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**NATIONAL STANDARD OF THE
PEOPLE'S REPUBLIC OF CHINA**

GB/T 11017.1-2024

Replacing GB/T 11017.1-2014

**Power cables with cross-linked polyethylene insulation and
their accessories for rated voltage of 66 kV($U_m=72.5$ kV) and
110 kV($U_m=126$ kV) - Part 1: Test methods and requirements**
(English Translation)

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Foreword

This document is in accordance with the provisions of GB/T 1.1-2020 "Guidelines for standardization work Part 1: Structure and drafting rules for standardization documents" Drafting.

This document is GB/T 11017 "Rated voltage 66kV ($U_m=72.5\text{kV}$) and 110kV ($U_m=126\text{kV}$) cross-linked polyethylene insulation Power cables and their accessories" Part 1: GB/T 11017 has published the following parts.

--- Part 1: Test methods and requirements;

--- Part 2: Cables;

--- Part 3: Cable accessories.

This document replaces GB/T 11017.1-2014 "Rated voltage 110kV ($U_m=126\text{kV}$) cross-linked polyethylene insulated power cables and their Annex Part 1: Test methods and requirements, compared with GB/T 11017.1-2014, in addition to structural adjustments and editorial changes, the main the technical changes are as follows.

--- Added the scope of application and requirements of 66kV cable system (see Chapter 1);

- Deleted ST1 and ST3 outer sheath materials and corresponding requirements (see 4.4, Table 2 and Table 5 of the 2014 edition);
- Added ST12 and corresponding requirements (see 4.4, Table 2, Table 7, Table 9, Table 10 and Table 11);
- Added numerical rounding provisions (see 4.5 and Appendix C);
- Changed the requirements for accessory characteristics (see Chapter 7, Chapter 7 of the 2014 edition);
- Added the test voltage requirements corresponding to 66kV (see Table 4);
- Changed the routine test requirements of the annex (see 9.1, 9.1 of the 2014 edition);
- Added the metal strip thickness test and requirements for combined (CD) design (see 10.7.4);
- Changed the applicable scope of measurement of carbon black content of black PE outer sheath (see 12.5.13, 12.5.12 of the 2014 edition);
- Added the test methods and requirements for the burning characteristics of cables (see 12.5.14);
- Added conductor penetration test methods and requirements (see 12.5.15 and Appendix M);
- Added water absorption test and requirements for the outer sheath (see 12.5.21 and Table 10);
- Changed the requirements for accessory type testing (see Chapter 15, Chapter 15 of the 2014 edition);
- Added additional tests for accessories (see Appendix D);
- Changed the cable length for water penetration test (see Appendix L, Appendix E of the 2014 edition);
- Added the method for determining the weighted value of the halogen content of non-metallic materials in cables (see Appendix K).

This document is modified to adopt IEC 60840:2023 "Rated voltage greater than 30kV ($U_m=36kV$) to 150kV ($U_m=170kV$) Test methods and requirements for insulated power cables and their accessories.

Compared with IEC 60840:2023, this document has many structural adjustments. Comparison table of structural number changes between the two documents See Appendix A.

This document has many technical differences compared to IEC 60840:2023.