

ICS 85.060

CCS Y 32



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

GB/T 22920-2022

Replacing GB/T 22920-2008

Electrolytic capacitor paper

电解电容器纸

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1 Scope

This standard specifies the classification, the requirements, the test methods, the inspection rules, and the marking, packaging, transport and storage of electrolytic capacitor paper.

The paper is not the dielectric

In an aluminium electrolytic capacitor the dielectric is the oxide film grown on the anode foil.

The paper is the separator: it holds the electrolyte against that oxide, keeps the two foils apart, and must add as little resistance as possible to the ionic path between them.

Requirements that pull against each other

Thinner and more porous gives lower equivalent series resistance - which sets the ripple current the capacitor can take and how hot it runs.

Thicker and denser is more reliable against a short between the foils.

And it lives sealed inside for thousands of hours

Hot, in an electrolyte, with no possibility of inspection - so the paper has to be chemically inert and, above all, clean.

Chloride at parts per million ends the capacitor

Ionic contamination governs life: chloride attacks the aluminium oxide film, and a few parts per million is enough to matter.

So alongside thickness, density, permeability, strength and ash, the standard fixes the conductivity of the aqueous extract and the chloride and iron limits - and requires freedom from conductive particles and pinholes.

About this edition

GB/T 22920-2022 is the current edition. It was issued on 11 July 2022 and has been in force since 1 February 2023, replacing GB/T 22920-2008.

GB/T 22920-2008 has been superseded: a specification that still cites it is citing a withdrawn edition.

The interval between issue and effect is the transition period. It exists so that producers, laboratories and buyers can requalify products, revise procedures and use up documentation before the new text becomes the one that applies. The date on this page is the official one from the record of the Standardization Administration.

Classification and status

GB/T 22920-2022 is classified under ICS 85.060. ICS is the International Classification for Standards, the same scheme used by ISO and by the national bodies of most countries, which is what allows a Chinese standard to be placed beside its foreign counterparts on subject rather than on number.

Its Chinese Standard Classification code is CCS Y 32. CCS is the domestic scheme, a letter for the sector and two digits for the subject within it, and it is the code by which the standard is filed and searched in China.

The GB/T prefix marks a recommended national standard. It is not, in itself, law: it becomes binding when a contract names it, when a regulation or a mandatory standard refers to it, or when a producer declares conformity with it. In practice that covers most of the cases in which it will be read - a purchase specification, an inspection agreement or a certification scheme.

How a Chinese national standard is set out

Chinese national standards are drafted to the rules of GB/T 1.1, which fixes the order in which a standard is set out. The document opens with a foreword recording the issuing bodies, the relationship to any previous edition and the technical committee responsible for it. Clause 1 is the scope. Clause 2 lists the normative references - the other standards that

have to be applied together with this one, and without which its requirements cannot be met. Clause 3 gives the terms and definitions. The technical clauses follow: the requirements themselves, the test or measurement methods by which conformity is established, the inspection rules that say how a lot is sampled and judged, and, for a product standard, the provisions on marking, packaging, transport and storage. Annexes, normative or informative, come last.

GB/T 22920-2022 runs to 15 pages in the English translation. What is delivered is the complete document in that order: every clause, every table, every figure and every annex of the Chinese original, with the same numbering, so that a reference to a clause number in a contract or a test report points to the same place in both languages.

About this English translation

The English edition of GB/T 22920-2022 is a full translation of the official Chinese text, not a summary, an abstract or a machine rendering left unchecked. Clause and subclause numbers, table and figure numbers and annex letters are those of the original, because they are what a specification, a purchase order or a test report cites.

Technical terms are translated against the vocabulary standards of the same field, so that a term used in GB/T 22920-2022 reads the same way as in the other Chinese standards it is used beside. Where a term has an established English form in an ISO or IEC document on the same subject, that form is used; where China's term has no foreign counterpart, it is translated literally and the Chinese is kept alongside it rather than replaced by an approximation.

Quantities, units and symbols are carried over unchanged. Chinese standards use SI, so a value in the translation is the value in the original document, not a conversion, and a limit read from the English text is the limit that will be applied by a Chinese inspection body reading the Chinese one.

This page is compiled from the official publication record: the standard number and both titles, the issuing bodies, the dates of issue and effect, the edition it replaces, the ICS and CCS classification. The requirements, limits, tables and test conditions are in the document itself.