BS ISO 16121-2:2011

BSI Standards Publication

Road vehicles — Ergonomic requirements for the driver's workplace in line-service buses

Part 2: Visibility

This British Standard is the UK implementation of ISO 16121-2:2011. It supersedes BS ISO 16121-2:2005 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee AUE/12, Safety related to occupants.

A list of organizations represented on this committee can be obtained on request to its secretary.

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Compliance with a British Standard cannot confer immunity from legal obligations.

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Road vehicles — Ergonomic requirements for the driver's workplace in line-service buses —

Part 2: **Visibility**

Véhicules routiers — Exigences ergonomiques du poste de conduite dans les bus de ville —

Partie 2: Visibilité

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Contents

Page

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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 16121-2 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 13, *Ergonomics applicable to road vehicles*.

This second edition cancels and replaces the first edition (ISO 16121-2:2005), which has been editorially revised.

ISO 16121 consists of the following parts, under the general title *Road vehicles — Ergonomic requirements for the driver's workplace in line-service buses*:

— *Part 1: General description, basic requirements*

— *Part 2: Visibility*

— *Part 3: Information devices and controls*

— *Part 4: Cabin environment*

Introduction

Poor ergonomics in the driver's workplace in buses designed to provide scheduled urban and interurban services increase the already high physical and mental strains on the driver.

It is the aim of this part of ISO 16121 to supply the designer of line-service buses with information about how to develop an overall ergonomic concept for the driver's workplace. The recommended requirements on the driver's workplace for line-service buses made in this part of ISO 16121 are based on the scientific conclusions of the research project “driver's workplace in the line-service bus”. This was conducted in Germany and summarized in the VDV 234[1] recommendation. Further comprehensive ergonomic studies related to the design of an enhanced driver workplace conducted in the United States, Canada, the Netherlands, Sweden and the United Kingdom [2][3][4][5][6] have been considered and found to provide recommendations covering similar areas.

This part of ISO 16121 sets out to consider the practical implications for all ranges of drivers but particularly those with statures from 1,55 m (small female) to 2,0 m (large male). These statures include shoes (~30 mm).

It is also essential that the designer refers to the specifications and requirements of all parts of ISO 16121 (1 to 4) before completing the design of a driver's workplace.

It should be noted that where there is also national legislation covering any of the subjects contained herein, then both should be complied with. However, if a contradiction between the two should arise in any specific area, then the legislation shall prevail for that specific point only.

Road vehicles — Ergonomic requirements for the driver's workplace in line-service buses —

Part 2: Visibility

1 Scope

This part of ISO 16121 specifies the requirements for the driver's field of view to the area in front of the vehicle, to the entrance opposite the driver's seat and the interior compartment.

It applies to the driver's workplace in low-floor line-service buses designed for the carriage of passengers, comprising more than eight seats in addition to the driver's seat, and having a maximum weight exceeding five metric tonnes and an overall width exceeding 2,30 m.

2 Normative references

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

ISO 16121-1, *Road vehicles — Ergonomic requirements for the driver's workplace in line-service buses — Part 1: General description, basic requirements*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1
low-floor
vehicle in which at least 35 % of the area available for standing passengers (or of its forward section in the case of an articulated vehicle) forms a single area without steps, reached through at least one service door by a single step from the ground

3.2
vision point V1
point 635 mm vertically above the H-point (as defined in ISO 16121-1) with the seat in its rearmost highest position within the required seat H-point adjustment range specified in ISO 16121-1

NOTE The V1 and V2 vision points, as defined in ISO 16121-2, can differ from V1 and V2 vision points defined in national and international regulations.

3.3
vision point V2
point 635 mm vertically above the H-point (as defined in ISO 16121-1) with the seat in its foremost lowest position within the required seat H-point adjustment range specified in ISO 16121-1

NOTE The V1 and V2 vision points, as defined in ISO 16121-2, can differ from V1 and V2 vision points defined in national and international regulations.