BRITISH STANDARD

BS 7912:2001

Power cables with XLPE insulation and metallic sheath, and their accessories, for rated voltages from 66 kV (U_m = 72.5 kV) to 132 kV (U_m = 145 kV) — Requirements and test methods

(Implementation of HD 632)

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Committees responsible for this British Standard

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Association of Consulting Engineers
British Approvals Service for Cables
British Cables Association
British Plastics Federation
Electricity Association
ERA Technology Ltd.
London Underground Ltd.
UK Steel Association

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Foreword

This British Standard has been prepared by Subcommittee GEL/20/2, Mains cables, 1 kV and above, under the direction of Technical Committee GEL/20, Electric cables.

It implements the nationally applicable parts of Harmonization Document HD 632 published by the European Committee for Electrotechnical Standardization (CENELEC), in accordance with the decision of the CENELEC Technical Board.

BS 7912 applies to power cables with XLPE insulation and metallic sheath, and their accessories for rated voltages $U(U_m)$ from 66 kV (72.5 kV) to 132 kV (145 kV).

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.

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.

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Summary of pages

This document comprises a front cover, an inside front cover, pages i and ii, pages 1 to 41 and a back cover.

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1 Scope

This British Standard specifies tests and requirements for power cables with XLPE insulation and metallic sheath and their accessories for rated voltages from 66 kV (72.5 kV) to 132 kV (145 kV) for fixed installations.

This British Standard is applicable to single core cables and 3-core cables with separate cores and to their accessories for usual conditions of installation and operation. It is not applicable to special cables and their accessories, such as those designed for submarine cables, for which modification to the standard tests may be necessary or special test conditions may need to be devised.

2 Normative references

The following normative documents contain provisions which, through reference in this text, constitute provisions of this part of this British Standard. For dated references, subsequent amendments to, or revisions of, any of these publications do not apply. For undated references, the latest edition of the publication referred to applies.

BS 228:1994, *Specification for short-pitch transmission precision roller chains and chain wheels.*

BS 4727-2:Group 08:1994, *Glossary of electrotechnical, power, telecommunication, electronics, lighting and colour terms — Part 2: Terms particular to power engineering — Group 08: Electric cables.*

BS 6346, *Specification for 600/1000 V and 1900/3300 V armoured electric cables having PVC insulation.*

BS 7870-2, *LV and MV polymeric insulated cables for use by distribution and generation utilities — Part 2: Methods of test.*

BS EN 50062, *Ceramic pressurized hollow insulators for high-voltage switchgear and controlgear.*

BS EN 60811-1-1:1995, *Insulating and sheathing materials of electric cables — Common test methods — General application — Part 1-1: Measurement of thickness and overall dimensions — Tests for determining the mechanical properties.*

BS EN 60811-1-2:1995, *Insulating and sheathing materials of electric cables — Common test methods — General application — Part 1-2: Thermal ageing methods.*

BS EN 60811-1-3:1995, *Insulating and sheathing materials of electric cables — Common test methods — General application — Part 1-3: Methods for determining the density — Water absorption tests — Shrinkage test.*

BS EN 60811-2-1:1995, *Insulating and sheathing materials of electric cables — Common test methods — Methods specific to elastomeric compounds — Part 2-1: Ozone resistance test — Hot set test — Mineral oil immersion test.*

BS EN 60811-3-1:1995, *Insulating and sheathing materials of electric cables — Common test methods — Methods specific to PVC compounds — Part 3-1: Pressure test at high temperature — Tests for resistance to cracking.*

IEC 60060-1, *Guide on high-voltage testing techniques — Part 1: General (published as BS 923 Part 1).*

IEC 60228, *Conductors of insulated cables (published as BS 6360).*

IEC 60229, *Tests on cable oversheaths which have a special protective function and are applied by extrusion.*

IEC 60230, *Impulse tests on cables and their accessories (implemented by CENELEC as HD 48).*

IEC 60507:1991, *Artificial pollution tests on high-voltage insulators to be used on a.c. systems.*

IEC 60885-2, *Electrical test methods for electric cables — Part 2: Partial discharge tests.*

IEC 60885-3, *Electrical test methods for electric cables — Part 3: Test methods for partial discharge measurements on lengths of extruded power cable.*