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

GB/T 25709-2010

Autogenous and semi-autogenous mills

自磨机和半自磨机

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1 Scope

This standard specifies the types and basic parameters, the technical requirements, the test methods, the inspection rules and the marking, packaging, transport and storage of autogenous and semi-autogenous mills.

The ore grinds itself

Instead of steel balls, the mill is fed run-of-mine rock and the large lumps act as the grinding media, breaking the smaller ones as the shell turns.

A semi-autogenous mill adds a modest ball charge where the ore does not supply enough competent lumps.

And it deletes three buildings

A conventional circuit crushes in primary, secondary and tertiary stages before grinding, each a building of crushers, screens and conveyors.

An AG or SAG mill takes primary crusher product directly and replaces all of it - which is why it became the standard for large new concentrators.

The largest rotating machines in the industry

Over ten metres in diameter, drawing many megawatts through gearless or girth gear drives.

But the media are the feed

So performance depends on the ore: a change in hardness or size distribution changes throughput directly.

The mill can overload with material it cannot break, or run short of media if the ore is too soft - which is why load, power draw and charge are monitored continuously rather than set once.

About this edition

GB/T 25709-2010 is the current edition. It was issued on 23 December 2010 and has been in force since 1 July 2011.

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 25709-2010 is classified under ICS 73.120. 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 D 94. 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 25709-2010 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 25709-2010 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 25709-2010 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 ICS and CCS classification. The requirements, limits, tables and test conditions are in the document itself.