

## Portable power cables



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# ① Preface

②

This is the eleventh edition of CSA C22.2 No. 96, *Portable power cables*, one of a series of Standards issued by CSA Group under the *Canadian Electrical Code, Part II*. It supersedes the previous editions, published in 2013, 2009, 2003, 1998, 1992, 1989, 1974, 1964, 1958, and 1951.

This edition includes

- a) the addition of a new product, SHD-R;
- b) specifications for 133% insulation level;
- c) changes on the test methods from CSA C22.2 No 0.3 to CSA C22.2 No 2556;
- d) changes in the power conductor identification (colour coding) and additional clarifications of marking instructions;
- e) changes in the requirements for the weather resistance test;
- f) changes in the requirements for heat shock resistance test;
- g) changes on the minimum diameters of some products; and
- h) new tables for SHD-R properties.

This Standard is considered suitable for use for conformity assessment within the stated scope of the Standard.

This Standard was prepared by the Integrated Committee on Portable Mine Power Feeder and Wind Turbine Cables, under the jurisdiction of the Technical Committee on Wiring Products and the Strategic Steering Committee on Requirements for Electrical Safety, and has been formally approved by the Technical Committee.

This Standard has been developed in compliance with Standards Council of Canada requirements for National Standards of Canada. It has been published as a National Standard of Canada by CSA Group.

**Interpretations:** The Strategic Steering Committee on Requirements for Electrical Safety has provided the following direction for the interpretation of standards under its jurisdiction: “The literal text shall be used in judging compliance of products with the safety requirements of this Standard. When the literal text cannot be applied to the product, such as for new materials up to 35 kV-rated round portable power cable with three insulated or construction, and when a relevant committee interpretation has not already been published, CSA Group’s procedures for interpretation shall be followed to determine the intended safety principle.”

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# C22.2 No. 96-17

## Portable power cables

### 1 Scope

#### 1.1

This Standard specifies construction and testing requirements for portable power cables normally used in applications where the cables are subject to frequent flexing and where installation is in accordance with CSA M421 and/or the *Canadian Electrical Code, Part I* where applicable.

#### 1.2

The cable constructions specified in Clauses [5](#) to [9](#) and Clauses [12](#) to [15](#) of this Standard are suitable for use at a maximum conductor temperature of 90 °C under normal operating conditions in wet or dry locations, outdoors or in underground mines, and in rugged environments. The special cable constructions described in Clauses [10](#) and [11](#) are suitable for use at a maximum conductor temperature of 105 °C.

#### 1.3

This Standard does not specify all types, sizes, and voltage ratings of portable power cables that can be required for particular applications.

#### 1.4

This Standard specifies the following categories of cables:

Clause	Category
<a href="#">5</a>	Thermoset and PUR multiconductor round cables for mining and general applications rated over 2 kV and up to 35 kV Types: SHD, SHD-BGC (balanced ground check), SHD-GC,
<a href="#">6</a>	Thermoset and PUR multiconductor round cables for mining and general applications rated up to 2 kV Types: W, G, G-BGC (balanced ground check), G-GC, SHC-GC, SHD, SHD-BGC (balanced ground check), SHD-GC and SHD-R
<a href="#">7</a>	Thermoset single-conductor cables for mining and general applications rated up to 35 kV Types: W, SH
<a href="#">8</a>	Thermoset two-and three-conductor flat cables for mining and general applications rated up to 2 kV — suitable for underground applications only Types: G, G-GC, W
<a href="#">9</a>	Thermoset three-conductor round cables with a central bonding conductor for underground coal mining applications rated up to 5 kV Types: SHD-PCG
<a href="#">10</a>	Arc-welding cable
<a href="#">11</a>	Single-conductor portable power cable rated 600 V Types: PPC, PPC/TPE