



BSI Standards Publication

Specification for M1 vehicles for the carriage of one or more passengers seated in wheelchairs

Part 1: Manufacturing requirements

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Summary of pages

This document comprises a front cover, an inside front cover, pages i to iv, pages 1 to 70, an inside back cover and a back cover.

Foreword

Publishing information

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- Wheelchair Accessible Vehicle Converters' Association (WAVCA)

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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 It will be withdrawn upon publication of its content in, or as, a British Standard.

Relationship with other publications

PAS 2012 is published in two parts, as follows:

- *Specification for M1 vehicles for the carriage of one or more passengers seated in wheelchairs – Part 1: Manufacturing requirements*
- *Specification for M1 vehicles for the carriage of one or more passengers seated in wheelchairs – Part 2: Retail requirements*

Supersession

This PAS supersedes PAS 2012-1:2012, which is withdrawn.

¹⁾ www.wavca.co.uk

Use of this document

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.

Product certification/inspection/testing. Users of this PAS are advised to consider the desirability of third-party certification/inspection/testing of product conformity with this PAS. Appropriate conformity attestation arrangements are described in BS EN ISO/IEC 17050. Users seeking assistance in identifying appropriate conformity assessment bodies or schemes may ask BSI to forward their enquiries to the relevant association.

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Presentational conventions

The provisions of this standard are presented in roman (i.e. upright) type. Its requirements are expressed in sentences in which the principal auxiliary verb is "shall".

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

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0 Introduction

0.1 General

The UK wheelchair accessible vehicle (WAV) industry started in the early 1960s to assist people with a mobility impairment to travel in their wheelchair in a motor vehicle.

In the beginning most conversions were rudimentary, addressing only access and basic securing of the wheelchair. Since then, the WAV industry has grown enormously and the range of WAVs offered has also grown in response to customer demand. With an ageing population, the number of wheelchair users who require access to transport in both wheelchair accessible taxis and personal private vehicles is set to rise higher in the future.

In recent years, as a result of campaigning by UK industry, the European Commission has included WAVs as a new category of "special purpose vehicle" within the amendments of Directive 2007/46/EC [1]. However, compliance with Directive 2007/46/EC is not mandatory for all WAVs produced in the UK, as there are alternative approval routes open to manufacturers. In addition, the requirements of the Directive are, in the main, limited to the securing of the wheelchair and occupant within the WAV. They do not address accessibility issues. Furthermore, the Directive specifies certain tests based on an assumed maximum wheelchair mass of 85 kg, whereas electric wheelchairs substantially in excess of this mass are already routinely being carried in WAVs. Although certain basic requirements for rearward-facing wheelchair installations (such as in many UK taxis) are now included in the Directive, there is still no requirement for a head and back support. This has therefore been included in this PAS.

0.2 Accessibility

Minimum generic accessibility dimensions for WAVs do not take account of the varying sizes of wheelchair users and their wheelchairs, resulting in some larger wheelchair users being denied the use of a WAV and some users of smaller wheelchairs having to use WAVs which are far larger than needed, with the associated increased cost and environmental impact of running a larger WAV. Each individual wheelchair user or each particular specifier of WAVs have their own particular requirements and capabilities, so a WAV suitable for one wheelchair user might not be suitable for another.

In an attempt to address these issues, this PAS introduces a new gauge for measuring the accessibility of WAVs so that a set of key accessibility dimensions can be provided to the end user, enabling them to make an informed decision when selecting a WAV. Previous systems of providing measurements, based on simple linear dimensions taken with a tape measure, have not been able to take into account the space that might be required to manoeuvre a wheelchair from the WAV entrance to the travelling position. Potential purchasers of a WAV are usually aware of their principal dimensions when seated in their wheelchair and can compare these with a variety of potential WAVs prior to making a choice. Similarly, specifiers of WAVs for commercial duties (e.g. care homes or taxi licensing authorities) can select a particular set of minimum dimensions that satisfies their needs for any particular application.

The accessibility gauge used in this PAS was developed using data from the Department for Transport study, *A survey of occupied wheelchairs and scooters* (2006), conducted by CEDS. The survey took and catalogued various measurements of over 1 300 wheelchair users and their wheelchairs. The accessibility gauge used in this PAS is designed to be adjustable to represent the length, width and height