

Chapter 15

FIRE-RESISTANT CABLES

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Introduction

1. The fire-resistant cables described in this chapter are designed for use in aircraft fire-detector circuits, and in circuits which are required to function during or after a fire.

DESCRIPTION

2. The cables concerned are listed in Table 1, which includes details of construction. All are single-core cables.

TABLE 1
Range of fire-resistant cables

Cable	Stores Ref.	Overall dia. (in.) (max.)	Resistance at 20 deg. C (ohms per 1,000 yds.)	Size of conductor (no. of wires/in.)
Unifire-F 12	5E/3759	0.175	14.66	40/0.0076
Unifire-red 7	5E/3724	0.175	14.66	40/0.0076
Unifiredet 7	5E/3704	0.110	14.66	40/0.0076

Unifire-F 12

3. This cable is suitable for use at the nominal current rating continuously in an ambient temperature of 200 deg. C, and for one short period at 1,100 deg. C, where the potential between a conductor and the aircraft structure does not exceed 208 volts

(R.M.S.), 2,400 c/s.

4. Unifire-F 12 has a stranded, annealed, nickel-plated copper conductor, with a composite insulation of asbestos, glass, silicones, and P.T.F.E. or other materials. The cable is coloured white.

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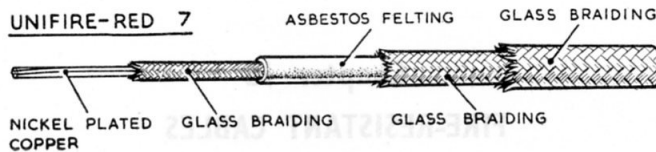


Fig. 1. Unifire-red 7

WARNING

When P.T.F.E. is heated above 400 deg. F, toxic compounds are evolved which can result in serious injury or death to personnel who do not treat this material with proper respect. Cables with insulation containing P.T.F.E. should therefore be prepared only in well-ventilated rooms, and whenever possible within a room with an exhaust ventilation system. No smoking is permitted by personnel engaged in cutting or working P.T.F.E. in such a way as to produce loose chips or particles of the material; to avoid contamination, no cigarettes, pipes or tobacco should be brought into the vicinity, and all particles of P.T.F.E. should afterwards be thoroughly removed from the hands and clothing.

Unifire-red 7

5. This is an earlier cable, which is being superseded by Unifire-F 12. Unifire-red 7 (fig. 1) is suitable only for circuits where the

voltage does not exceed 30 volts d.c. It consists of a stranded, annealed, nickel-plated copper conductor, with successive layers of insulation as follows:—

- (1) Glass braid, impregnated with silicone varnish.
- (2) Asbestos felting, impregnated with silicone varnish.
- (3) Glass braid, impregnated with silicone rubber paste.
- (4) Glass braid, coated with non-inflammable dope coloured red.

Unifiredet 7

6. Inifiredet 7 is used only for the wiring of a proprietary fire detector system, where the voltage does not exceed 30 volts d.c. The cable has a stranded, annealed, tinned copper conductor, with insulation of glass tape impregnated with silicone varnish, and an outer layer of glass braid impregnated with silicone varnish. The colour of this cable is natural.