

High Voltage Primary Cable**TABLE OF CONTENTS**

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1. Scope

This SAE Standard covers cable intended for use at a nominal system voltage up to 600 V DC or 600 V AC. It is intended for use in surface vehicle electrical systems.

2. References**2.1 Applicable Publications**

The following publications form a part of the specification to the extent specified herein. Unless otherwise indicated, the latest revision of SAE publications shall apply.

2.1.1 SAE PUBLICATIONS

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J1127—Low Voltage Battery Cable
SAE J1128—Low Voltage Primary Cable
SAE J1678—Low Voltage, Ultra Thin Wall Primary Cable
SAE Dictionary of Materials and Testing

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2.1.2 ASTM DOCUMENTS

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959

ASTM B 354—Standard Terminology Relating to Uninsulated Metallic Electrical Conductors

ASTM F 1251—Standard Terminology Relating to Polymeric Biomaterials in Medical and Surgical Device

2.1.3 IEC DOCUMENT

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002

IEC, Electricity, Electronics and Telecommunications, Multilingual Dictionary

2.2 Related Specifications

The following publications are provided for information purposes only and are not a required part of this specification.

2.2.1 SAE PUBLICATIONS

Available from SAE, 400 Commonwealth Drive, Warrendale, PA 15096-0001.

SAE J156—Fusible Links

SAE J1292—Automobile, Truck, Truck-Tractor, Trailer, and Motor Coach Wiring

SAE J1673—High Voltage Automotive Wiring

SAE J2183—60 V and 600 V Single Core Cables—Test Methods, Dimensions and Requirements

SAE J2501—Round, Unscreened, 60 V and 600 V Multicore Sheathed Cables—Basic and High Performance Test Methods and Requirements

2.2.2 ASTM DOCUMENTS

Available from ASTM, 100 Barr Harbor Drive, West Conshohocken, PA 19428-2959

ASTM B 1—Standard Specification for Hard-Drawn Copper Wire

ASTM B 3—Standard Specification for Soft or Annealed Copper Wire

ASTM B 8—Concentric-Lay-Stranded Copper conductors, Hard, Medium-Hard, or Soft

ASTM B 174—Standard Specification for Bunch-Stranded Copper Conductors for Electrical Conductors

ASTM B 787—19 Wire Combination Unilay-Stranded Copper Conductors for Subsequent Insulation

2.2.3 ISO DOCUMENTS

Available from ANSI, 25 West 43rd Street, New York, NY 10036-8002

ISO 6722—Road vehicles—60 V and 600 V single core cables—Test methods, dimensions and requirements

ISO 14572—Road vehicles—Round, screened and unscreened, 60 V and 600 V multicore sheathed cables—Basic and high performance test methods and requirements

3. Definitions

3.1 Additional Mass (ref. "Resistance to Sandpaper Abrasion" test)

The mass which is applied to the support rod. The combination of the forces exerted by the additional mass and the 0.63 N exerted by the remaining apparatus (bracket, support rod, and pivoting arm) is applied to the cable.

3.2 Coated Wire

Wire comprised of a given metal covered with a relatively thin application of a different metal. (ASTM B 354)

3.3 Cable

See primary cable.

3.4 Cable Family

A group with multiple conductor sizes having the same conductor strand coating, insulation formulation, and wall thickness type.

3.5 Conductor

A wire or combination of wires not insulated from one another, suitable for carrying an electrical current. (ASTM B 354)

3.6 Conductor Size

See "SAE Conductor Size".

3.7 Core

One of the components in an assembly. A component may be an uninsulated conductor, an insulated conductor, a twisted pair, a shielded assembly, a coaxial cable, or any finished cable.

3.8 Fluid Compatibility

The ability of a cable to resist the effects of various fluids found in surface vehicles.

3.9 Hot Plate

An electrically heated device used to test thermoset cables.

3.10 Low Voltage (Low Tension)

Usually considered to be ≤ 60 V DC (25 V AC).