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**Economic Commission for Europe**

Inland Transport Committee

**Working Party on the Transport of Dangerous Goods**

**111th session**

Geneva, 9–13 May 2022

Item 5 (a) of the provisional agenda

**Proposals for amendments to annexes A and B of ADR**

**construction and approval of vehicles**

Standards for automotive electrical cable

Transmitted by the Government of the Netherlands on behalf of the informal working group on electrified vehicles[[1]](#footnote-2)\*

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| *Summary* |
| **Executive summary:** In 9.2.2.2 reference is made to standards ISO 6722 and ISO 14572 for automotive electrical cables. These standards will be replaced by a new series of standards. |
| **Action to be taken:** Introduce additional reference to the new standards to complement the existing ones. |
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Introduction

1. In sub-section 9.2.2.2 of ADR reference is made to standards for automotive electrical cable. The referenced standards ISO 6722 parts 1 and 2 and ISO 14572 will in the future be replaced by a new family of standards taking into account developments in technology.

Proposals

2. Amend the third paragraph of 9.2.2.2.1 to read (new wording underlined, deleted wording stricken through):

*“The cables shall be in conformity with standard ISO 6722-1:2011+ Cor 01:2012 ~~or~~ , ISO 6722-2:2013, ISO 19642-3:2019, ISO 19642-4:2019, ISO 19642-5:2019 or ISO 19642-6:2019.”*

3. Amend the third paragraph of 9.2.2.2.2 to read (new wording underlined):

*“The additional protection is complied with if multicore cables in conformity with ISO 14572:2011, ISO 19642-7:2019, ISO 19642-8, ISO 19642-9 or ISO 19642:10:2019 are used or one of the examples in figures 9.2.2.2.2.1 to 9.2.2.2.2.4 below or another configuration that offers equally effective protection.”*

**Justification**

4. Below the introduction in the standard ISO 19642-1 is reproduced:

*“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*](https://www.iso.org/obp/ui/#iso:std:iso:6722:-1:en)*,*[*ISO 6722-2*](https://www.iso.org/obp/ui/#iso:std:iso:6722:-2:en)*and*[*ISO 14572*](https://www.iso.org/obp/ui/#iso:std:iso:14572:en)*. These standards will stay valid at least until the next scheduled systematic review and will later be replaced by the*[*ISO 19642*](https://www.iso.org/obp/ui/#iso:std:iso:19642:en)*series.*

*For new automotive cable projects, customers and suppliers are advised to use the*[*ISO 19642*](https://www.iso.org/obp/ui/#iso:std:iso:19642:en)*series.”*

5. The new family of standards currently contains the following parts:

| *ISO 19642* | *ROAD VEHICLES — AUTOMOTIVE CABLES -* | |
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|  | ***Title*** | ***Scope*** |
| Part 1 | *Vocabulary and design guidelines.* | 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. |
| Part 2 | *Test methods.* | This document defines test methods for electrical cables in road vehicles, which are used in other parts of the ISO **19642** series. |
| Part 3 | *Dimensions and requirements for 30 V a.c. or 60 V d.c. single core copper conductor cables.* | This document specifies the dimensions and requirements for single-core cables intended for general purpose vehicle applications where the nominal system voltage is less than or equal to 30 V a.c. or less than or equal to 60 V d.c.. It also applies to individual cores in multi-core cables. |
| Part 4 | *Dimensions and requirements for 30 V a.c. and 60 V d.c. single core aluminium conductor cables.* | This document specifies the dimensions and requirements for single-core cables intended for general purpose vehicle applications where the nominal system voltage is less than or equal to 30 V a.c. or less than or equal to 60 V d.c.. It also applies to individual cores in multi-core cables. |
| Part 5 | *Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. single core copper conductor cables.* | This document specifies the dimensions and requirements for single core cables intended for use in general purpose road vehicle applications where the nominal system voltage is 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c.. It also applies to the individual conductor cores used in multi core cables. |
| Part 6 | *Dimensions and requirements for 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. single core aluminium conductor cables.* | This document specifies the dimensions and requirements for single core cables intended for use in general purpose road vehicle applications where the nominal system voltage is 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c. It also applies to the individual conductor cores used in multi core cables. |
| Part 7 | *Dimensions and requirements for 30 v a.c. or 60 v d.c. round, sheathed, screened or unscreened multi or single core copper conductor cables.* | This document specifies the dimensions and requirements for multi or single core cables intended for use in road vehicle applications where the nominal system voltage is 30 V a.c. or 60 V d.c.. It also applies to individual cores in multi core and single core cables |
| Part 8 | *Dimensions and requirements for 30 v a.c. or 60 v d.c. round, sheathed, screened or unscreened multi or single core aluminium conductor cables.* | This document specifies the dimensions and requirements for multi or single core cables intended for use in road vehicle applications where the nominal system voltage is 30 V a.c. or 60 V d.c.. It also applies to individual cores in multi core cables. |
| Part 9 | *Dimensions and requirements for 600 v a.c. or 900 v d.c. and 1 000 v a.c. or 1 500 v d.c. round, sheathed, screened or unscreened multi or single core copper conductor cables.* | This document specifies the dimensions and requirements for multi or single core cables intended for use in road vehicle applications where the nominal system voltage is 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c.. It also applies to individual cores in multi and single core cables. |
| Part 10 | *Dimensions and requirements for 600 v a.c. or 900 v d.c. and 1 000 v a.c. or 1 500 v d.c. round, sheathed, screened or unscreened multi or single core aluminium conductor cables.* | This document specifies the dimensions and requirements for multi or single core cables intended for use in road vehicle applications where the nominal system voltage is 600 V a.c. or 900 V d.c. and 1 000 V a.c. or 1 500 V d.c.. It also applies to individual cores in multi and single core cables. |

1. \* A/76/6 (Sect.20), para 20.76. [↑](#footnote-ref-2)