



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

GB/T 5591.1-2017

**Combined flexible materials for electrical insulation -- Part 1:
Definitions and general requirements**

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Foreword

GB/T 5591, Combined flexible materials for electrical insulation, is divided into the following parts.

- Part 1. Definitions and general requirements;
- Part 2. Methods of test;
- Part 3. Specifications for individual materials.

This Part is Part 1 of GB/T 5591.

This Part was drafted in accordance with the rules given in GB/T 1.1-2009.

This Part replaces GB/T 5591.1-2002, Combined flexible materials for electrical insulation - Part 1. Definitions and general requirements. Compared with GB/T 5591.1-2002, the major technical changes are as follows.

- the reference standards in "Normative references" are updated and nine reference documents are newly added (see Clause 2; Clause 2 of 2002 edition);
- "normative reference" is added in Table 1 and the "specific groups" of "film" are reduced from six to three (see Table 1 of Clause 4; Table 1 of Clause 3 of 2002 edition).

This Part was redrafted by modifying and adopting IEC 60626-1:2009, Combined flexible materials for electrical insulation - Part 1. Definitions and general requirements.

The technical differences between this Part and IEC 60626-1:2009, and the reasons are as follows.

--for normative references, this Part gives some adjustments of technical differences, in order to adapt to the technical conditions in China. The adjustments are intensively reflected in "Normative references" of Clause 2. The adjustments are as follows.

? use GB/T 5591.3, which is drafted by modifying and adopting the international standard, to replace IEC 60626-3.2008; ? use GB/T 13542.4-2009, which is drafted by modifying and adopting the international standard to replace IEC 60674-3-2.1992; ? use GB/T 13542.6-2006, which is drafted by modifying and adopting the international standard, to replace IEC 60674-3-4/6.1993; ? use JB/T 12169-2015, which is drafted by modifying and adopting the international standard, to replace IEC 60641-3-2.2007.

Combined flexible materials for electrical insulation -

Part 1. Definitions and general requirements

1 Scope

This Part of GB/T 5591 contains the definitions related to and the general requirements to be fulfilled by combined flexible materials for electrical insulation.

This Part applies to combined flexible materials for electrical insulation, but it does not apply to those which are made using mica paper as the primary component.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition dated applies to this document. For undated references, the latest edition of the referenced documents (including all amendments) applies to this document.

GB/T 5591.3, Combined flexible materials for electrical insulation - Part 3. Specifications for individual materials (GB/T 5591.3-2008, IEC 60626-3.2002, MOD)

GB/T 13542.4-2009, Film for electrical insulation - Part 4. Polyethylene terephthalate film used for electrical insulation (IEC 60674-3-2.1992, MOD)

GB/T 13542.6-2006, Film for electrical insulation - Part 6. Polyimide films for electrical insulation (IEC 60674-3-4/6.1993, MOD)

JB/T 12169-2015, Pressboard and presspaper for electrical purposes - Presspaper (IEC 60641-3-2.2007, MOD)

IEC 60554-3-1.1979, Specification for cellulosic papers for electrical purposes - Part 3. Specifications for individual materials - Sheet 1. General purpose electrical paper

IEC 60674-3-8.2011, Specification for plastic films for electrical purposes - Part 3. Specifications for individual materials - Sheet 8. Balanced biaxially oriented polyethylene

naphthalate (PEN) films used for electrical insulation

IEC 60819-3-1.2001, Non-cellulosic papers for electrical purposes - Part 3.

5.1 The material may be delivered in sheets cut to fixed length or in rolls.

5.2 All materials in any one consignment shall be consistent and have properties within the limits of this Part throughout the whole sheet or throughout the whole length of each roll. The surface shall be uniform, reasonably smooth and reasonably free from defects such as bubbles, pin holes, creases and flaws.

5.3 When delivered in rolls, it shall be capable of being unrolled without damage.

5.4 The combined materials shall be free of conducting particles and other undesirable inclusions.

5.5 Materials delivered in sheets cut to fixed length shall be reasonably free from warp.

NOTE. After bonding, materials produced in roll form often assume a "roll set" which depends upon time and temperature of storage. Sheets made from such rolls may require appreciable time before warp is relieved.

6 Dimensions

Thickness and thickness tolerances are dealt with in GB/T 5591.3, Specifications for individual materials. Other dimensions and tolerances shall be agreed by the purchaser and the supplier.

7 Joints

For material in roll form, the allowable frequency of joints, the details of their construction, and identification shall be agreed by the purchaser and the supplier.

8 Conditions of supply

Material in roll form shall be supplied on cardboard roll or other suitable core. The inner diameter of the core shall be agreed by purchaser and supplier, and it should preferably be 55 mm, 76 mm or 150 mm.

Material in sheet form shall be supplied in stacks.

The material shall be placed in a packing which ensures adequate protection during transport, handling and storage.

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