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

GB/T 1094.11-2022

Power transformers-Part 11: Dry-type transformers

电力变压器 第11部分：干式变压器

(English Translation)

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Foreword

Chapter 1, Chapter 2, Chapter 3, Chapter 6, Chapter 33, Chapter 34 of this part are recommended. The rest are mandatory.

GB 1094 "Power transformers" currently contains the following parts.

- Part 1.General;
- Part 2.Temperature rise;
- Part 3.Insulation levels, dielectric tests and external clearances in air;
- Part 4.Guide to the lightning impulse and switching impulse testing - Power transformers and reactors;
- Part 5.Ability to withstand short circuit;
- Part 10.Determination of sound;
- Part 11.Dry-type transformers.

This part is Part 11 of GB 1094.The number of the previous version of this part is GB 6450.The corresponding IEC standard number is IEC 60726.As the standard numbers of IEC related power transformers are now adjusted to the IEC 60076 series, in order to be in harmony with the IEC standard numbers AND convenient to use, this revision also adjusts the standard numbers, based on the new IEC standard series.

This part modifies and adopts IEC 60076-11.2004 "Power transformer - Part 11. Dry-type transformer" (English version).

This part is redrafted in accordance with IEC 60076-11.2004 in accordance with the redrafting principles. The numbering of the figure in this part is completely consistent with IEC 60076-11.2004, whilst the numbering of some chapters, clauses, tables are not completely consistent with IEC 60076-11.2004.The comparison list is given in Appendix A.

Taking into account the current conditions of China, when adopting IEC 60076-11.2004, some technical content has been modified in this part. The differences have been incorporated into the main text AND marked with a vertical single

line in the margins of the clauses they involve. A list of these technical differences and their reasons is given in Appendix B, for reference.

For ease of use, this part also makes the following editorial changes to IEC 60076-11:2004.

- a) DELETE the forewords of IEC 60076-11:2004;
- b) USE a decimal point ".", to replace the comma "," which was used as a decimal point;
- c) According to GB/T 1.1-2000 "Directives for standardization-Part 1.Rules for the structure and drafting of standards", MODIFY the format of Table 1 in IEC 60076-11:2004.

This part replaces GB 6450-1986 "Dry-type power transformer".

Compared with GB 6450-1986, the main changes in this part are as follows.

- ADD the "Normative references";
- CANCEL the definitions of "dry-type transformers with encapsulated coils", "dry-type transformers with non-encapsulated coils", "sealed dry-type transformers";
- ADD some "conditions of use"; ADD "transportation and storage conditions";
- MODIFY the relevant provisions on the correction of temperature rise limit and insulation level of transformers, which are used for special conditions of use;
- MODIFY the rated short-time applied withstand voltage of the transformer, which has a nominal system voltage of 10 kV;
- ADD the technical requirements, test items, test methods for "climate, environment, combustion performance level";
- MODIFY the relevant technical requirements and test methods of "partial discharge measurement";
- MODIFY the relevant requirements of the "temperature rise test";
- ADD the requirements for "protection against direct contact", "grounding

terminal", "installation and safety information".

Appendix A, Appendix B, Appendix C, Appendix D of this part are all informative annexes.

This part was proposed by the China Electrical Equipment Industry Association.

This part shall be under the jurisdiction of the National Transformer Standardization Technical Committee (SAC/TC 44).

Drafting organizations of this part. Shenyang Transformer Research Institute,
Power transformers - Part 11. Dry-type transformers

1 Scope

This part of GB 1094 applies to dry-type power transformers (including autotransformers), where the maximum voltage of the equipment is 40.5 kV and below, AND at least one winding is operated at a temperature higher than 1.1 kV. This part applies to dry-type transformers of various structures and processes.

This part does not apply to.

- Inflatable dry-type transformer (when the inflatable gas is not air);
- Single-phase transformer, which has a rated capacity of less than 5 kVA;
- Multi-phase transformer, which has a rated capacity of less than 15 kVA;
- Transducer;
- Starting transformer;
- Test transformer;
- Locomotive traction transformer;
- Flameproof and mining transformers;
- Welding transformer;
- Voltage regulating transformer;
- Small power transformers that focus on safety.

When the above-mentioned transformers or other special transformers do not have corresponding standards, this part can be applied in whole or in part.