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January 13, 2006
[HPWLI 9998-01B]

Optima Ballistic Glass Corporation
Zona Procesadora de Exportacion Albrook
Call Marginal Este, Ave. Curundu, Local G
Panama
Republica de Panama

Attention: Juan Jose Estrada

Dear Juan Jose Estrada:

You recently requested ballistic resistance testing of two transparent armor samples received on January 10, 2006 via Continental Air Freight.

All testing was conducted on an indoor range at ambient conditions and in accordance with provisions of NIJ-STD-0108.01, **BALLISTIC RESISTANT PROTECTIVE MATERIALS**, dated September 1985. Testing was conducted at a Level IIIA threat using calibers 9mm, 124 grain FMJ and .44 MAG, 240 grain, SWCGC ammunition. The test samples were rigidly mounted 16.5 feet from the muzzle of a test barrel to produce zero degree obliquity impacts. 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 feet. Penetrations were determined by visual examination of a 0.020 inch thick witness panel of alloy 2024T3 aluminum positioned 6 inches behind, and parallel to, the rear of the test sample. Table I provides a summary of information on the attached Data Record.

TABLE I – SUMMARY OF RESULTS
[NIJ Level IIIA – Optima Glazing]

Test Sample			Ballistic Threat				Results [Penetrations]
Number	Thickness [in.] [a]	Weight [lbs.]	Caliber	Shots [b]	Velocity		
					Minimum	Maximum	
LEVEL IIIA [9mm]	0.800	19.81	9mm	5	1369	1443	0
LEVELIIIA [.44 MAG]	0.802	19.86	.44 MAG	5	1402	1448	0

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

Based on the data presented, the test samples submitted for testing **SATISFIED** the ballistic resistance requirements of NIJ-STD-0108.01, Level IIIA. This conclusion is based solely on data obtained from the sample provided, and should not be interpreted as an endorsement by H.P. white Laboratory, Inc.

Thank you for the opportunity to conduct these tests. The samples were discarded after testing as you requested. 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]

H.P. White Laboratory, Inc.

BALLISTIC RESISTANCE TEST

Client : OPTIMA BALLISTIC GLASS

Job No. : 9998-01 Test Date : 1/12/06

TEST PANEL

Manufacturer : OPTIMA BALLISTIC GLASS
Size : 18 x 18 in.
Thicknesses : 0.803, 0.801, 0.800, 0.805 in.
Avg. Thick. : 0.802 in.
Description : LAMINATED TRANSPARENCY

Sample No. : LEVEL III-A (44MAG)
Weight : 19.86 lbs.
Hardness : NA
Plies/Laminates : NA

Date Rec'd. : 1/10/06
Via : CONTINENTAL AIR
Returned : NA

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 : 16.5 ft.
Target to Wit. : 6.0 in.

Range No. : 3
Temp. : 74 F
BP : 30.06 in. Hg
RH : 56%
Barrel No./Gun : TEST BARREL
Gunner : POOLE
Recorder : POOLE

AMMUNITION

(1) : 44 MAGNUM, LSWC-GC, 240 gr. Lot No. : PMC B44243
(2) : Lot No. :
(3) : Lot No. :
(4) : Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : NIJ-STD-0108.01
(2) : THREAT LEVEL : III-A
(3) : REQUIRED VELOCITY : 1350-1450 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	2139	1403	2140	1402	1402	None	
2	1	2071	1449	2073	1447	1448	None	
3	1	2074	1446	2075	1446	1446	None	
4	1	2137	1404	2139	1403	1403	None	
5	1	2108	1423	2110	1422	1422	None	

REMARKS :

FOOTNOTES :

Filename : 9998-01 (LEVEL III-A (44MAG)) OPTIMA BALLISTIC GLASS.Pen

H.P. White Laboratory, Inc.

BALLISTIC RESISTANCE TEST

Client : OPTIMA BALLISTIC GLASS

Job No. : 9998-01 Test Date : 1/12/06

TEST PANEL

Manufacturer : OPTIMA BALLISTIC GLASS
Size : 18 x 18 in.
Thicknesses : 0.800, 0.800, 0.800, 0.801 in.
Avg. Thick. : 0.800 in.
Description : LAMINATED TRANSPARENCY

Sample No. : LEVEL III-A (9mm)
Weight : 19.81 lbs.
Hardness : NA
Plies/Laminates : NA

Date Rec'd. : 1/10/06
Via : CONTINENTAL AIR
Returned : NA

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 : 16.5 ft.
Target to Wit. : 6.0 in.

Range No. : 3
Temp. : 74 F
BP : 30.06 in. Hg
RH : 56%
Barrel No./Gun : TEST BARREL
Gunner : POOLE
Recorder : POOLE

AMMUNITION

(1) : 9mm LUGER, FMJ, 124 gr. Lot No. : REMINGTON 23558
(2) : Lot No. :
(3) : Lot No. :
(4) : Lot No. :

APPLICABLE STANDARDS OR PROCEDURES

(1) : NIJ-STD-0108.01
(2) : THREAT LEVEL : III-A
(3) : REQUIRED VELOCITY : 1350-1450 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	2090	1435	2094	1433	1434	None	
2	1	2077	1444	2080	1442	1443	None	
3	1	2190	1370	2193	1368	1369	None	
4	1	2168	1384	2171	1382	1383	None	
5	1	2110	1422	2112	1420	1421	None	

REMARKS :

FOOTNOTES :

Filename : 9998-01 (LEVEL III-A (9mm)) OPTIMA BALLISTIC GLASS.Pen