

REMARKS :

FOOTNOTES :

V50 SUMMARY :

No. Points : 3 & 3
 V50 : 2822
 High Partial : 2814
 Low Complete : 2811
 Range of Results : 106
 Range of Mixed : 3

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September 9, 2003
[HPWLI 9128-02A]

Fortress Pacific Corporation
4F-4, No. 26, Sec. 2
Min-Chuan E. Rd.
Taipei, Taiwan
REPUBLIC OF CHINA

Attention: Echo Chu

Dear Echo Chu:

Your FAXed letter dated August 29, 2003 and related correspondence requested Ballistic Resistance Testing of a "Ballistic Shield" received on September 3, 2003 via DHL. The sample is described a "Hard Armor Panel made by Dyneema".

Testing was conducted on an indoor range at ambient conditions in accordance with your instructions and modified provisions of **NIJ-STD-0108.01, BALLISTIC RESISTANCE OF POLICE BODY ARMOR**, dated September 1985, at a Level III threat level, using caliber 7.62 x 51mm, 149 grain, M80 Ball ammunition at one end. At the other end, the same ammunition was used to determine the Probable Ballistic Limit [V50] in accordance with provisions of MIL-STD-662. The sample was mounted 50.0 feet from the muzzle of a test barrel. Redundant pairs of lumiline screens were located at 6.5 feet and 9.5 feet. Together with electronic chronographs, they provided bullet velocities at 8.0 feet. Table I provides a summary of information on the attached Data Records.

This report is based entirely on data obtained from testing the sample submitted. It may or may not be typical of results that would be obtained from other samples of the same or similar design and construction. It should not be considered an endorsement of quality by H.P. White Laboratory, Inc.

Thank you for the opportunity to conduct these tests. The test panels will be returned via DHL. If you should have any questions, please feel free to contact us.

Very truly yours,

H.P. WHITE LABORATORY, INC.

Lester W. Roane

LWR/mw
[Enclosures]

TABLE I – Summary of Results – Penetration Test
 [Hard Armor Panel by Dyneema]
 [NIJ-STD-0108.01]

Test Sample			Ballistic Threat				Results [Penetrations]
Number	Thickness [in.] [a]	Weight [lbs.]	Caliber	Shots [b]	Velocity		
					Maximum	Minimum	
HPW-1	0.925	25.56	7.62, M80	5	2749	2773	0
[a] – Average of four corner thicknesses							
[b] – At the corners and in the center of an 8-inch square							

TABLE II – Summary of Results – V50 Test
 [Hard Armor Panel by Dyneema]
 [MIL-STD-662]

Test Sample			Ballistic Threat		Ballistic Limit [fps]		
Number	Thickness [in.] [a]	Weight [lb.]	Caliber	Shots Total/V50	V50	High	Low
					BL [P]	Partial	Complete
HPW-1	0.925	25.56	7.62, M80	7/4	2912	2944	2867
(a) – Average of four corner thicknesses							



H.P. White Laboratory, Inc.

PROTECTION BALLISTIC LIMIT TEST, V50 BL(P)

Client : FORTRESS PACIFIC CORP.

Job No. : 9128-02

Test Date : 9/9/03

TEST PANEL

Manufacturer : FORTRESS PACIFIC CORP./DYNEEMA
 Size : 31 1/2 x 20 in.
 Thicknesses : 0.941, 0.911, 0.918, 0.931 in.
 Avg. Thick. : 0.925 in.
 Required BL(P) : NA
 Description : BALLISTIC SHIELD

Sample No. : HPW-1
 Heat No. : NA
 Weight : 25.56 lbs.
 Hardness : NA
 Plies/Laminates : NA

Date Rec'd. : 9/3/03
 Via : DHL
 Returned : DHL

SET-UP

Shot Spacing : 2" MINIMUM
 Witness Panel : 0.020", 2024-T3 ALUMINUM
 Obliquity : 0 deg.
 Backing Material : NA
 Conditioning : AMBIENT

Primary Vel. Screens : 6.5 ft., 9.5 ft.
 Primary Vel. Location : 8.0 ft. From Muzzle
 Residual Vel. Screens : NA
 Residual Vel. Location : NA
 Range to Target : 50.0 ft.
 Target to Wit. : 6.0 in.

Range No. : 3
 Temp. : 72 F
 BP : 30.21 in. Hg
 RH : 82%
 Barrel No./Gun : TEST BARREL
 Gunner : POOLE
 Recorder : POOLE

AMMUNITION

Projectile : 7.62mm Ball, M80, 149 gr.
 Powder : N133

Lot No. : WRA-67

APPLICABLE STANDARDS OR PROCEDURES

- (1) : MIL-STD-662F
- (2) :
- (3) :

Shot No.	Powder/Seating	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Result	Include in V50	Footnotes
1	50.0	988	3036	990	3030	3033	C		
2	48.0	1031	2910	1032	2907	2908	P	Y	
3	49.0	1018	2947	1020	2941	2944	P	Y	
4	50.0	997	3009	998	3006	3008	C		
5	49.0	1008	2976	1009	2973	2975	C		
6	48.0	1023	2933	1024	2930	2931	C	Y	
7	47.0	1046	2868	1047	2865	2867	C	Y	

REMARKS :

FOOTNOTES :

V50 SUMMARY :

No. Points : 2 & 2
 V50 : 2912
 High Partial : 2944
 Low Complete : 2867
 Range of Results : 77
 Range of Mixed : 77



H.P. White Laboratory, Inc.

BALLISTIC RESISTANCE TEST

Client : FORTRESS PACIFIC CORP.

Job No. : 9128-02

Test Date : 9/9/03

TEST PANEL

Manufacturer : FORTRESS PACIFIC CORP./DYNEEMA
 Size : 31 1/2 x 20 in.
 Thicknesses : 0.941, 0.918, 0.911, 0.931 in.
 Avg. Thick. : 0.925 in.
 Description : BALLISTIC SHIELD

Sample No. : HPW-1
 Weight : 25.56 lbs.
 Hardness : NA
 Plies/Laminates : NA

Date Rec'd. : 9/3/03
 Via : DHL
 Returned : DHL

SET-UP

Shot Spacing : 4 ON 8" SQUARE - 1 IN CENTER
 Witness Panel : 0.020", 2024-T3 ALUMINUM
 Obliquity : 0 deg.
 Backing Material : NA
 Conditioning : AMBIENT

Primary Vel. Screens : 6.5 ft., 9.5 ft.
 Primary Vel. Location : 8.0 ft. From Muzzle
 Residual Vel. Screens : NA
 Residual Vel. Location : NA
 Range to Target : 50.0 ft.
 Target to Wit. : 6.0 in.

Range No. : 3
 Temp. : 72 F
 BP : 30.21 in. Hg
 RH : 82%
 Barrel No./Gun : TEST BARREL
 Gunner : POOLE
 Recorder : POOLE

AMMUNITION

(1) : 7.62mm Ball, M80, 149 gr.
 (2) :
 (3) :
 (4) :

Lot No. : WRA-67
 Lot No. :
 Lot No. :
 Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

- (1) : NIJ-STD-0108.01
- (2) : THREAT LEVEL : III
- (3) : REQUIRED VELOCITY : 2700-2800 fps.

Shot No.	Ammo.	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Penetration	Footnotes
1	1	1087	2760	1089	2755	2757	None	
2	1	1091	2750	1092	2747	2749	None	
3	1	1089	2755	1090	2752	2754	None	
4	1	1082	2773	1082	2773	2773	None	
5	1	1089	2755	1090	2752	2754	None	

REMARKS :

FOOTNOTES :