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Road vehicles — Automotive cables —

Part 11: Dimensions and requirements for coaxial RF cables with a specified analogue bandwidth up to 6 GHz (20 GHz)

Véhicules routiers — Câbles automobiles —

Partie 11: Dimensions et exigences des câbles RF coaxiaux de bande passante analogique spécifiée jusqu'à 6 GHz (20 GHz)

Reference number
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Foreword

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

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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.

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Introduction

This document has been added to existing standards in the ISO 19642 series. It 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. Therefore, these standards will stay valid at least until the next scheduled systematic review and will be replaced later on by the ISO 19642 series.

For new automotive cable projects customers and suppliers are advised on using the ISO 19642 series.

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Road vehicles — Automotive cables —

Part 11: Dimensions and requirements for coaxial RF cables with a specified analogue bandwidth up to 6 GHz (20 GHz)

WARNING — The use of this document may involve hazardous materials, operations, and equipment. This document does not purport to address all of the safety concerns, if any, associated with its use. It is the responsibility of the user of this document to establish appropriate safety practices and determine the applicability of regulatory limitations prior to use.

1 Scope

This document specifies the dimensions and requirements for coaxial radio frequency (RF) cables with a specified analogue bandwidth up to 6 GHz (for special cases up to 20 GHz) intended for use in road vehicle applications where the nominal system voltage is 30 V a.c. or 60 V d.c.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements 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 19642-1, *Road vehicles — Automotive cables — Terminology and design guidelines*

ISO 19642-2:—[1)], *Road vehicles — Automotive cables — Test methods*

IEC 62153-4-3, *Metallic communication cable test methods — Part 4-3: Electromagnetic compatibility (EMC) - Surface transfer impedance — Triaxial method*

IEC 62153-4-4, *Metallic communication cable test methods — Part 4-4: Electromagnetic compatibility (EMC) — Test method for measuring of the screening attenuation as up to and above 3 GHz, triaxial method*

ASTM B452, *Standard Specification for Copper-Clad Steel Wire for Electronic Application*

ASTM B105, *Standard Specification for Hard-Drawn Copper Alloy Wires for Electric Conductors*

CEN/TS 13388,*Copper and copper alloys — Compendium of compositions and products*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 19642-1 apply.

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

— ISO Online browsing platform: available at https://www.iso.org/obp

— IEC Electropedia: available at https://www.electropedia.org/

1) Second edition under preparation. Stage at the time of publication: ISO/PRF 19642-2:2023.

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