



Delay-Rated Security Fencing: ASTM F2781 and LPS 1175, Side by Side

Vehicle barriers get the attention; the fence line does most of the work. This paper compares the two frameworks used to rate forced-entry delay in security fencing — and what each one actually tells a United States specifier.

ABSTRACT

- **Scope:** forced-entry delay ratings for security fence and gate systems under ASTM F2781 (United States) and LPS 1175 (United Kingdom).
- **Finding 1:** the frameworks are different instruments — F2781 is a consensus test practice producing a laboratory report; LPS 1175 is a proprietary certification scheme producing a maintained listing.
- **Finding 2:** in both frameworks, demonstrated delay performance comes from the attack test itself. Surveillance audits and listing maintenance address production consistency and scheme administration, not tested strength.
- **Recommendation:** for United States procurement, specify delay by ASTM F2781 threat level and delay time, evidenced by an independent accredited laboratory report; review overseas certificates as supplementary information where their attack-test data is disclosed.

1 The problem: delay is the fence's job, and few people rate it

A perimeter fence does not stop a determined intruder; it delays one. Delay converts a detection event into a response opportunity — the minutes between alarm and interception are purchased, physically, at the fence line. Yet forced-entry delay ratings remain poorly understood in the US market, and specifications routinely describe fence “security” by height and mesh size rather than tested delay. Two frameworks fill the gap: ASTM F2781 in the United States and LPS 1175 in the United Kingdom. They are frequently presented as interchangeable. They are not.

2 What each framework is

ASTM F2781, *Standard Practice for Testing Forced Entry, Ballistic and Low Impact Resistance of Security Fence Systems*, is a voluntary consensus test practice from ASTM Subcommittee F14.50. It defines tool inventories for three escalating threat levels (power tools excluded at the lowest) and a timed attack method for fence and gate systems. Any qualified laboratory can test to it; the output is a report documenting what the tested article withstood, for how long, against which tools.

LPS 1175 is a Loss Prevention Standard owned and administered by the Loss Prevention Certification Board (LPCB), part of BRE Group. Issue 8 classifies products by toolkit letter A–H plus minimum delay minutes (1, 3, 5, 10, 15, 20) — e.g. C5, D10. It is not only a test method but a certification scheme: approval requires testing at BRE, ongoing factory production control audits, and a maintained Red Book listing, each carrying fees payable to the certification body for as long as the certificate is held.

3 Classification systems compared

	ASTM F2781	LPS 1175 (ISSUE 8)
Instrument type	Consensus test practice; output is a lab test report	Proprietary certification scheme; output is a maintained certificate and Red Book listing
Threat structure	Three threat levels by tool inventory; power tools excluded at the lowest	Eight tool categories (A–H), battery/powered tools at upper categories
Delay expression	Timed resistance per threat level, durations up to 15 minutes	Minimum delay classes of 1/3/5/10/15/20 minutes paired with tool category
Who tests	Any qualified laboratory; the spec requires independence and accreditation	BRE's own laboratory, within the LPCB approval process
Evidence available	Full report: tools, attack sequence, times, failure modes, tested configuration	Certificate and listing; detailed attack data stays with the scheme unless the manufacturer discloses it

4 Institutional structure and incentives

ASTM International is a nonprofit standards development organization. Its committees are balanced by rule — members are classified as producers, users, consumers, and general interest, and producers are capped at no more than half of any subcommittee's vote. A manufacturer cannot outvote the users of its own products. ASTM sells documents and membership; it does not test, certify, license marks, or collect recurring fees from companies whose products meet its standards. It has no financial relationship contingent on any product passing or failing, and no listing whose renewal generates revenue.

LPS 1175 is owned by LPCB, a brand of BRE Group Limited — the commercial company created when the UK privatized its national Building Research Establishment in 1997, itself owned by the BRE Trust, a registered UK charity. Within this structure LPCB operates as a commercial certification body: it writes the standard, performs the testing, grants the approval, audits the factory, and maintains the listing — each stage a paid service, initial and annual. This is a conventional, openly published scheme model and LPCB's marks are respected internationally. But the structural fact remains: the organization that decides whether a product is listed derives continuing revenue from the population of listed products. Under the ASTM model, independence between rule-maker, tester, and manufacturer is inherent to the architecture rather than managed within one organization.

5 Jurisdiction: which framework governs where

LPS 1175 is a United Kingdom scheme — insurance-sector heritage, UK testing, embedded in UK government security guidance, specified across the UK, parts of Europe, and the Middle East. Within that ecosystem it is the native benchmark.

United States procurement runs on a different chassis. Federal and state specifications cite ASTM standards as a matter of course; CSI-format specs reference ASTM designations natively; US laboratories work to ASTM methods; and F2781 was developed with US military, homeland security, and utility users at the table. A US specification built on an overseas scheme inherits friction at every step: conformance rests on a certificate issued under foreign scheme rules rather than a reviewable report, changes route through one laboratory abroad, and enforcing a “certified equal” at submittal means interpreting a scheme the project's engineers do not administer. None of this reflects on the quality of UK-certified products; it is a statement about fit. **For work governed by United States procurement, the enforceable currency is an ASTM designation supported by a laboratory report.**

6 What ongoing surveillance does — and does not — certify

The most misunderstood difference is LPS 1175's audit requirement. Under the LPCB scheme, certificate continuation depends on periodic factory production control audits and continued scheme fees. Under the ASTM model there is no

surveillance component: the report documents the tested article, and the specification ties production units to the tested configuration through ordinary submittal and quality clauses.

Be precise about what each element proves. The delay rating — in both frameworks — is established by the attack test, once, on a specific tested configuration. A factory audit verifies the manufacturer still builds the product the way it built the test article. That is a legitimate assurance function, but it adds nothing to the demonstrated strength of the design: an audited C5 fence and an unaudited fence built to an F2781-tested drawing package have both proven their delay exactly once, in a laboratory attack. A US specifier can obtain equivalent production assurance domestically — certified mill test reports, weld procedure qualifications, fabrication tolerances, third-party inspection where warranted — without routing it through the certifier's annual fee cycle. The audit model binds the assurance function and its recurring cost to the certification body itself; that is a commercial design of the scheme, not an increment of tested performance.

7 Guidance for United States specifiers

- **Specify delay in ASTM terms:** timed forced-entry testing of the complete fence or gate system per ASTM F2781 at the threat level the risk assessment supports, delay stated in minutes.
- **Require the report, not a mark:** full independent accredited laboratory report in the submittal — tools, attack timeline, failure modes, exact tested configuration.
- **Tie production to the tested article** through drawings and quality clauses, exactly as with crash-rated barriers.
- **Treat overseas certificates as supplementary:** an LPS 1175 class is meaningful data where the underlying attack-test detail is disclosed; it should not substitute for the ASTM basis of a US specification.
- **Rate the whole line:** a twenty-minute fence with a ninety-second gate is a ninety-second perimeter.

8 Conclusion

ASTM F2781 and LPS 1175 both bring engineering discipline to a question the market has answered with marketing for too long: how many minutes does the fence actually buy? They are not interchangeable. One is an open consensus test method whose evidence is a report the specifier can read, written under rules that structurally separate the standard's author from the products it measures. The other is a well-established but proprietary overseas certification scheme in which authorship, testing, approval, and recurring revenue reside in a single commercial organization. For United States projects, the specification should stand on the framework its procurement system can enforce — ASTM — and evaluate everything else as supporting information.

Status of this paper: Draft for review. Organizational descriptions summarize public filings and the bodies' own published documentation; standard-content descriptions summarize secondary sources. Verify against ASTM F2781 and LPS 1175 Issue 8 texts before release. NPSI sells no products and lists no manufacturers in this paper.

SOURCES & FURTHER READING

1. ASTM International, F2781-15(2021), *Standard Practice for Testing Forced Entry, Ballistic and Low Impact Resistance of Security Fence Systems*, Committee F14 / Subcommittee F14.50.
2. ASTM International, *Committee Balance and Voting Requirements* — producer classification and voting caps.
3. LPCB, LPS 1175 Issue 8, *Requirements and testing procedures for the LPCB approval and listing of intruder resistant building components, strongpoints, security enclosures and free-standing barriers* (2019).
4. BRE Group corporate history — privatization of the Building Research Establishment (1997); BRE Trust, UK Charity Commission register.
5. LPCB Red Book Live — published listings of LPS-certificated products.