



TECHNICAL NOTE 001 · REV 0 · DRAFT FOR REVIEW

Specifier's Checklist: Writing an Enforceable Vehicle Barrier Specification

A vehicle barrier specification is enforceable when every requirement can be checked against a document the contractor must produce. This note is the checklist NPSI recommends running before a barrier spec goes out for bid.

1 Name the performance, in current test-standard terms

REQUIREMENT

- ☐ **ASTM F2656/F2656M condition designation stated** (e.g. M50) — not a retired DOS K-rating alone.
DOS discontinued K certifications effective February 1, 2009. A K-only spec cannot be checked against a current report.
- ☐ **Penetration rating stated** (P1 unless the standoff analysis justifies otherwise).
The condition designation without the P rating is half a result. M50 P3 concedes 30 m.
- ☐ **Edition identified** (e.g. F2656/F2656M-20) or "current edition at time of test."
P4 was removed in the 2015 revision; edition drift changes what a report means.
- ☐ **Threat basis documented:** design vehicle and achievable approach speed from site geometry.
Defends the rating you chose — up or down — at review.

2 Require the evidence, not the claim

REQUIREMENT

- ☐ **Full crash test report in the submittal**, from an independent accredited laboratory.
"Engineered to," "designed to," and simulations are claims. The report is the certification.
- ☐ **Report matches the exact product proposed** — model, size, material grade.
"Same family" is not the same product.
- ☐ **Tested configuration matches the installed configuration:** foundation depth, reinforcement, embedment, unit spacing, soil/slab condition.
The certification covers the tested configuration. A 36-inch-foundation rating says nothing about a 12-inch slab.
- ☐ **For active barriers: state at impact defined** (deployed/locked), plus cycle rate, emergency-fast time, and fail-secure vs. fail-safe behavior.

Red flag: a datasheet claiming simultaneous "M50 / PAS 68 / IWA 14 equivalent" performance from one test. One test certifies one standard. Three claims require three reports — require all of them.

3 Model specification language

Vehicle barrier shall have been physically crash tested by an independent accredited laboratory in accordance with ASTM F2656/F2656M, achieving condition designation [M50] with penetration rating [P1], in a foundation and spacing configuration matching the installed condition shown on the drawings. The complete laboratory test report shall be included in the submittal. Certificates, letters of conformance, simulations, or engineering calculations shall not be accepted in lieu of the test report.

4 Close the loopholes

Requirement	
☐	Substitution clause requires equal evidence: any proposed equal must meet §1 and §2 with its own report.
☐	Penetration measured to the cargo-bed datum per the standard — reject reports quoting bumper or chassis penetration.
☐	Field conditions verified: geotech report supports the tested foundation; utilities located before depth is finalized.
☐	Operation and maintenance: spare parts, service intervals, and for active barriers a commissioning test procedure.
Status of this note: Draft for review. Figures cite ASTM F2656/F2656M and DOS SD-STD-02.01 Rev A as summarized in NPSI's standards guides. Verify against the published standard text before release. NPSI sells no products and lists no manufacturers in this note.	