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12 March 2008
 (HPWLI 10809-01A)



H.P. White Laboratory, Inc.
 BALLISTIC RESISTANCE TEST

Client : STEADY FLYING ENTERPRISE CO. LTD.

Job No. : 10809-01 Test Date : 3/11/08

Steady Flying Enterprise Co., Ltd.
 1F, No. 235, Ta You Rd.
 Sung Shan, Taipei City 105
 Taiwan R.O.C.

Gentlemen:

In accordance with your instructions, H.P. White Laboratory, Inc. conducted ballistic resistance testing of three visor samples, identified as Model TA02-0402-00, received 28 February 2008 via United Parcel Service.

Testing was conducted in accordance with the provisions of MIL-V-43511C, dated 16 July 1990, Class 1 (clear visors) Paragraph 3.5.10, using caliber .22, Type 2, 17.0 grain, fragment simulator projectiles conforming to the provisions of MIL-DTL-46593B. The test samples were rigidly fixtured on a host helmet 9.0 feet forward of the muzzle of a test barrel to produce zero degree obliquity impacts. Velocity screens were positioned at 3.0 and 6.0 feet which, in conjunction with elapsed time counters (chronographs), were used to determine projectile velocities at 4.5 feet. Penetrations were determined by visual examination of a 0.002 inch thick aluminum foil witness panel positioned 2.0 inches behind, and parallel to, the test samples. Table I presents a summary of the attached data records.

TABLE I. SUMMARY OF RESULTS

Test Sample		Ballistic Threat			Results		
Number	Weight (lbs.)	Caliber	Shots	Velocity (fps) Max. Min.	Penetrations	Spall	Crack
HPW-2	0.26	.22 FSP	3	652 628	0	0	0
HPW-4	0.26	.22 FSP	3	600 593	0	0	0
HPW-5	0.27	.22 FSP	3	610 586	0	0	0

Based on the data presented in Table I, the test samples submitted for testing SATISFIED the ballistic resistance requirements of MIL-V-43511C, Paragraph 3.5.10. This conclusion is based on data obtained from having tested only the samples submitted, and should NOT be interpreted as an endorsement by H.P. White Laboratory, Inc. of the continuing quality, or performance, of any other items of the same, or similar, design.

The test samples are being returned via United Parcel Service. Should you have any questions regarding this matter, or if we may be of any further service, please do not hesitate to contact us.

Very truly yours,

H.P. WHITE LABORATORY, INC.

Craig B. Dunn

CBD/tc
 Enclosures



RESEARCH • DEVELOPMENT • ENGINEERING

TEST PANEL

Manufacturer : STEADY FLYING ENTERPRISE CO., LTD. Sample No. : HPW-2
 Size : 9x4 in. Weight : 0.26 lbs.
 Thicknesses : NA Hardness : NA
 Avg. Thick. : NA Plies/Laminates : NA
 Description : MAKEUP: POLYCARBONATE MODEL# TA02-0402-00

Date Rec'd. : 2/28/08
 Via : UPS
 Returned : UPS

SET-UP

Shot Spacing : PER MIL-V-43511C
 Witness Panel : 0.002" ALUMINUM FOIL
 Obliquity : 0 deg.
 Backing Material : NA
 Conditioning : AMBIENT

Primary Vel. Screens : 3.0 ft., 6.0 ft.
 Primary Vel. Location : 4.5 ft. From Muzzle
 Residual Vel. Screens : NA
 Residual Vel. Location : NA
 Range to Target : 9.0 ft.
 Target to Wit. : 2.0 in.

Range No. : 4
 Temp. : 67 F
 BP : 29.32 in. Hg
 RH : 45%
 Barrel No./Gun : TEST BARREL
 Gunner : ADAMS
 Recorder : SMITH

AMMUNITION

(1) : .22 Fragment Simulator, 17 gr. Lot No. : PTI
 (2) : Lot No. :
 (3) : Lot No. :
 (4) : Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : MIL-V-43511C
 (2) :
 (3) :

Shot No.	Ammo.	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Vel. Loss (ft/s)	Strike Vel. (ft/s)	Penetration	Footnotes
1	1	4698	639	4705	638	638	10	628	None	(a)
2	1	4554	659	4560	658	658	11	647	None	(b)
3	1	4519	664	4528	663	663	11	652	None	(c)

REMARKS :

FOOTNOTES :

(a) IMPACTED ON RIGHT EYE PIECE.
 (b) IMPACTED IN THE CENTER.
 (c) IMPACTED ON LEFT EYE PIECE.

Filename : 10809-01 (HPW-2) STEADY FLYING ENTERPRISE CO. LTD..Pen



TEST PANEL

Manufacturer : STEADY FLYING ENTERPRISE CO., LTD. Sample No. : HPW-4
Size : 9x4 in. Weight : 0.26 lbs. Date Rec'd. : 2/28/08
Thickesses : NA Hardness : NA Via : UPS
Avg. Thick. : NA Plies/Laminates : NA Returned : UPS
Description : MAKEUP: POLYCARBONATE
MODEL# TA02-0402-00

SET-UP

Shot Spacing : PER MIL-V-43511C Range No. : 4
Witness Panel : 0.002" ALUMINUM FOIL Primary Vel. Location : 4.5 ft. From Muzzle Temp. : 67 F
Obliquity : 0 deg. Residual Vel. Screens : NA BP : 29.32 in. Hg
Backing Material : NA Residual Vel. Location : NA RH : 45%
Conditioning : AMBIENT Range to Target : 9.0 ft. Barrel No./Gun : TEST BARREL
Target to Wit. : 2.0 in. Gunner : ADAMS
Recorder : SMITH

AMMUNITION

(1) : .22 Fragment Simulator, 17 gr. Lot No. : PTI
(2) : Lot No. :
(3) : Lot No. :
(4) : Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : MIL-V-43511C
(2) :
(3) :

Shot No.	Ammo.	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Vel. Loss (ft/s)	Strike Vel. (ft/s)	Penetration	Footnotes
1	1	4921	610	4926	609	609	10	600	None	(a)
2	1	4976	603	4976	603	603	10	593	None	(b)
3	1	4943	607	4950	606	606	10	597	None	(c)

REMARKS :
FOOTNOTES :
(a) IMPACTED IN THE CENTER.
(b) IMPACTED ON RIGHT EYE PIECE.
(c) IMPACTED ON LEFT EYE PIECE.



TEST PANEL

Manufacturer : STEADY FLYING ENTERPRISE CO., LTD. Sample No. : HPW-5
Size : 9x4 in. Weight : 0.27 lbs. Date Rec'd. : 2/28/08
Thickesses : NA Hardness : NA Via : UPS
Avg. Thick. : NA Plies/Laminates : NA Returned : UPS
Description : MAKEUP: POLYCARBONATE
MODEL# TA02-0402-00

SET-UP

Shot Spacing : PER MIL-V-43511C Range No. : 4
Witness Panel : 0.002" ALUMINUM FOIL Primary Vel. Location : 4.5 ft. From Muzzle Temp. : 67 F
Obliquity : 0 deg. Residual Vel. Screens : NA BP : 29.32 in. Hg
Backing Material : NA Residual Vel. Location : NA RH : 45%
Conditioning : AMBIENT Range to Target : 9.0 ft. Barrel No./Gun : TEST BARREL
Target to Wit. : 2.0 in. Gunner : ADAMS
Recorder : SMITH

AMMUNITION

(1) : .22 Fragment Simulator, 17 gr. Lot No. : PTI
(2) : Lot No. :
(3) : Lot No. :
(4) : Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : MIL-V-43511C
(2) :
(3) :

Shot No.	Ammo.	Time 1 (usec)	Velocity 1 (ft/s)	Time 2 (usec)	Velocity 2 (ft/s)	Avg. Vel. (ft/s)	Vel. Loss (ft/s)	Strike Vel. (ft/s)	Penetration	Footnotes
1	1	4939	607	NR	NR	607	10	598	None	(a)
2	1	4843	619	NR	NR	619	10	610	None	(b)
3	1	5037	596	NR	NR	596	9	586	None	(c)

REMARKS :
FOOTNOTES :
(a) IMPACTED IN THE CENTER.
(b) IMPACTED ON RIGHT EYE PIECE.
(c) IMPACTED ON LEFT EYE PIECE.

