

LV and MV polymeric insulated cables for use by distribution and generation utilities

**Part 3. Specification for distribution cables of rated
voltage 0.6/1 kV**

**Section 3.4 XLPE and HEPR insulated
combined neutral and earth aluminium or
copper wire concentric cables with solid
aluminium conductors**

(Implementation of HD 603)

ICS 29.060.20

Committees responsible for this British Standard

The preparation of this British Standard was entrusted by Technical Committee GEL/20, Electric cables, to subcommittee GEL/20/2, Mains cables 1kV and above, upon which the following bodies were represented:

- Association of Consulting Engineers
- British Approvals Service for Cables
- British Cable Makers Confederation
- British Iron and Steel Producers' Association
- British Plastics Federation
- ERA Technology Ltd.
- Electricity Association
- Engineering Equipment and Materials Users' Association
- Institution of Incorporated Executive Engineers
- London Underground Ltd.
- British Railways Board
- British Steel Industry

This British Standard, having been prepared under the direction of the Electrotechnical Sector Board, was published under the authority of the Standards Board and comes into effect on 15 December 1996

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The following BSI references relate to the work on this standard:
Committee reference GEL/20/2
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Foreword

BS 7870 was prepared by Technical Committee GEL/20 to implement nationally applicable parts of CENELEC Harmonization Documents HD 603, 604, 605, 620, 622, 626 and 627 in accordance with the decision of the CENELEC Technical Board.

BS 7870 applies to cables for fixed installations having a rated voltage U_o/U up to and including 19/33kV and is published as a series of separate Parts and Sections, as listed in the table in the foreword of Part 1.

Section 3.4 of BS 7870 implements HD 603 Part 5R and Part 7D and is to be read in conjunction with BS 7870 : Parts 1 and 2.

The cable types included in this Section are listed below:

- a) single-core, XLPE insulated, solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 5R1);
- b) three-core, XLPE insulated, circular solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 5R2);
- c) three-core, XLPE insulated, shaped solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 5R3);
- d) three-core, XLPE insulated, shaped solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a single rubber layer (type 5R4);
- e) three-core, XLPE insulated, circular solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a double rubber layer (type 5R5);
- f) three-core, XLPE insulated, shaped solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a double rubber layer (type 5R6)
- g) single-core, HEPR insulated, solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 7D1);
- h) three-core, HEPR insulated, circular solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 7D2);
- i) three-core, HEPR insulated, shaped solid aluminium phase conductors with aluminium wire concentric neutral/earth embedded in a double rubber layer (type 7D3);
- j) three-core, HEPR insulated, shaped solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a single rubber layer (type 7D4);
- k) three-core, HEPR insulated, circular solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a double rubber layer (type 7D5);
- l) three-core, HEPR insulated, shaped solid aluminium phase conductors with copper wire concentric neutral/earth embedded in a double rubber layer (type 7D6).0

A guide to use for these types of cables is under consideration.

It has been assumed in the preparation of this British Standard that the execution of its provisions will be entrusted to appropriately qualified and experienced people, for whose use it has been produced.

WARNING. The methods of test described in this British Standard do not detail all precautions necessary to meet the requirements of the Health and Safety at Work, etc, Act, 1974. Attention should be paid to any appropriate safety precautions and the tests should only be carried by authorized personnel.

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