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**Road vehicles — Automotive cables —**  
**Part 1:**  
**Vocabulary and design guidelines**

*Véhicules routiers — Cables automobiles —*

*Partie 1: Vocabulaire et lignes directrices pour la conception*



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ISO copyright office  
CP 401 • Ch. de Blandonnet 8  
CH-1214 Vernier, Geneva  
Phone: +41 22 749 01 11  
Fax: +41 22 749 09 47  
Email: [copyright@iso.org](mailto:copyright@iso.org)  
Website: [www.iso.org](http://www.iso.org)

Published in Switzerland

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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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular, the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see [www.iso.org/directives](http://www.iso.org/directives)).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation of the voluntary nature of standards, the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT), see [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

This document was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 32, *Electrical and electronic components and general system aspects*.

A list of all parts in the ISO 19642 series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at [www.iso.org/members.html](http://www.iso.org/members.html).

## Introduction

This document was prepared following a joint resolution to improve the general structure of the ISO automotive electric cable standards. This new structure adds more clarity and, by defining a new standard family, opens up the standard for future amendments.

Many other standards currently refer to ISO 6722-1, ISO 6722-2 and ISO 14572. These standards will stay valid at least until the next scheduled systematic review and will later be replaced by the ISO 19642 series.

For new automotive cable projects, customers and suppliers are advised to use the ISO 19642 series.



# Road vehicles — Automotive cables —

## Part 1: Vocabulary and design guidelines

### 1 Scope

This document defines terms in the field of cables applied in road vehicle general purpose applications, for use in the other parts of the ISO 19642 series.

### 2 Normative references

There are no normative references in this document.

### 3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- ISO Online browsing platform: available at <https://www.iso.org/obp>
- IEC Electropedia: available at <http://www.electropedia.org/>

#### 3.1 Terms related to voltage rating

##### 3.1.1

##### **a.c. voltage**

voltage in an alternating current circuit that also periodically reverses because the current has a periodic function of time

Note 1 to entry: Whenever a.c. voltage is specified in the ISO 19642 series, the a.c. r.m.s. value shall be used.

##### 3.1.2

##### **60 V cable**

*cable* (3.3.8) intended for use in road vehicle applications where the nominal system voltage is less than or equal to 30 V a.c. or 60 V d.c.

##### 3.1.3

##### **900 V cable**

*cable* (3.3.8) intended for use in road vehicle applications where the nominal system voltage is less than or equal to 600 V a.c. or 900 V d.c.

##### 3.1.4

##### **1 500 V cable**

*cable* (3.3.8) intended for use in road vehicle applications where the nominal system voltage is less than or equal to 1 000 V a.c. or 1 500 V d.c.

#### 3.2 Terms related to temperatures

##### 3.2.1

##### **temperature class rating**

temperature range for safe operation of the *cable* (3.3.8) divided into eight temperature classes as defined in [Table 1](#)