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**Vehicle security barriers —**

Part 1:  
**Performance requirement, vehicle  
impact test method and performance  
rating**

*Barrières de sécurité de véhicule —*

*Partie 1: Exigence de performance, méthode d'essai d'impact du  
véhicule et taux de performance*



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## Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the WTO principles in the Technical Barriers to Trade (TBT) see the following URL: [Foreword - Supplementary information](#)

International Workshop Agreement IWA 14 was sponsored by UK Government's Centre for the Protection of National Infrastructure (CPNI) on behalf of the international community. The development of this IWA was facilitated by BSI Standards Limited. It came into effect on 15 November 2013.

IWA 14 consists of the following parts, under the general title *Vehicle security barriers*:

- *Part 1: Performance requirement, vehicle impact test method and performance rating*
- *Part 2: Application*

## Introduction

### 0.1 Workshop contributors

Acknowledgement is given to the following organizations that were involved in the development of this International Workshop Agreement:

- Allen Total Perimeter Security Limited
- APT Security Systems
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- DELTA BLOC International GmbH
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- Heald Limited
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- L.I.E.R.
- Marshalls
- MFD International Limited
- Ministry of Commerce and Industry - Director General for Standards and Metrology (DGSM) (Sultanate of Oman)
- MIRA Ltd
- Norwegian Defence Estates Agency
- Perimeter Protection Group
- Perimeter Security Suppliers Association
- Rhino Engineering Ltd
- Royal Military Academy - Civil and Materials Engineering Department
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## **IWA 14-1:2013(E)**

- Technical and Test Institute for Construction Prague
- Texas A&M Transportation Institute
- Transport Research Laboratory (TRL)
- US. Department of State
- US. Nuclear Regulatory Commission
- US. Army Corps of Engineers - Protective Design Center

### **0.2 Relationship with other publications**

The following documents have been used to inform the development of this International Workshop Agreement:

- ASTM F 2656
- CWA 16221
- PAS 68
- PAS 69

### **0.3 Information about this document**

#### **Product testing**

Users of this part of IWA 14 are advised to consider the desirability of third-party testing of product conformity with this IWA. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI or any National Standards Body to forward their enquiries to the relevant association.

## Vehicle security barriers —

### Part 1:

## Performance requirement, vehicle impact test method and performance rating

### 1 Scope

This part of IWA 14 specifies the essential impact performance requirement for a vehicle security barrier (VSB) and a test method for rating its performance when subjected to a single impact by a test vehicle not driven by a human being.

It also includes the following optional assessments that can be carried out as part of the vehicle impact test method:

- a) pedestrian intruder access;
- b) occupant injury.

It does not cover the performance of a VSB or its control apparatus when subjected to:

- blast explosion;
- ballistic impact;
- manual attack, with the aid of tools (excluding vehicles); or
- electrical manipulation/attack of the access control system.

NOTE 1 For manual attack, a variety of test methods exist. For assessing intruder resistance of building components see Bibliography.

NOTE 2 The VSB is designed and tested on the basis of its application, including:

- a) vehicle type, mass and speed of the assessed vehicle-borne threat;
- b) its geographical application (e.g. climate conditions);
- c) intended site conditions (e.g. rigid or non-rigid soil).

It does not cover guidance on design, the operational suitability of a VSB or other impact test methods.

NOTE 3 Guidance on the selection and specification of a VSB by type and operational suitability is covered in IWA 14-2.

### 2 Normative references

The following documents, in whole or in part, are normatively referenced in this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ASTM C39 / C39M 10, *Standard test method for compressive strength of cylindrical concrete specimens*

EN 12390-2, *Testing hardened concrete — Part 2: Making and curing specimens for strength tests*