



Standard Practice for Testing Forced Entry, Ballistic and Low Impact Resistance of Security Fence Systems¹

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1. Scope

1.1 The forced entry resistance of fence systems is evaluated relative to three levels of forced entry threat using the limited hand tool inventory outlined in [Table 1](#). It also establishes a system for rating the forced entry resistance of those systems (see [Table 2](#)). The tools specified to be used for testing at each threat level are those that are known to have a maximum destructive effect on structures and their sub-assemblies and are readily available to aggressors categorized as posing that level of threat.

1.1.1 *Low Threat Level (L)*—Specifically exempted from the inventory of available tools for the low (L) threat level category are power tools (gasoline, electric or hydraulic), and devices requiring more than one person to transport and operate.

1.1.2 *Medium Threat Level (M)*—Specifically exempted from the inventory of available tools for the medium (M) threat level category are power tools requiring an outside power source or self contained gasoline or battery driven tools and devices requiring more than two persons to transport and operate.

1.1.3 *Aggressive Threat Level (A)*—Specifically exempted from the inventory of available tools for the high (H) threat level category are devices requiring more than two persons to transport and operate.

1.2 The ability of a fence system to offer protection from bullets fired from a rifle or handgun would be beneficial particularly in Border Fence areas where security personnel can be targets during patrol activities. Accordingly, a limited test using a .38 Special handgun and a 7.62-mm rifle is performed to determine if any level of protection is provided by the fence system.

1.3 The ability of a fence system to provide impact resistance from a 4000 pound mass vehicle moving at a velocity of

20 MPH at a modest cost will provide relative guidance as to the strength of a security fence system in resisting low impact situations.

2. Referenced Documents

2.1 *ASTM Standards*:²

[F1233 Test Method for Security Glazing Materials And Systems](#)

2.2 *SAE Standard*:³

[SAE J972 Moving Rigid Barrier Collision Tests](#)

2.3 *U.S. Military Standards*:⁴

[MIL-STD-662F Department of Defense Test Method Standard V50 Ballistic Test for Armor](#)

2.4 *U.S. Dept. of Justice*:⁵

[NIJ Standard 0108.01 National Institute of Justice Ballistic Resistant Protective Materials](#)

3. Terminology

3.1 *Definitions of Terms Specific to This Standard*:

3.1.1 *test director*—the individual identified by the independent testing laboratory as being responsible to complete the specified tests and to document the results.

3.1.2 *forced entry*—creating a four square feet opening.

4. Summary of Practice

4.1 For each rating a structured portion and a discretionary portion as described in [4.2](#) and [4.3](#) is required.

4.2 The structured portion of the test provides for a zero to five minute test with specific tools selected as the most debilitating from the tool list in [Table 1](#), regardless of the fence system being tested.

¹ This practice is under the jurisdiction of ASTM Committee F14 on Fences and is the direct responsibility of Subcommittee F14.50 on High Security Fences and Perimeter Barriers.

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² For referenced ASTM standards, visit the ASTM website, www.astm.org, or contact ASTM Customer Service at service@astm.org. For *Annual Book of ASTM Standards* volume information, refer to the standard's Document Summary page on the ASTM website.

³ Available from SAE International (SAE), 400 Commonwealth Dr., Warrendale, PA 15096, <http://www.sae.org>.

⁴ Available from National Institute of Standards and Technology (NIST), 100 Bureau Dr., Stop 1070, Gaithersburg, MD 20899-1070, <http://www.nist.gov>.

⁵ Available from National Institute of Justice (NIJ), 810 7th St., NW, Washington, DC 20531, <http://nij.gov>.