ICS 13.110;25.100.70

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## NATIONAL STANDARD OF THE PEOPLE'S REPUBLIC

## **OF CHINA**

# 中华人民共和国国家标准

GB 4674-2009

Replace GB 4674-1984

# Safety code for grinding machines

磨削机械安全规程

Issued on March 31, 2009

Implemented on December 01, 2009

Issued by General Administration of Quality Supervision, Inspection and Quarantine of the People's Republic of China

Standardization Administration of the People's Republic of China

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#### Foreword

All the contents of this Standard shall be followed up compulsively.

This Standard is the revision of GB 4674—1984, and compared with GB 4674—1984, this Standard has the following main changes:

-- "Foreword" is added;

-- "Introduction" is revised as "Scope" (Chapter 1 of the edition of 1984; Chapter 1 of this edition);

-- The Chapter "Normative reference" is added (see Chapter 2 of this edition);

-- The general requirements for design and manufacture of grinding machines are added (3.1h of this edition);

-- 2.2.1 of the edition of 1984 is revised as "the grinding wheel spindle shall be designed to be able to operate with the maximum allowable load" (2.2.1 of the edition of 1984; 3.2.1 of this edition);

-- The requirements for clamp nuts of grinding wheel spindle are added (3.4 of this edition);

-- Regulations for marks of grinding machines are added (3.14 of this edition);

-- Regulations of modification, reformation and parts replacement for grinding machines are deleted (2.13 of the edition of 1984);

-- The requirements for grinding wheel checking are revised: the mark checking is added (3.1.1 of the edition of 1984, 4.1.1.1 of this edition);

-- Requirements for compaction of grinding wheel and grinding wheel chuck are revised, which stipulates that the pad shall totally cover the contacting surface of the grinding wheel chuck (3.3.3 of the edition of 1984, 4.3.2 of this edition);

-- The requirements for grinding wheel carrying are revised, adding the stipulation that "the marks printed with grinding wheel features and safety speed shall not be smeared or damaged without permission" (4.1 of the edition of 1984, 5.1 of this edition);

-- The stipulation that "changing grinding machines' structure and performance is strictly prohibited without the approval of the chief engineer" is deleted (4.6 of the edition of 1984);

-- Add the terms of guaranteeing personal safety and the training and assessment

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requirements for the operating personnel (5.10, 5.11, 5.12 and 5.13 of this edition);

-- Appropriate revisions are made in text editing.

This Standard is proposed by State Administration of Work Safety

This Standard is under the jurisdiction of National Technical Committee of Work Safety standardization.

Drafting units of this standard: Tangshan Institute of China Coal Research Institute, Kailuan ( Group) Co. , Ltd. , CNR Tangshan Railway Vehicles Equipment Co. ,Ltd.

Main drafters of this standard: Zhang Wenjun, Wang Zhongchang, Zhang Ruixi, He Xiaoqun, Wei Guanghou, Chen ying, Mou JianHua.

Previous versions that this standard replaces are as follows:

——GB 4674—1984.

## **Safety Code for Grinding Machines**

#### 1 Scope

This Standard stipulates the safety technical requirements in design and manufacture, use, management and maintenance of grinding machines.

This Standard applies to the grinding machines using grinding wheel or grinding segment to conduce manual, mechanical or automatic process.

This Standard does not apply to grinding processing machines using grinding head with a handle, coated abrasive tools, oilstone and grinding paste.

#### 2 Normative references

The articles contained in the following documents have become this Standard when they are quoted herein. For the dated documents so quoted, all the modifications (excluding corrections) or revisions made thereafter shall not be applicable to this Standard. For the undated documents so quoted, the latest editions shall be applicable to this Standard.

GB/T 6171 Hexagon nuts, style 1, with fine pitch thread (eqv ISO 8673: 1999)

GB 12348 Emission standard for industrial enterprises noise at boundary

GB/T 16769 Metal-cutting machine tools - Measurement method of sound pressure level (neq ISO/DIS 230-5-2: 1996)

JB/T 9878 Measurement of dust concentration of metal-cutting machine tool

#### 3 Safety requirements for the design and manufacture of grinding machines

#### 3.1 General requirements

3.1.1 The design shall try to eliminate or reduce all potential dangerous factors.

3.1.2 Necessary safety devices shall be adopted in case of dangers that can't be avoided or fully restrained through design.

3.1.3 Operators shall be warned and informed by messages in case that remaining dangers can't be eliminated or reduced by design and the safety devices fail to have an effect on them.

#### 3.2 Grinding wheel spindle

3.2.1 The grinding wheel spindle shall be designed to be able to operate with the



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