

Specification for

Efglas type electric cables (metric units)

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Foreword

This British Standard has been prepared to provide a range of cables based on the same construction as Efglas cables specified in G 192:1965 but having dimensions and test measurements in metric units. These dimensions and measurements are not in all cases the exact equivalent of the imperial units, but cables of the same size number from 22 to 12 inclusive will be normally interchangeable.

This standard is intended to be read in conjunction with G 212 “*General requirements for aircraft electrical cables*”, which specifies the general requirements and test methods for this range of cables.

A British Standard does not purport to include all the necessary provisions of a contract. Users of British Standards are responsible for their correct application.

Compliance with a British Standard does not of itself confer immunity from legal obligations.

Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 11 and a back cover.

This standard has been updated (see copyright date) and may have had amendments incorporated. This will be indicated in the amendment table on the inside front cover.

Amendments issued since publication

Amd. No.	Date of issue	Comments
3012	December 1979	
3819	December 1981	
6188	December 1990	Indicated by a sideline in the margin

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The following BSI references relate to the work on this standard:
Committee reference ACE/6
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Section 1. General

1 Scope

- 1.1 This British Standard states the requirements for Efglas type cables for aircraft wiring which are suitable for continuous use where the maximum stabilized conductor temperature does not exceed 260 °C. The cables remain flexible at temperatures down to – 70 °C.
- 1.2 The cables do not support combustion but they do not comply with the requirements of 3G 100 in respect of fire resistance.
- 1.3 The cables are suitable for use where the potential between conductors or between a conductor and screen or the aircraft structure does not exceed 600 volts (r.m.s.) and the frequency does not exceed 1 600 Hz.
- 1.4 The maximum current ratings for Efglas cables are shown in Appendix A.

2 References

Reference is made in this standard to the following British Standards:
3G 100, *General requirements for equipment for use in aircraft — Part 2: All equipment.*
3G 100-3, *Environmental conditions. Subsection 3.12. Fluid contamination.*
G 212, *General requirements for aircraft electrical cables.*
G 230, *Specification for general requirements for aircraft electrical cables (second series).*

3 Requirements

The cables shall comply with the requirements specified in the relevant sections of this standard and with the related requirements of G 212 to which reference is made.

3A Abbreviation of cable name

If necessitated by the limited length of legend that the manufacturer is able to print with existing equipment, EFGLASMETSHEATH may be abbreviated to FGMETSH, DUEFGLASMETSHEATH and TRIEFGLASMETSHEATH to 2FGMETSH and 3FGMETSH respectively, and EFGLASLARGE to FGLARGE.

Section 2. Efglas cables

G 212
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4 Construction

- As shown in the illustration to Table 1. 1.4
- 4.1 **Conductors.** Nickel-plated copper, concentric stranded for sizes 22 to 10 inclusive and rope stranded for sizes 8 to 0 000 inclusive. 1.3.1
- 4.2 **Insulation** 1.3.3
- PTFE**
- Fibrous glass tapes** which shall contain not less than 50 % of PTFE by weight of coated tape. 1.3.3
- Fibrous glass yarns** which shall be coated with PTFE to the extent of not less than 15 % by weight of the coated yarn. Filling factor shall be not less than 0.7. 1.3.4
- Lay factor shall be not less than 1.2. 1.7^a

The insulation shall consist of a layer of PTFE adjacent to the conductor and of subsequent layers of PTFE and PTFE-impregnated glass braids or tapes which are subsequently heated to become a compact mass. The outer surface of the cable may present itself either as a lapped PTFE tape which shall be finally sintered, or as an extruded PTFE layer. The colour shall be white.

^a *Braiding details.* The values of d_w (effective glass width) and d_r (effective radial depth) for glass yarn sizes in common use are as follows

Glass yarn	d_w (in mm)	d_r (in mm)
EC5 11 1/2 (450/1/2)	0.23	0.08
EC7 22 1/3 (225/1/3)	0.41	0.16

The formulae for calculating the braiding details are given in Appendix A of G 212.