BS EN ISO 11148-4:2012

BSI Standards Publication

Hand-held non-electric power tools — Safety requirements

Part 4: Non-rotary percussive power tools

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National foreword

This British Standard is the UK implementation of EN ISO 11148-4:2012. It supersedes BS EN ISO 11148-4:2010 which is withdrawn.

The UK participation in its preparation was entrusted to Technical Committee MCE/8/-/2, Hand-held, non-electric power tools - Safety.

A list of organizations represented on this committee can be obtained on request to its secretary.

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English Version

Hand-held non-electric power tools - Safety requirements - Part 4: Non-rotary percussive power tools (ISO 11148-4:2012)

Machines portatives à moteur non électrique - Exigences de sécurité - Partie 4: Machines portatives non rotatives à percussion (ISO 11148-4:2012)

Handgehaltene nicht elektrisch betriebene Maschinen - Sicherheitsanforderungen - Teil 4: Nicht drehende, schlagende Maschinen (ISO 11148-4:2012)

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Foreword

This document (EN ISO 11148-4:2012) has been prepared by Technical Committee ISO/TC 118 "Compressors and pneumatic tools, machines and equipment" in collaboration with Technical Committee CEN/TC 255 “Hand-held, non-electric power tools - Safety” the secretariat of which is held by SIS.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by June 2013, and conflicting national standards shall be withdrawn at the latest by June 2013.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. CEN [and/or CENELEC] shall not be held responsible for identifying any or all such patent rights.

This document supersedes EN ISO 11148-4:2010.

This document has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association, and supports essential requirements of EU Directive(s).

For relationship with EU Directive(s), see informative Annex ZA, which is an integral part of this document.

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Annex ZA
(informative)

Relationship between this European Standard and the Essential Requirements of EU Directive 2006/42/EC

This European Standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association to provide a means of conforming to Essential Requirements of the New Approach Directive 2006/42/EC on machinery.

Once this standard is cited in the Official Journal of the European Union under that Directive and has been implemented as a national standard in at least one Member State, compliance with the clauses of this standard confers, within the limits of the scope of this standard, a presumption of conformity with the corresponding Essential Requirements of that Directive and associated EFTA regulations.

WARNING — Other requirements and other EU Directives may be applicable to the product(s) falling within the scope of this standard.

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Foreword

ISO (the International Organization for Standardization) is a worldwide federation of national standards bodies (ISO member bodies). The work of preparing International Standards is normally carried out through ISO technical committees. Each member body interested in a subject for which a technical committee has been established has the right to be represented on that committee. International organizations, governmental and non-governmental, in liaison with ISO, also take part in the work. ISO collaborates closely with the International Electrotechnical Commission (IEC) on all matters of electrotechnical standardization.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

ISO 11148-4 was prepared by Technical Committee ISO/TC 118, *Compressors and pneumatic tools, machines and equipment*, Subcommittee SC 3, *Pneumatic tools and machines*.

This second edition cancels and replaces the first edition (ISO 11148-4:2010), of which it constitutes a minor revision.

ISO 11148 consists of the following parts, under the general title *Hand-held non-electric power tools — Safety requirements*:

— *Part 1: Assembly power tools for non-threaded mechanical fasteners*

— *Part 2: Cutting-off and crimping power tools*

— *Part 3: Drills and tappers*

— *Part 4: Non-rotary percussive power tools*

— *Part 5: Rotary percussive drills*

— *Part 6: Assembly power tools for threaded fasteners*

— *Part 7: Grinders*

— *Part 8: Sanders and polishers*

— *Part 9: Die grinders*

— *Part 10: Compression power tools*

— *Part 11: Nibblers and shears*

— *Part 12: Circular, oscillating and reciprocating saws*

A part 13, dealing with fastener driving tools, is under preparation.

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Introduction

This document is a type C standard as stated in ISO 12100.

The machinery concerned and the extent to which hazards, hazardous situations and events are covered are defined in the Scope of this part of ISO 11148.

When provisions of this type C standard are different from those that are stated in type A or B standards, the requirements of this type C standard take precedence over the requirements of other standards for machines that have been designed and built according to the requirements of this type C standard.

ISO 11148 consists of a number of independent parts for individual types of hand-held, non-electric power tools.

Certain elements of this part of ISO 11148 cover hand-held non-electric power tools, driven by internal combustion engines powered by gaseous or liquid fuel. In these parts, the safety aspects relating to internal combustion engines are found in a normative annex.

The parts are type C standards and refer to pertinent standards of types A and B where such standards are applicable.

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INTERNATIONAL STANDARD ISO 11148-4:2012(E)

Hand-held non-electric power tools — Safety requirements —

Part 4:
Non-rotary percussive power tools

IMPORTANT — The electronic file of this document contains colours that are considered useful for the correct understanding of the document. Users should consider printing this document using a colour printer. ISO 3864-4 provides colorimetric and photometric properties together with, as a guideline, references from colour order systems.

1 Scope

This part of ISO 11148 applies to hand-held non-electric power tools (hereinafter “non-rotary percussive power tools”) intended for chipping, riveting, breaking of concrete and asphalt, ramming, etc. The non-rotary percussive power tool can be powered by compressed air, hydraulic fluid or internal combustion engines and is intended for use by one operator and supported by the operator’s hand or hands, with or without a suspension, e.g. a balancer.

This part of ISO 11148 covers

— breakers;

— bush hammers;

— chipping hammers;

— small chisels;

— engraving pens;

— needle scalers;

— pick hammers;

— pile drivers;

— portable pile drivers;

— punches;

— rammers;

— riveting hammers;

— scaling hammers;

— stone hammers;

— spades;

— tampers.

NOTE 1 For examples of non-rotary percussive power tools, see Annex B.

This part of ISO 11148 does not cover special requirements and modifications on non-rotary percussive power tools for the purpose of mounting in a fixture.

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This part of ISO 11148 deals with all significant hazards, hazardous situations or hazardous events when the tools are used as intended and under conditions of misuse which are reasonably foreseeable by the manufacturer, with the exception of the use of non-rotary percussive power tools in potentially explosive atmospheres.

NOTE 2 EN 13463-1 gives requirements for non-electrical equipment for potentially explosive atmospheres.

2 Normative references

The following documents, in whole or in part, are normatively referenced this document and are indispensable for its application. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 3857-3, *Compressors, pneumatic tools and machines — Vocabulary — Part 3: Pneumatic tools and machines*

ISO 3864-2, *Graphical symbols — Safety colours and safety signs — Part 2: Design principles for product safety labels*

ISO 5391, *Pneumatic tools and machines — Vocabulary*

ISO 7000, *Graphical symbols for use on equipment — Registered symbols*[1)]

ISO 7010, *Graphical symbols — Safety colours and safety signs — Registered safety signs*[1)]

ISO 9158, *Road vehicles — Nozzle spouts for unleaded gasoline*

ISO 9159, *Road vehicles — Nozzle spouts for leaded gasoline and diesel fuel*

ISO 12100:2010, *Safety of machinery — General principles for design — Risk assessment and risk reduction*

ISO 13732-1, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 1: Hot surfaces*

ISO 13732-3, *Ergonomics of the thermal environment — Methods for the assessment of human responses to contact with surfaces — Part 3: Cold surfaces*

ISO 15744, *Hand-held non-electric power tools — Noise measurement code — Engineering method (grade 2)*

ISO 17066, *Hydraulic tools — Vocabulary*

ISO 28927-6, *Hand-held portable power tools — Test methods for evaluation of vibration emission — Part 6: Rammers*

ISO 28927-9, *Hand-held portable power tools — Test methods for evaluation of vibration emission — Part 9: Scaling hammers and needle scalers*

ISO 28927-10, *Hand-held portable power tools — Test methods for evaluation of vibration emission — Part 10: Percussive drills, hammers and breakers*

EN 12096, *Mechanical vibration — Declaration and verification of vibration emission values*

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 3857-3, ISO 5391, ISO 12100 and ISO 17066 (for hydraulic tools), and the following apply.

1) The graphical symbol collections of ISO 7000, ISO 7001 and ISO 7010 are also available online in the ISO web store. For more information, consult http://www.iso.org/iso/fr/publications_and_e-products/databases.htm.

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3.1 General definitions

3.1.1
hand-held power tool
machine operated by one or two hands and driven by rotary or linear motors powered by compressed air, hydraulic fluid, gaseous or liquid fuel, electricity or stored energy (e.g. by a spring) to do mechanical work and so designed that the motor and the mechanism form an assembly that can easily be brought to its place of operation

NOTE Hand-held power tools driven by compressed air or gas are called pneumatic tools (or air tools). Hand-held power tools driven by hydraulic liquid are called hydraulic tools.

3.1.2
inserted tool
tool inserted in the non-rotary percussive power tool to perform the intended work

3.1.3
service tool
tool intended for performing maintenance or service on the non-rotary percussive power tool

3.1.4
control device
device to start and stop the non-rotary percussive power tool or to change the direction of the rotation or to control the functional characteristics, such as speed and power

3.1.5
start-and-stop device
throttle
manually operated control on the non-rotary percussive power tool by which the energy supply to the motor can be turned on and off

3.1.6
hold-to-run start-and-stop device
constant-pressure throttle
start-and-stop device that automatically returns to the OFF position when force on the start-and-stop device actuator is released

3.1.7
lock-on start-and-stop device
constant-pressure throttle with instant release lock
hold-to-run start-and-stop device that can be locked in the ON position and designed so that it permits the non-rotary percussive power tool to be turned off by a single motion of the same finger or fingers used to turn it on

3.1.8
lock-off start-and-stop device
lock-off throttle
start-and-stop device that automatically latches in the OFF position when the actuator is released and where two motions are required to energize the non-rotary percussive power tool

3.1.9
positive on-off start-and-stop device
positive on-off throttle
start-and-stop device that remains in an ON position until it is manually changed

3.1.10
maximum operating pressure
maximum pressure at which a non-rotary percussive power tool may be operated

3.1.11
whip hose
air hose connecting the main air hose with an air tool for the purpose of providing more flexibility

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