BS ISO 13832:2013

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Aerospace — Wire, aluminium alloy and copper-clad aluminium conductors — General performance requirements

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National foreword

This British Standard is the UK implementation of ISO 13832:2013.

The UK participation in its preparation was entrusted to Technical Committee ACE/6, Aerospace avionic electrical and fibre optic technology.

A list of organizations represented on this committee can be obtained on request to its secretary.

This publication does not purport to include all the necessary provisions of a contract. Users are responsible for its correct application.

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Foreword

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The committee responsible for this document is ISO/TC 20, *Aircraft and space vehicles*, Subcommittee SC 1, *Aerospace electrical requirements*.

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Introduction

This International Standard is the general performance requirements of the wires with aluminium and copper-clad aluminium conductors for aerospace.

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 International Standard introduces a list of aluminium-based lightweight conductors for aerospace cables. This list supplements the existing list of standard metric conductors which has not received worldwide acceptance. The list is derived from EN 3719, prEN 4651 and MIL-W-7072(MS25191).

The constructions presented are those which are considered to be standards within the emerging rules governing aircraft cables, e.g. seven strands minimum, copper-clad aluminium for size 22 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 currently 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.

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