

Ballistic Testing Services

Report Number: BTR-06-19-2014-TBD-Sample 2

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Name: Oldcastle, Inc.  
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Report Date: June 19, 2014  
 Contact: Clint Brookhart  
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**Ballistic Results**

**Project Summary**

Type of Products to be tested: **Ballistic Wall Concrete**  
 Test Specimen Sample size(s): **16 x 16 inch**  
 Number of test specimens: **2 Samples**  
 Weight of all samples: **232 lbs**  
 Are Materials a Health Hazard: **No**  
 Need the Tests performed by: **within 7 to 10 days**  
 Need products shipped back: **No**  
 Purchase Order Number: **TBD**

**International Ballistic Standards / Specifications Testing**

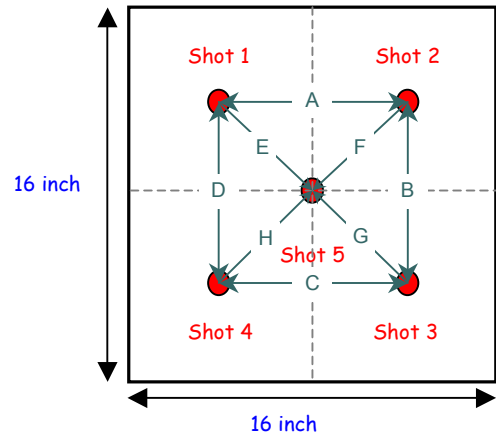
ASTM     Brunswick     FRA     NIJ     CFR Pass All  
 Australian     Canadian     Germ DIN     State Dept     CFR SYA  
 British     EN 1063     MIL-SAMIT     UL 752     Other  
 Test Standard: **Underwriters Laboratory UL752**  
 Particular Test: **UL Level 8 (.30 cal. 7.62 NATO FMJ)**  
 Velocity Range: **2,750 to 3,025 ft/s**  
 Number of Shots: **5 shots**  
 Spacing / Pattern: **4.5 inch square**

**Test Results**

Sample Number: **Sample 2**  
 Special Number: **119325-1**  
 Part Number: **110**  
 Item Number: **1900900**  
 Production Date: **May 19, 2014**  
 Sample Type: **Ballistic Wall Concrete**  
 Sample Size: **16 x 16 inch**  
 Thickness: **5.125 inch**  
 Weight: **114 lbs**  
 Weapon Type: **7.62 NATO**  
 Cartridge / Projectile Type: **7.62 NATO / M80 FMJ**  
 Projectile Weight: **150 grains**  
 Target Distance: **15 feet**  
 Number of Shots: **5 shots**

Shot Sequence:	Shot 1	Shot 2	Shot 3	Shot 4	Shot 5
Impact Velocity (ft/sec) *:	2,777	2,786	2,789	2,775	2,770
Impact Energy (ft-lbs):	2,568	2,585	2,590	2,564	2,555
Impact Momentum (lb-sec.):	1.85	1.86	1.86	1.85	1.84
Impact Angle (degrees):	0°	0°	0°	0°	0°
Penetration Effect:	NP	NP	NP	NP	NP

Witness plate material: **0.125 in. thick corrugated cardboard**  
 Spall catch box: **Not required**  
 Witness / Box Distance: **18 inches**  
 Spall Occurrence: **Small amount of spall. See page 2.**  
 Test Temperature: **76 ° F**  
 Test Date: **June 19, 2014**  
 Pass / Fail Results: **Passed the Test**



Impact Spacing (inches)	
A	4.50
B	4.50
C	4.60
D	4.40
Average 4.50	
E	3.19
F	3.19
G	3.20
H	3.10
Average 3.17	

**Footnotes**

\* Velocity measurements were taken at a distance of 6 feet from muzzle.

NP = No Penetration  
 CP = Complete Penetration

**Test and Report Engineers**

Tested and Reported by: **Sam Raheb**

Signature: *Sam Raheb*

Date: **June 19, 2014**

Name: Oldcastle, Inc.

Report Date: June 19, 2014

Ballistic Test Results and Photographs

Ballistic Test Results:

The test sample passed the Underwriters Laboratory UL752 Level 8 (.30 cal. 7.62 NATO FMJ) Ballistic test.

Projectile Penetration Effects:

There was no partial or complete projectile penetration of the sample for all 5 shots.

Witness Plate and Spall Effects:

A small amount of spall was observed but no damage to the 0.125 in. thick corrugated cardboard witness plate occurred.

Photographs

The following photographs show both the pre and post-test sample. Additional larger sized photographs are included with this report.

Sample 2: 16 x 16 x 5.125 inch UL752 Level 8 7.62 NATO Concrete Wall Material



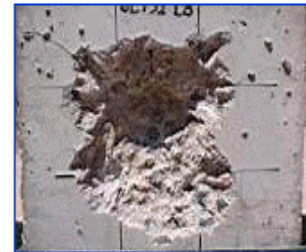
Pre Test Impact Side



Pre Test Side View



Pre Test Rear Side



Post Test Impact Side



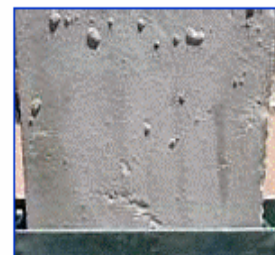
Post Test Impact Side



Post Test Impact Side



Post Test Rear Side



Post Test Rear Side

Test and Report Engineers

Tested and Reported by: Sam Raheb

Signature: *Sam Raheb*

Date: June 19, 2014