INTERNATIONAL STANDARD

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

Part 3: Information devices and controls

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

Partie 3: Systèmes de contrôle et d'information

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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.

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 16121-3 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 13, *Ergonomics applicable to road vehicles*.

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 drivers.

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 recommendation VDV 234 [1]. 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 driver, but particularly those with heights from 1,58 m (small female) through to 2,0 m (large male).

It is also essential that the designer refer 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 3: Information devices and control

1 Scope

This part of ISO 16121 applies to the driver's workplace in low-floor 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 a maximum width exceeding 2,30 m.

It gives the requirements for the location of information devices and controls.

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*

ISO 2575, *Road vehicles — Symbols for controls, indicators and tell-tales*

ISO 4040, *Road vehicles — Location of hand controls, indicators and tell-tales in motor vehicles*

3 Terms, definitions and abbreviated terms

3.1 Terms and definitions

For this part of ISO 16121, the following terms and definitions apply.

3.1.1
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

3.1.2
early warning
visual signal, no immediate action required

3.1.3
alert
visual signal alarm, immediate action required