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PAS 301:2017

Civilian armoured vehicles – Automotive test methods



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Foreword

This PAS was sponsored by the Centre for the Protection of National Infrastructure (CPNI). Its development was facilitated by BSI Standards Limited and it was published under licence from The British Standards Institution. It came into effect on 30 April 2017.

Acknowledgement is given to the technical author from the Metropolitan Police Service, Special Projects and to the following organizations that were involved in the development of this PAS as members of the steering group:

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This PAS is not to be regarded as a British Standard. It will be withdrawn upon publication of its content in, or as, a British Standard.

The PAS process enables a test method to be rapidly developed in order to fulfil an immediate need in industry. A PAS can be considered for further development as a British Standard, or constitute part of the UK input into the development of a European or International Standard.

Relationship with other publications

The test methods described in this PAS were developed from the *VSAG 12 Part 3 (Draft): Civilian armoured vehicles – Automotive testing handbook [1]* with kind permission from the Vehicle Security Advisory Group (VSAG).

Product testing. Users of this PAS are advised to consider the desirability of third-party testing of product conformity with this PAS. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

Use of this document

The PAS refers only to technical suitability and does not absolve the user from legal obligations relating to health and safety at any stage.

It has been assumed in the preparation of this PAS that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

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Presentational conventions

The provisions of this PAS are presented in roman (i.e. upright) type. Its methods are expressed as a set of instructions, a description, or in sentences in which the principal auxiliary verb is "shall".

Commentary, explanation and general informative material is presented in smaller italic type, and does not constitute a normative element.

Where words have alternative spellings, the preferred spelling of the Shorter Oxford English Dictionary is used (e.g. "organization" rather than "organisation").

Requirements in this PAS are drafted in accordance with *Rules for the structure and drafting of UK standards*, subclause J.1.1, which states, "Requirements should be expressed using wording such as: 'When tested as described in Annex A, the product shall ...'". This means that only those products that are capable of passing the specified test will be deemed to conform to this PAS.

Contractual and legal considerations

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

Compliance with a PAS cannot confer immunity from legal obligations.

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Introduction

PAS 301 describes test methods that may be completed on a civilian armoured vehicle (CAV) to assess its automotive characteristics for payload, acceleration, maximum speed, through gear acceleration, handling, braking and run flat. The test methods are set out in a manner to allow each test to be completed independently. If more than one test is required on a CAV then the test order followed is usually payload, acceleration, maximum speed, through gear acceleration, handling, braking and run flat. One or multiple test vehicles may be used to complete testing in accordance with the test methods. Where it is agreed a change in test vehicle specification does not affect the properties being tested then read across of the test results is permitted.

For each test, careful consideration is given to any damage sustained on the test vehicle. If there is a risk of compromising or invalidating any further testing then actions are taken to minimize this risk. For example, new wheels and tyres may be used for the run flat test.

During any phase of testing it might become evident that the CAV design does not achieve acceptable results in accordance with the defined criteria set out in this PAS. In this situation the party requesting testing may be given the option to submit a redesign for retest. If this option is not taken, the test vehicle receives the assessed categorization. The party requesting testing may withdraw at any time from further testing.

The tests may be completed with the minimum requirements set out in this document. However, the party conducting the tests seeks to establish the maximum performance of the CAV.

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1 Scope

PAS 301 describes automotive test methods and performance categories for the payload, acceleration, maximum speed, through gear acceleration, handling, braking and run flat capabilities of a civilian armoured vehicle (CAV).

This PAS does not replace any statutory requirements for the inspection and testing of a vehicle.

NOTE For example the European Community Whole Vehicle Type Approval (EC-WVTA) [2] and Individual Vehicle Approval (IVA) [3].

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.

BS ISO 3888-1:1999, *Passenger cars – Test track for a severe lane-change manoeuvre – Part 1: Double-lane change*