



The following blast standards pertain to windows, doors, walls, vehicle barriers and other miscellaneous items. This document provides a broad overview, but may not include all related standards. If you have any questions, or would like to discuss any physical security needs, please email <a href="https://document.needs.needs.needs">Holly@StoneSecurityEngineering.com</a>.

#### **Window Standards**

| Organization | Document<br>Title                  | Brief Description   |
|--------------|------------------------------------|---|
| AAMA         | <u>510-06</u>                      | Voluntary Guide Specification For Blast Hazard Mitigation For Fenestration Systems  |
| ASTM         | C1172-09e1                         | Standard Specification For Laminated Architectural Flat Glass   |
| ASTM         | <u>C1349-10</u>                    | Standard Specification For Architectural Flat Glass Clad Polycarbonate  |
| ASTM         | <u>C1564-04</u>                    | Standard Guide For Use Of Silicone Sealants For Protective Glazing Systems  |
| ASTM         | <u>E1300</u>                       | General Buildings: Standard evaluation of the static capacity of laminated glass. Required by DoD to determine the performance of glass using a static approach.  |
| ASTM         | <u>F1233-08</u>                    | Standard Test Method for Security Glazing Materials and Systems   |
| ASTM         | <u>F1642-12</u>                    | Standard Test Method For Glazing And Glazing Systems Subject To Airblast Loadings   |
| ASTM         | F2248-12                           | Standard Practice For Specifying An Equivalent 3-Second Duration Design Loading For Blast Resistant Glazing Fabricated With Laminated Glass   |
| ASTM         | F2912-11                           | Standard Specification For Glazing And Glazing Systems Subject To Airblast Loading  |
| BSI          | 6375-<br>3:2009+A1:20<br><u>13</u> | Performance Of Windows And Doors. Classification For Additional Performance<br>Characteristics And Guidance On Selection And Specification  |
| BSI          | E <u>N</u><br>13541:2012           | Glass In Building. Security Glazing. Testing And Classification Of Resistance Against Explosion Pressure  |
| ISO          | 16933:2007                         | Glass in building Explosion-resistant security glazing Test and classification for arena air-blast loading  |
| ISO          | <u>ISO</u><br><u>16934:2007</u>    | Glass in building – Explosion-resistant security glazing – Test and classification by shock-tube loading  |
| UFC          | <u>4-010-01</u>                    | The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD (AT&L) Memorandum dated 29 May 2002. |
| UFGS         | <u>08 56 53</u>                    | Blast Resistant Tempered Glass Windows  |

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**Blast Resistant Product Standards** 

February 2014

Page 1



### **Door Standards**

| Organization | Document<br>Title | Brief Description  |
|--------------|-------------------|--|
| ASTM         | F2247-11          | Standard Test Method For Metal Doors Used In Blast Resistant Applications (Equivalent Static Load Method)  |
| ASTM         | F2927 - 12        | Standard Test Method For Door Systems Subject To Airblast Loadings   |
| UFC          | 4-010-01          | The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD (AT&L) Memorandum dated 29 May 2002 |
| UFGS         | 08 39 53          | Blast Resistant Doors (Oval Arch Magazines)  |
| UFGS         | 08 39 54          | Blast Resistant Doors  |

### **Vehicle Barrier**

| Organization | Document                       | Brief Description  |
|--------------|--------------------------------|--|
|              | Title                          |  |
| ASTM         | <u>ASTM-2656-</u><br><u>07</u> | Standard Test Method for Vehicle Crash Testing of Perimeter Barriers                 |
| UFC          | UFC 4-022-<br>02               | Selection and Application of Vehicle Barriers  |
| DoS          | SD-STD-<br>02.01               | Vehicle Crash Testing of Perimeter Barriers and Gates                                |
| PAS          | PAS 68:2013                    | Impact test specifications for vehicle security barriers                             |
| PAS          | PAS 69:2013                    | Guidance for the selection, installation and use of vehicle security barrier systems |

# **Testing**

| Organization | Document<br>Title | Brief Description   |
|--------------|-------------------|---|
| ASTM         | <u>E2639 - 12</u> | Standard Test Method for Blast Resistance of Trash Receptacles                    |
| ASTM         | <u>F1233-08</u>   | Standard Test Method for Security Glazing Materials and Systems                   |
| ASTM         | <u>F1642</u>      | Standard Test Method For Glazing And Glazing Systems Subject To Airblast Loadings |
| ASTM         | F1642-12          | Standard Test Method For Glazing And Glazing Systems Subject To Airblast Loadings |

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**Blast Resistant Product Standards** 

February 2014

Page 2





| Organization | Document<br>Title   | Brief Description   |
|--------------|---------------------|---|
| BSI          | EN 13123-<br>1:2001 | Windows, Doors And Shutters. Explosion Resistance. Requirements And Classification For Shock Tube |
| BSI          | EN 13123-<br>2:2004 | Windows, Doors, And Shutters. Explosion Resistance. Requirements And Classification. Range Test   |
| BSI          | EN 13124-<br>1:2001 | Windows, Doors And Shutters. Explosion Resistance. Test Method for Shock Tube.                    |
| BSI          | EN 13124-<br>2:2004 | Windows, Doors And Shutters. Explosion Resistance. Test Method-Range Test                         |
| GSA          | GSA-TS01-<br>2003   | Standard Test Method for Glazing and Window Systems Subject to Dynamic<br>Overpressure Loadings   |

## **Trash Receptacles**

| Organization | Document<br>Title   | Brief Description  |
|--------------|---------------------|--|
| BSI          | <u>E2639 - 12</u>   | Standard Test Method for Blast Resistance of Trash Receptacles                       |
| BSI          | E2740-12E1          | Standard Specification for Trash Receptacles Subjected to Blast Resistant Testing    |
| BSI          | E2831/<br>E2831M-11 | Standard Guide for Deployment of Blast Resistant Trash Receptacles in Crowded Places |

## **Design Guidelines**

| Organization | Document<br>Title  | Brief Description  |
|--------------|--------------------|--|
| AISC         | Design Guide<br>26 | Design of Blast Resistant Structures provides guidance for the design of blast resistant structures and progressive collapse mitigation.   |
| ASCE         | 59-11              | Blast Protection of Buildings provides minimum requirements for planning, design, construction, and assessment of new and existing buildings subject to the effects of accidental or malicious explosions.   |
| PDC          | TR 10-02           | Blast Resistant Design Methodology for Window Systems Designed Statically and Dynamically  |
| PDC          | TR 06-08           | Single-Degree-of-Freedom Structural Response Limits for Antiterrorism Design   |
| UFC          | 3-340-02           | Structures to Resist the Effects of Accidental Explosions  |
| UFC          | <u>4-010-01</u>    | The Unified Facilities Criteria (UFC) system is prescribed by MIL-STD 3007 and provides planning, design, construction, sustainment, restoration, and modernization criteria, and applies to the Military Departments, the Defense Agencies, and the DoD Field Activities in accordance with USD (AT&L) Memorandum dated 29 May 2002 |

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**Blast Resistant Product Standards** 

February 2014

Page 3