

H.P. WHITE LABORATORY, INC.

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13 August 2009
(HPWLI 11272-01D)

Hercules High Performance Materials Co., Limited
RM3305, 33/F, Jin Zhong Huan Commercial Building
Jin Tian Road, Futian
Shenzhen, G.D. 518048 China

Attention: David Lee

Gentlemen:

In accordance with your instructions, H.P. White Laboratory, Inc. conducted ballistic resistance testing of one helmet sample (see enclosed data record for construction description) received 5 August 2009 via DHL.

Testing was conducted in accordance with your instructions, and the modified provisions of NIJ-STD-0106.01, BALLISTIC HELMETS, dated December 1981, using caliber .44 Magnum, 240 grain, SWCGC ammunition. The range of fair projectile velocities for this ammunition was that specified in NIJ-STD-0108.01, Level IIIA. The test sample was mounted on a penetration headform positioned 16.5 feet from the muzzle of a test barrel to produce zero degree obliquity impacts with respect to the tangent of the helmet curvature at the point of impact. Velocity 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 5.0 inches behind the interior surface of the helmet. Table I presents a summary of the attached data record.

TABLE I. SUMMARY OF RESULTS

| Test Sample | | | Ballistic Threat | | | | Results |
|-------------|-------------|--------------------|------------------|-------|---------------|---------|--------------|
| Number | Weight (lb) | Thickness (in) (a) | Caliber | Shots | Velocity(fps) | | Penetrations |
| | | | | | Maximum | Minimum | |
| 13 | 3.43 | 0.396 | .44 Magnum | 4 | 1406 | 1372 | 0 |

(a) Average of four edge thicknesses.

This report is based on data obtained from having tested only the sample 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 sample is being returned via DHL. 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
Enclosure



H.P. White Laboratory, Inc.

Client: HERCULES HIGH PERFORMANCE MATERIALS CO, LT

BALLISTIC RESISTANCE TEST

Job No. : 11272-01

Test Date : 8/13/09

TEST PANEL

Manufacturer: HERCULES ARMOR
 Size: 270x235x170 mm
 Thicknesses: 0.399, 0.400, 0.390, 0.397 in.
 Avg. Thick.: 0.396 in.
 Description: RIGID WOVEN POLYETHYLENE FILM IN MATRIX,
 (HELMET) MODEL: HELMET-PEIIIA- PASGT

Sample No. : 13
 Weight: 3.43 lbs.
 Hardness: NA
 Plies/Laminates: NA

Date Rec'd.: 08/05/09
 Via: DHL
 Returned: DHL

SET-UP

Shot Spacing: PER NIJ-STD-0106.01
 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 Wt.: 5.0 in.

Range No.: 5
 Temp.: 76 F
 BP: 29.68 in. Hg
 RH: 58%
 Barrel No./Gun: .44 MAG-R5
 Gunner: CONTRERAS, J
 Recorder: GORRERA

AMMUNITION

- (1): .44 MAG, SWCGC, 240 gr.
- (2):
- (3):
- (4):

Lot No.: PMC-B44243
 Lot No.:
 Lot No.:
 Lot No.:

APPLICABLE STANDARDS OR PROCEDURES

- (1) PER NIJ-STD-0106.01 (MODIFIED)
- (2) REQUIRED VELOCITY: 1350-1450fps
- (3)

| 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 | 2184 | 1374 | 2188 | 1371 | 1372 | None | (a) |
| 2 | 1 | 2147 | 1397 | 2149 | 1396 | 1397 | None | (b) |
| 3 | 1 | 2137 | 1404 | 2138 | 1403 | 1404 | None | (c) |
| 4 | 1 | 2133 | 1406 | 2134 | 1406 | 1406 | None | (d) |

REMARKS:

FOOTNOTES:

- (a) SHOT IMPACTED FRONT OF HELMET.
- (b) SHOT IMPACTED BACK OF HELMET.
- (c) SHOT IMPACTED RIGHT SIDE OF HELMET.
- (d) SHOT IMPACTED LEFT SIDE OF HELMET.