



ADVICE NOTE

Due Diligence in the Selection and Procurement of Vehicle Security Barriers

NPSA recommend that a barrier deployed for the purposes of countering terrorism to protect assets against vehicle-borne threats should be a 'Rated Vehicle Security Barrier' that has been assessed against a vehicle test standard.

The testing should:

- ✓ *be conducted to a recognised vehicle test standard*
- ✓ *be performed at an independent test house*
- ✓ *achieve a performance rating in accordance with the chosen standard*

Barrier selection should be based on a security Operational Requirement¹ and a detailed specification².

NPSA recommend:

- ✓ specifiers familiarise themselves with the vehicle impact test standards for vehicle security barriers;
- ✓ assessing the barrier's vulnerability to threat vehicle scenarios relevant to your site, the Operational Requirement and the specification;
- ✓ projects use suitably qualified and experienced security consultants¹, who specialise and can demonstrate competency in the discipline of hostile vehicle mitigation; and
- ✓ reviews are conducted during the barrier specification, procurement, construction and installation stages to ensure compliance with the Operational Requirement, specification, detailed design and vehicle impact test standard to which the barrier was tested.

The allocation of a performance rating **does not** imply a barrier will perform as tested in all sites or applications; and against all threat vehicle scenarios (vehicle class, impact speed, impact angle and multiple impacts). A barrier might have more than one performance rating (to the same standard or different ones) if:

- several tests to different standards have been conducted on the barrier; or
- a single impact test has been commissioned and conducted in accordance with stringent test criteria across different specified standards (such as vehicle class/mass/dimensions, impact speed, ground conditions).

¹ [Operational Requirements](#) (NPSA)

² Completing a [Vehicle Security Barrier Scoping Document](#) (NPSA) can assist the production of a specification.

Further advice on [hostile vehicle mitigation](#) and ISO 22343-2³.

When assessing barriers, clients should seek assurance through their design and procurement process by asking:

- ☐ does the barrier have an **impact rating**?
- ☐ does the barrier have a **VADS rating**⁴?
- ☐ which **barrier** (make, model and designation) was tested?
- ☐ what **configuration** was the barrier tested in for each test? (*i.e. length, height, width, number of units/sections, anchoring/fixings, ground conditions etc.*)
- ☐ where the vehicle impacted the barrier? (*e.g. middle or end of barrier*)
- ☐ what **vehicle impact test standard** was it tested to?
Recognised standards are: ISO22343-1⁵ IWA 14-1⁶, PAS 68⁷, ASTM F2656⁸, CWA 16221⁹, PAS 170-1¹⁰.
- ☐ what **performance rating** was allocated? (e.g., classification code: ISO 22343-1:2023 V/7200[N3C]/48/90:2.6/5.0)
- ☐ which **test house** conducted the testing?
- ☐ is the **test house accredited** to ISO 17025¹¹?
- ☐ is the **test house accredited**¹² for the impact test standard the barrier has been tested to?
- ☐ for a copy of the **test report**¹³ **from the test house** to ensure independence (authorised by the manufacturer).
- ☐ to review the **test house's footage and photography** of the respective impact test.
- ☐ is the barrier listed in the NPSA Catalogue of Security Equipment?
- ☐ if the vehicle impact performance of the barrier meets the Operational Requirement and specification.

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³ ISO 22343-2:2023 Security and resilience — Vehicle security barriers Part 2: Application

⁴ NPSA VADS – CSE Delay Rated Chapter

⁵ ISO 22343-1: 2023 Security and resilience — Vehicle security barriers Part 1: Performance requirement, vehicle impact test method and performance rating

⁶ ISO - IWA 14-1:2013 - Vehicle security barriers - Part 1: Performance requirement, vehicle impact test method and performance rating

⁷ BSI - PAS 68 - Impact test specifications for vehicle security barrier systems

⁸ ASTM F2656 / F2656M - Standard Test Method for Crash Testing of Vehicle Security Barriers

⁹ BSI - CWA 16221:2010 - Vehicle security barriers. Performance requirements, test methods and guidance on application (withdrawn)

¹⁰ BSI - PAS 170-1 - Vehicle security barriers. Low speed impact testing. Trolley impact test method for bollards

¹¹ ISO - IEC 17025 - General requirements for the competence of testing and calibration laboratories (June 2019)

¹² List of UKAS accredited test houses in the UK providing vehicle and track testing (June 2019)

¹³ Alternatives from the test house may be a test certificate or test summary document.