
**Aircraft — Conductors for general
purpose aircraft electrical cables and
aerospace applications — Dimensions
and characteristics**

*Aéronefs — Conducteurs pour câbles électriques pour usage général
aéronautique et pour applications aérospatiales — Dimensions et
caractéristiques*



Reference number
ISO 2635:2003(E)

AVA Documents
Document Sharing Hub
© ISO 2003

PDF disclaimer

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

© ISO 2003

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office
Case postale 56 • CH-1211 Geneva 20
Tel. + 41 22 749 01 11
Fax + 41 22 749 09 47
E-mail copyright@iso.org
Web www.iso.org

Published in Switzerland

Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 2635 was prepared by Technical Committee ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 1, *Aerospace electrical requirements*.

This second edition cancels and replaces the first edition (ISO 2635:1979), which has been technically revised.

Introduction

The need for International Standardization in the Aerospace industry cannot be overemphasized. Multinational projects abound in the construction industry and all major airlines use equipment produced in different continents. The mixture of specifications and standards combine to increase the chances of maintenance errors, no more so than in the interconnection system. Power plant manufacturers in France may use conductors and terminations manufactured in Europe mating at the firewall with terminations and conductors manufactured in North America. This can result in different contacts, crimp tools and settings, and insulating stripping tools being required to work on mating connectors. The same would apply to many types of equipment.

The requirement for close or “clipped” tolerance, lightweight conductors can provide the opportunity to address many of these problems by overcoming the long-standing issue of AWG versus metric sizes.

This revision of ISO 2635 introduces a list of lightweight conductors for airframe cables. This list supplements the existing list of standard metric conductors which has not received worldwide acceptance. The list is derived from NEMA standard WC 67 which includes the constructions in previous and existing specifications ISO 2635:1979, EN 2083, prEN 4434, BS 3G 231 and MIL-W-29606. It has also been compared with those used by airframe constructors. The conductor codes in Table 1 are taken from WC 67.

The constructions presented are those which are considered to be standards within the existing rules governing aircraft cables, e.g. 19 strands minimum, copper alloy for size 24 and smaller. However, it does take advantage of the lightest weight for each size. The resultant standard is therefore a mixture of conductors with metric and imperial origins which gives the greatest advantage to constructors and users for the future.

This International Standard:

- obeys existing rules regarding conductors for aircraft;
- gives the lightest weight for each size/rating presently used;
- standardizes the conductor cross sectional area throughout the world aerospace industry;
- enables the standardization of terminations and the crimp tools used to produce the joints;
- reduces the number of insulation stripping tools required to service aircraft;
- enables the world industry to concentrate its efforts on improving interconnection technology knowing that a world market exists;
- enables regulatory authorities (CAA, FAA, JAA, etc.) to make rules regarding the interconnection system which applies internationally.

All these will, by reducing complexity, reduce servicing errors and contribute to aircraft safety.