



## Ballistic Resistance – Test Report

<b>Client:</b>	<b>C-Bond Systems</b> Attention: Bruce Rich 6035 South Loop East Houston, TX 77033
<b>Report date:</b>	<b>30 March 2017</b>
<b>Job number:</b>	000007008I
<b>Test procedure and supporting documentation:</b>	P.O. # 1304 NIJ-STD-0108.01
<b>Sample receipt, identification information, and disposition:</b>	The sample(s) were received on <b>23 March 2017</b> . Sample item(s) were identified as annealed glass. The test sample(s) were inspected prior to testing and no anomalies were discovered. Sample(s) will be returned, discarded, or held, per customer instructions.
<b>Test date(s) and location:</b>	Testing commenced on <b>29 March 2017</b> , at the H.P. White Laboratory, Inc. facilities located at 3114 Scarboro Road, Street, Maryland. Testing concluded on <b>29 March 2017</b> .
<b>Report prepared by:</b>	Ashley Gowland, Customer Operations Coordinator
<b>Report reviewed by:</b>	Wesley Mason, Manager of Technical Operations - Hard Armor
<b>Revision number and date:</b>	NA
<b>Test data transmittal method and storage location:</b>	This test report and test data were transmitted via email in a manner compliant with ISO 17025 requirements. Permanent electronic and hardcopy files are maintained in accordance with HPWLI data storage policy on data storage systems, filed by job number.
<b>Disclaimer:</b>	Testing was performed on sample(s) provided by the client. H.P. White Laboratory, Inc. holds no responsibility for sample selection methods. This report is based on data obtained from testing only the sample(s) 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. This report must not be used by the client to claim product certification, approval, or endorsement by NVLAP, NIST, or any agency of the Federal Government. This testing was performed by H.P. White Laboratory, Inc. to client specification, and the test results are the property of the client, who holds all rights of reproduction or publication of this report and related test data.
<b>Destination control statement:</b>	These items are controlled by the U.S. government and authorized for export only to the country of ultimate destination for use by the ultimate consignee or end-user(s) herein identified. They may not be resold, transferred, or otherwise disposed of, to any other country or to any person other than the authorized ultimate consignee or end-user(s), either in their original form or after being incorporated into other items, without first obtaining approval from the U.S. government or as otherwise authorized by U.S. law and regulations.

**Test Procedures**

**Ballistic Testing:** All testing was conducted on an indoor range at ambient conditions, in accordance with your instructions and the abbreviated provisions of NIJ-STD-0108.01, Level II. Testing was conducted using caliber 357 Magnum, JSP, 158 grain ammunition. The test sample(s) were positioned 16.5 feet from the muzzle of the barrel to produce zero (0°) degree obliquity impacts. Photoelectric infrared screens were located at 6.5 feet and 9.5 feet which, in conjunction with electronic chronographs, were used to compute bullet velocities at 8.0 feet forward of the muzzle. Penetrations were determined by visual examination of the 0.020-inch-thick 2024-T3 aluminum alloy witness plate, placed 6.0 inches behind and parallel to the test sample(s). Table I provides a summary of information on the attached data record(s).

**Table I: Ballistic Resistance, Summary of Results**

Test Sample			Set-Up			Results	
Sample No.	Thickness (in.) (a)	Weight (lbs.)	Caliber	Obliquity	Shots (b)	Velocity (fps) Max/Min	Penetrations
CB4L135	0.537	15.03	357 Mag.	0°	5	1376/1353	0
(a) Average of thickness measurements (b) Shot spacing: Per Customer Request (c) See individual data record(s) for specific footnotes/remarks							

Report prepared by:



Ashley Gowland  
 Customer Operations Coordinator

Report reviewed by:



Wesley Mason  
 Manager of Technical Operations - Hard Armor



**TEST PANEL**

Manufacturer : C-Bond systems, LLC  
Size : 18 x 18 in.  
Thicknesses : 0.537, 0.537, 0.537, 0.536 in.  
Avg. Thick : 0.537 in.  
Description : 1/2" annealed glass  
(GROUP 3)

Sample No. : CB4L135 (357)  
Weight : 15.03 lbs.  
Hardness : NA  
Plies/Lamination : NA

Date Rec'd. : 3/23/17  
Via : Federal Express  
Returned : N/A

**SET-UP**

Shot Spacing : PER CUSTOMER REQUEST  
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. : 72 F  
BP : 30.10 in. Hg  
RH : 48%  
Barrel No./Gun : R3/ 357 MAG  
Gunner : CHES  
Recorder : BONSALL

**AMMUNITION**

(1) : 357 MAGNUM, JSP, 158 gr. Lot No. : 22847  
(2) : Lot No. :  
(3) : Lot No. :  
(4) : Lot No. :

**APPLICABLE STANDARDS OR PROCEDURES**

- (1) : NIJ-STD-0108.01
- (2) : LEVEL II
- (3) : REQUIRED VELOCITY: 1345-1445 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	2195	1367	2195	1367	1367	None	
2	1	2217	1353	2217	1353	1353	None	
3	1	2199	1364	2199	1364	1364	None	
4	1	2186	1372	2186	1372	1372	None	
5	1	2181	1376	2181	1376	1376	None	

<b>REMARKS :</b>	<b>FOOTNOTES :</b>