

E15 Electrical Services Required to be Operable Under Fire Conditions and Fire Resistant Cables

(Nov 1999)
(Rev.1
May 2004)
(Rev.2
Feb 2006)
(Rev.3
Dec 2014)
(Rev.4
Dec 2020)

- 1- Electrical services required to be operable under fire conditions are as follows:
 - Control and power systems to power-operated fire doors and status indication for all fire doors
 - Control and power systems to power-operated watertight doors and their status indication
 - Emergency fire pump
 - Emergency lighting
 - Fire and general alarms
 - Fire detection systems
 - Fire-extinguishing systems and fire-extinguishing media release alarms
 - Low location lighting
 - Public address systems
 - Remote emergency stop/shutdown arrangements for systems which may support the propagation of fire and/or explosion

- 2- Where cables for services specified in 1- including their power supplies pass through high fire risk areas, and in addition for passenger ships, main vertical fire zones, other than those which they serve, they are to be so arranged that a fire in any of these areas or zones does not affect the operation of the service in any other area or zone. This may be achieved by either of the following measures:
 - a) Cables being of a fire resistant type complying with IEC 60331-1:2018 for cables of greater than 20 mm overall diameter, otherwise IEC 60331-21:1999+AMD1:2009 or IEC 60331-2:2018 for cables with an overall diameter not exceeding 20 mm, are installed and run continuous to keep the fire integrity within the high fire risk area, see Figure 1.

Notes:

1. Rev.3 of this UR is to be uniformly implemented by IACS Societies from 1 January 2016.
2. Rev.4 of this Unified Requirement is to be uniformly implemented by IACS Societies on ships contracted for construction on and after 1 January 2022.
3. The “contracted for construction” date means the date on which the contract to build the vessel is signed between the prospective owner and the shipbuilder. For further details regarding the date of “contract for construction”, refer to IACS Procedural Requirement (PR) No. 29.

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- b) At least two-loops/radial distributions run as widely apart as is practicable and so arranged that in the event of damage by fire at least one of the loops/radial distributions remains operational.
- c) Systems that are self monitoring, fail safe or duplicated with cable runs as widely separated as is practicable may be exempted.

3- The electrical cables to the emergency fire pump are not to pass through the machinery spaces containing the main fire pumps and their source(s) of power and prime mover(s). They are to be of a fire resistant type, in accordance with 2 (a), where they pass through other high fire risk areas.

Notes:

- a) For the purpose of E15 application, the definition for “high fire risk areas” is the following:
 - (i) Machinery spaces as defined by Chap. II-2 / Regulation- 3.30 of SOLAS Chapter II-2, as amended by IMO resolutions up to MSC.421(98) (hereinafter the same), except spaces having little or no fire risk as defined by paragraphs (10) of Chap. II-2 / Regulation- 9.2.2.3.2.2 of SOLAS Chapter II-2. (Including the interpretations for tables 9.3, 9.4, 9.5, 9.6, 9.7 and 9.8 given in MSC/Circ.1120 as amended by MSC.1/Circ.1436 and MSC.1/Circ.1510)
 - (ii) Spaces containing fuel treatment equipment and other highly flammable substances
 - (iii) Galley and Pantries containing cooking appliances
 - (iv) Laundry containing drying equipment
 - (v) Spaces as defined by paragraphs (8), (12), and (14) of Chap. II-2 / Regulation- 9.2.2.3.2.2 of SOLAS Chapter II-2 for ships carrying more than 36 passengers
- b) Fire resistant type cables should be easily distinguishable.
- c) For special cables, requirements in the following standards may be used:
 - IEC_60331-23:1999: Procedures and requirements – Electric data cables
 - IEC_60331-25:1999: Procedures and requirements – Optical fibre cables

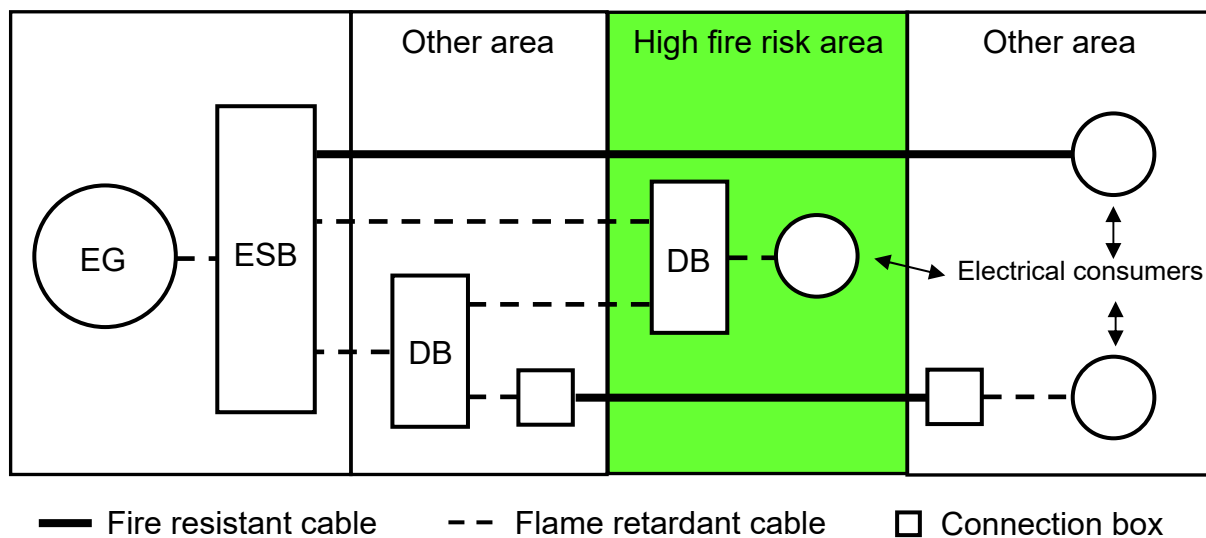
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Figure 1

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