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

Part 1: General description, basic requirements

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

Partie 1: Description générale, exigences de base



Reference number ISO 16121-1:2005(E)

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Contents

Foreword		iv
Intro	duction	v
1	Scope	1
2	Normative references	1
3	Terms and Definitions	1
4	Basic requirements	2
4.1	DimensionsQ	2
4.2	Driver's workplace in general	5
4.3	Driver's seat	6
4.4	Dimensions Driver's workplace in general Driver's seat Pedals	9
4.5	Steering	12
Bibli	ography	13

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Foreword

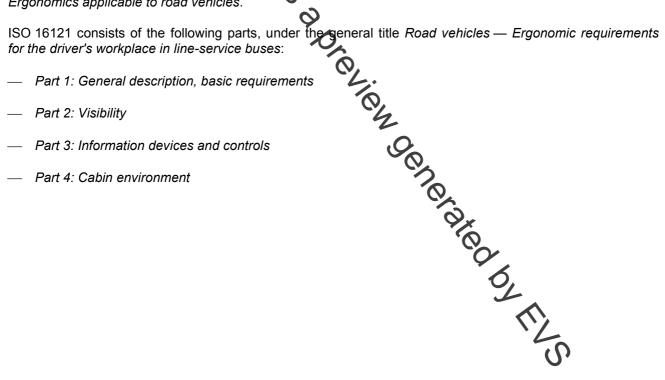
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Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 16121-1 was prepared by Technical Committee ISO/TC 22, Road vehicles, Subcommittee SC 13, Ergonomics applicable to road vehicles.



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 desearch project "Driver's workplace in the line-service bus". This was conducted in Germany and summarized in the recommendation VDV 234 ^[3]. 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 ^[4, 5, 6, 7, 8] have been considered and found to provide recommendations covering similar areas.

This part of ISO 16121 sets out o consider the practical implications for all ranges of driver, but particularly those with heights from 1,58 m (small female) 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 his design of a driver's workplace.

It should be noted that where there is also ational 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.



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

Part 1: General description, basic requirements

1 Scope

This part of ISO 16121 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 pietric tonnes and an overall width exceeding 2,30 m.

It contains basic requirements for an ergonomic and comfortable seating position, which is essential to keep drivers in a good state of health. The dimensions and mounting positions of driver's seat, pedals and steering have to be carefully chosen, to enable drivers to sit in an ergonomic seating position, i.e. sitting at angles which comply with the given ranges of comfort and to allow some variation when seated.

2 Normative references

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

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

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ISO 6549, Road vehicles — Procedure for H- and R-point determination

ISO 10326-1, Mechanical vibration — Laboratory method for evaluating vehicle seat vibration — Part 1: Basic requirements

3 Terms and definitions

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

3.1

low-floor

a 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

required

values representing present state of the art that, when applied, achieve an acceptable level of ergonomic design