

**Road Vehicles - 60 V and 600 V Single Core
(ISO/Metric) Cables - Dimensions,
Test Methods and Requirements**

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ROAD VEHICLES – 60 V AND 600 V SINGLE CORE (ISO/METRIC) CABLES – DIMENSIONS, TEST METHODS AND REQUIREMENTS

RATIONALE

The wire sizes called out are no longer being specified in new designs. Cable per ISO 19642-3 are now the preferred specification for automotive primary copper cable used in the U.S.

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1. SCOPE:

This International Standard specifies the dimensions, test methods, and requirements for single core 60 V cables intended for use in road vehicle applications where the nominal system voltage is $\leq$ (60 V DC or 25 V AC). It also specifies additional test methods and/or requirements for 600 V cables intended for use in road vehicle applications where the nominal system voltage is $>$ (60 V DC or 25 V AC) to $\leq$ (600 V DC or 600 V AC). It also applies to individual cores in multi-core cables. See ISO 6722 for "Temperature Class Ratings".

2. NORMATIVE REFERENCES:

The following normative documents contain provisions, which through reference in this text, constitute provisions of this International Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. However, parties to agreements based on this International Standard are encouraged to investigate the possibility of applying the most recent editions of the normative documents indicated below. For undated references, the latest edition of the normative document referred to applies. Members of ISO and IEC maintain registers of currently valid International Standards.

- ASTM B1, Standard Specification for Hard-Drawn Copper Wire
- ASTM B3, Standard Specification for Soft or Annealed Copper Wire
- ASTM B33, Standard Specification for Tinned Soft or Annealed Copper Wire for Electrical Purposes
- ASTM B298, Standard Specification for Silver-Coated Soft or Annealed Copper Wire
- ASTM B355, Standard Specification for Nickel-Coated Soft or Annealed Copper Wire
- ISO 1817, Rubber, vulcanized - Determination of the effect of liquids
- ISO 6722, Road Vehicles – 60 V and 600 V single core cables – Dimensions, test methods and requirements

3. TERMS AND DEFINITIONS:

For the purposes of USCAR-23, the following apply:

3.1 60 Volt (V) Cable:

Cable intended for use in road vehicle applications where the nominal system voltage is $\leq$ (60 V DC or 25 V AC)

3.2 600 Volt (V) Cable:

Cable intended for use in road vehicle applications where the nominal system voltage is $>$ (60 V DC or 25 V AC) to $\leq$ (600 V DC or 600 V AC). AC tests are performed at 50 or 60 Hz. Applications at higher frequencies may require additional testing.

- 3.3 Cable Family:
- A group with multiple conductor sizes having the same conductor strand coating, insulation formulation, and wall thickness type.
- 3.4 Nominal (Value):
- A suitable approximate value used to designate or identify a component.

4. GENERAL:

4.1 Cable Types:

The following example shows the method for defining cable options. See Figure 1.

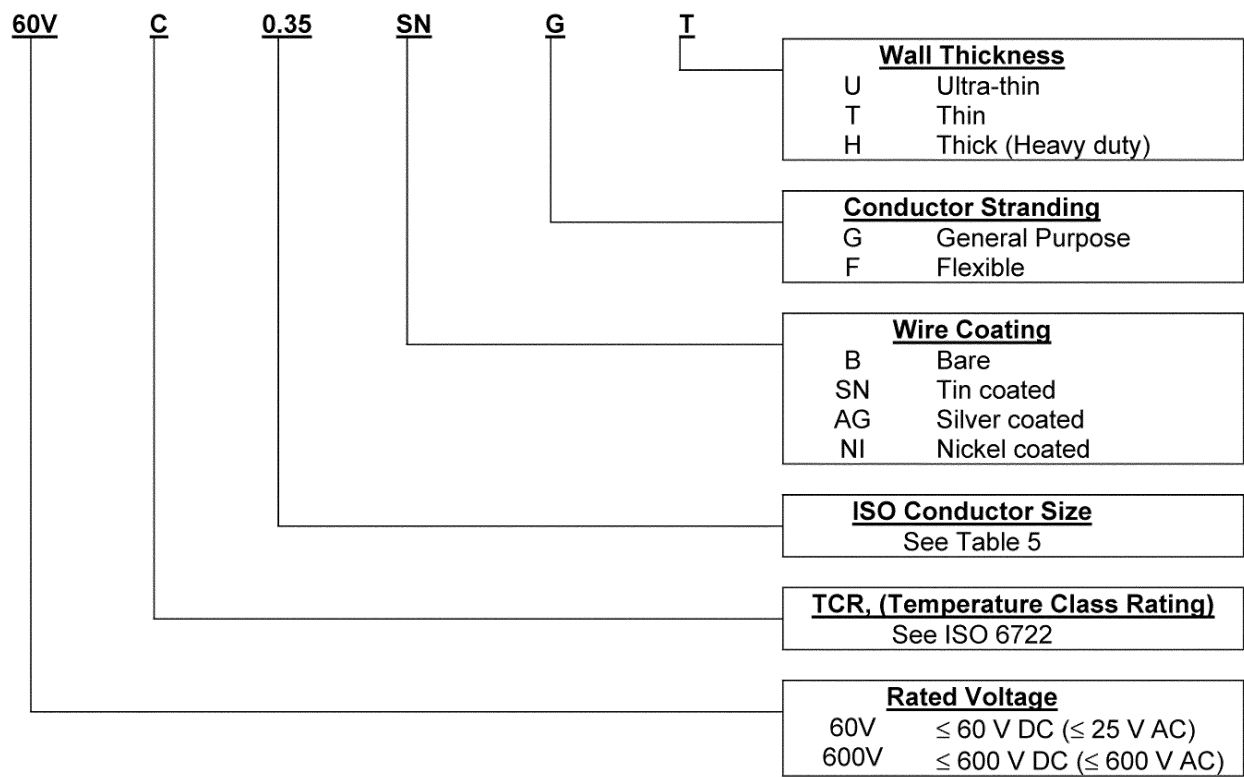


FIGURE 1 - Descriptions of “Cable Types”
(Ref. Clause 4.1)