



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

GB/T 39981-2021

**Building construction machinery and equipment - Portable,
hand-held, internal combustion engine driven cut-off machines
- Safety requirements**

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Table of Contents

1 Scope	1
2 Normative references	1
3 Terms and definitions	2
4 Safety requirements and verification	4
5 Use information	14
Appendix A (informative appendix) List of major hazards	18
Appendix B (Normative Appendix) Cutting Machine Position	20
Appendix C (Normative Appendix) Strength Test of Cutting Wheel Guard	22
Appendix D (informative appendix) Summary of cutting machine cycle test results (2007 and 2008)	24
Appendix E (Normative Appendix) Noise Test Rules---Engineering Method (Level 2 Accuracy)	25
Appendix F (Normative Appendix) Measurement of Handle Vibration Value	32
Appendix G (informative appendix) This standard compares with ISO 19432.2012 chapter number	38
Reference	40

Foreword

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

This standard uses the redrafting method to amend and adopt ISO 19432.2012 "Portable, handheld, internal combustion engine type construction machinery and equipment"

Safety requirements for cutting machines.

Compared with ISO 19432.2012, this standard has some structural adjustments. Appendix G lists the differences between this standard and ISO 19432.2012.

A list of chapter number comparisons.

The technical differences between this standard and ISO 19432.2012 and the reasons are as follows.

--- Regarding normative reference documents, this standard has made adjustments with technical differences to adapt to my country's technical conditions and adjustments.

The situation is collectively reflected in Chapter 2 "Normative Reference Documents", with specific adjustments as follows.

- * Replace ISO 3744 with GB/T 3767-2016, which is equivalent to adopting international standards (see Appendix E);
- * Replace IEC 61672-1 (see Appendix E) with GB/T 3785.1 which is equivalent to adopting international standards;
- * Replace ISO 4871 with GB/T 14574, which is equivalent to adopting international standards (see Appendix E);
- * Replace ISO 5349 with GB/T 14790.2-2014, which is equivalent to adopting international standards (see Appendix F);
- * Replace ISO 12100 with GB/T 15706-2012 equivalent to the international standard (see Chapter 3, 4.1, 5.1.1, 5.1.3);
- * Replace ISO 11201 with GB/T 17248.2-2018, which is equivalent to adopting international standards (see Appendix E);
- * Replace ISO 16063-1 (see Appendix F) with GB/T 20485.1 equivalent to the international standard;
- * Replace ISO 14982 with GB/T 21398-2008 equivalent to the international standard (see 4.21.1, 4.21.2);
- * Replace ISO 8041 with GB/T 23716 which is equivalent to the international standard (see Appendix F);
- * Replace ISO 13857 (see 4.1) with GB/T 23821-2009, which is equivalent to adopting international standards;
- * Replace ISO /T R11688-1 (see 4.19.1) with GB/T 25078.1 equivalent to the international standard;
- * Replace ISO 7914 (see 4.2.1, 4.6.1.1) with LY/T 1348-2015, which is equivalent to the international standard;
- * Replace ISO 7293 with LY/T 1593, which is equivalent to the international standard (see 5.1.2, Appendix E, Appendix F);
- * Added GB/T 16842;
- * Added GB/T 4269.5;
- * Removed ISO 20643;
- * Removed IEC 60745-1.

This standard has made the following editorial changes.

--- Change the "mass of 10kg" in F.7.3 to "mass of 6kg" (see Figure F.2), because the artificial feed force specified in F.7.3 is

60N.

This standard was proposed by the China Machinery Industry Federation.

This standard is under the jurisdiction of the National Standardization Technical Committee for Construction Machinery and Equipment (SAC/TC328).

Drafting organizations of this standard. Beijing Construction Mechanization Research Institute Co., Ltd., Beijing Jianyan Machinery Technology Co., Ltd., China Construction Education

association.

1 Scope

This standard specifies the safety requirements and test inspections for the design and manufacture of portable, hand-held, internal combustion engine cutting machines (hereinafter referred to as cutting machines).

This type of cutting machine is scheduled to be used by a single person when cutting building materials (such as asphalt, concrete, stone and metal).

This standard only applies to cutting machines that use consolidated abrasives and/or super-hard abrasives (diamond) rotary cutting wheels, and the cutting wheels have the largest outer diameter.

The diameter is 430mm. The support of the cutting wheel is installed in its center and driven by the main shaft. The top of the cutting wheel rotates away from the operator.

(see picture 1).

This standard covers all major hazards that are meaningful to these machines under intended use or under conditions of misuse that are reasonably foreseeable by the manufacturer.

Risks, dangerous situations or hazardous events (see Appendix A, Table A.1).

This standard specifies methods to eliminate or reduce the dangers that occur during the use of the cutting machine, as well as the safe work provided with the cutting machine

Canonical type of information.

This standard does not involve the specifications of cutting wheels. As examples of cutting wheel specifications, see GB/T 4127.7, GB/T 23537 and

ISO 13942.

This standard does not apply to machines manufactured before its release date.

2 Normative references

The following documents are indispensable for the application of this document. For dated reference documents, only the dated version applies to this article

Pieces. For undated reference documents, the latest version (including all amendments) is applicable to this document.

GB/T 3767-2016 Acoustic sound pressure method to determine the sound power level and sound energy level of the noise source. Approximate free field above the reflective surface.

Process method (ISO 3744.2010, IDT)

GB/T 3785.1 Electroacoustic Sound Level Meter Part 1.Specifications (GB/T 3785.1-2010, IEC 61672-1.2002, IDT)

GB/T 4269.5 Operator control symbols and other marks for portable forestry machinery (GB/T 4269.5-2003, ISO 3767-5.

1992, IDT)

GB/T 14574 Labeling and verification of noise emission values of acoustic machinery and equipment (GB/T 14574-2000, eqvISO 4871.

1996)

GB/T 14790.2-2014 Mechanical vibration Measurement and evaluation of human exposure to hand-borne vibration Part 2.Workplace measurement

Practical Guide (ISO 5349-2.2001, IDT)

GB/T 15706-2012 General Principles of Mechanical Safety Design Risk Assessment and Risk Reduction (ISO 12100.2010, IDT)

Test tool for testing the protection of GB/T 16842 enclosure against people and equipment (GB/T 16842-2016, IEC 61032.1997, IDT)

GB/T 17248.2-2018 Acoustic machinery and equipment emit noise above a reflective surface with negligible environmental correction.

Similar to free-field measurement of emission sound pressure levels at working positions and other designated positions (ISO 11201.2010, IDT)

GB/T 20485.1 Vibration and shock sensor calibration method Part 1.Basic concepts (GB/T 20485.1-2008,

ISO 16063-1.1998, IDT)

GB/T 21398-2008 Electromagnetic compatibility test methods and acceptance rules for agricultural and forestry machinery (ISO 14982.1998, IDT)