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**Road vehicles — Methods and criteria  
for usability evaluation of child restraint  
systems and their interface with vehicle  
anchorage systems —**

Part 1:

**Vehicles and child restraint systems  
equipped with ISOFIX anchorages  
and attachments**

*Véhicules routiers — Méthodes et critères pour l'évaluation de la facilité  
d'utilisation des systèmes de retenue pour enfants, et leurs interfaces  
avec les systèmes d'ancrage dans le véhicule —*

*Partie 1: Véhicules et systèmes de retenue pour enfants équipés  
d'ancrages et d'attaches ISOFIX*



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Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
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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 29061-1 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 12, *Passive safety crash protection systems*.

ISO 29061 consists of the following parts, under the general title *Road vehicles — Methods and criteria for usability evaluation of child restraint systems and their interface with vehicle anchorage systems*:

- *Part 1: Vehicles and child restraint systems equipped with ISOFIX anchorages and attachments*
- *Part 2: Manual to assist the usability assessments of ISO 29061-1* (Technical Report)

## Introduction

The usability of a child restraint system (CRS) in terms of ease of

- installation of child restraint systems in various vehicles, and
- day-to-day use with a child (securing, harnessing, adaption for a growing child, etc.),

is of utmost importance to ensure that a CRS is used properly in accordance with the manufacturer's intentions, and to ensure that it will provide maximum protection in a crash situation. An international agreement on usability criteria and measurements is beneficial for both consumers and manufacturers.

The aim of this part of ISO 29061 is to develop and validate a usability rating system for ISOFIX systems to promote improved ISOFIX design for easy and correct use. It provides child restraint and vehicle manufacturers with a tool for the assessment of the usability of new and current ISOFIX systems. At the same time, it provides consumers (parents and caregivers) with information on the key features related to the proper use of the ISOFIX system, and assists them in selecting CRS and vehicles with ISOFIX systems that are easy to use properly.

The rating system consists of an assessment form and a manual (see ISO/TR 29061-2). In the manual, the content of the assessment form is clarified and guidelines and interpretations are provided. The rating form is also available in Excel (xls) format for download from the ISO standards maintenance site.

The usability of ISOFIX is addressed both in terms of the CRS (attachment system) and in terms of the vehicle (anchorage system) as well as the interaction of the two, emerging when child restraint systems are mounted in cars.

The usability evaluation system in ISO 29061 has been developed with participation from, and based on the experiences from, usability rating systems from Canada (Transport Canada and ICBC), the USA (NHTSA), and the EU (NPACS and consumer rating programmes, such as ICRT, ADAC).

It is envisaged that this methodology could be useful for current vehicle rating systems such as US NCAP and Euro NCAP.

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# Road vehicles — Methods and criteria for usability evaluation of child restraint systems and their interface with vehicle anchorage systems —

## Part 1: Vehicles and child restraint systems equipped with ISOFIX anchorages and attachments

### 1 Scope

This part of ISO 29061 provides criteria for the judgement of usability of child restraint systems (CRS) with ISOFIX attachments and their corresponding anchorages in the vehicle.

This part of ISO 29061 provides criteria for a separate evaluation of the child restraint ISOFIX attachments, of the ISOFIX anchorage installation in the vehicle, and an evaluation of the interface issues when installing a child restraint system in a certain vehicle.

This part of ISO 29061 covers both rigid and flexible attachment systems of the CRS.

NOTE Although ISOFIX is defined in the original “ISOFIX” standard (ISO 13216-1) to be a rigid system, the term “ISOFIX” in this part of ISO 29061 is extended to include flexible CRS attachments (LATCH, UAS).

### 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 13216-1:1999, *Road vehicles — Anchorages in vehicles and attachments to anchorages for child restraint systems — Part 1: Seat bight anchorages and attachments*

### 3 Terms and definitions

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

#### 3.1

##### **anchorage**

part of the universal interface provided in a vehicle

NOTE See also ISOFIX anchorages and top tether anchorage.

#### 3.2

##### **anti-rotational device**

device intended to restrict forward or rearward rotation of a child restraint system (3.6)