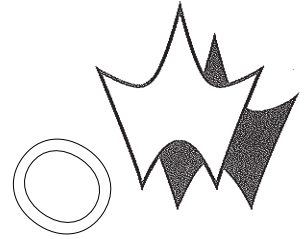


# H.P. WHITE LABORATORY, INC.

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31 December 2001  
(HPWLI 8566-01A)  
(Revised 31 January 2002)

Gepco Industria e Comercio Ltda.  
Rua Joao Cavaleiro Salem 186  
Bonsucesso Guarulhos SP  
Brazil



Attention: Mr. Haroldo Franco Viana

Gentlemen:

In accordance with your instructions, H.P. White Laboratory, Inc. conducted ballistic resistance testing of two transparent armor test samples (see enclosed data records for construction description) received 24 December 2001 and 30 January 2002 via Federal Express.

Testing was conducted in accordance with NIJ-STD-0108.01, BALLISTIC RESISTANT PROTECTIVE MATERIALS, dated September 1985, Level IIIA, using calibers .44 Magnum, 240 grain, SWCGC and 9mm Luger, 124 grain, FMJ ammunition. The test samples were mounted on an indoor range 16.5 feet from the muzzle of a test barrel to produce zero degree obliquity impacts. Photoelectric lumiline screens were positioned at 6.5 and 9.5 feet which, in conjunction with elapsed time counters (chronographs), were used to compute projectile velocities 8.0 feet from the muzzle. Penetrations were determined by visual examination of a 0.020 inch thick sheet of alloy 2024T3 aluminum positioned 6.0 inches behind, and parallel to, the test samples. Table I presents a summary of the attached data records.

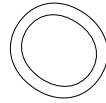
TABLE I. SUMMARY OF RESULTS

Number	Test Sample		Ballistic Threat			Results
	Thickness (in)	Weight (lb)	Caliber	Shots (b)	Velocity (fps) Max. Min.	Penetration
HPW-1	0.650	19.40	.44 Magnum	5	1444 1392	0
HPW-2	0.654	19.41	9mm Luger	5	1446 1400	0

(a) Average of four corner thicknesses.  
(b) Four impacts on 8 inch square, one in center.

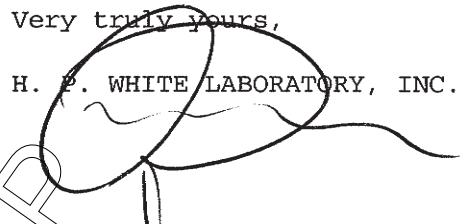
The requirements of NIJ-STD-0108.01 specify only that the shot pattern be "evenly-spaced". Integrating that requirement with a minimum allowable sample size of 12 x 12 inches, we have derived a shot pattern of one impact in each corner, and one impact in the center, of an 8 inch square located in the approximate center of the test samples.

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Based on the data presented in Table I, the test samples submitted for testing SATISFIED the ballistic resistance requirements of NIJ-STD-0108.01, Level IIIA. 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.

In accordance with your instructions, the test samples are being discarded. 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/wp  
enclosures

