ICS 13.160, 25.140.10 SLOVENSKÁ TECHNICKÁ NORMA Júl 2022

STN	**Ručné prenosné mechanizované náradie Skúšobné metódy hodnotenia emisií kmitania Časť 13: Nastreľovacie náradie (ISO 28927-13: 2022)**	**STN EN ISO 28927-13** 01 1460

Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 13: Fastener driving tools (ISO 28927-13:2022)

Táto norma obsahuje anglickú verziu európskej normy.
This standard includes the English version of the European Standard.

Táto norma bola oznámená vo Vestníku ÚNMS SR č. 06/22

Obsahuje: EN ISO 28927-13:2022, ISO 28927-13:2022

134873

EUROPEAN STANDARD

NORME EUROPÉENNE

EUROPÄISCHE NORM

EN ISO 28927-13

March 2022

ICS 13.160; 25.140.10

Supersedes CEN ISO/TS 8662-11:2004, CEN ISO/TS 8662-11:2004/AC:2004

English Version

Hand-held portable power tools - Test methods for evaluation of vibration emission - Part 13: Fastener driving tools (ISO 28927-13:2022)

Machines à moteur portatives - Mesurage des vibrations au niveau des poignées - Partie 13: Machines à enfoncer les fixations (ISO 28927-13:2022)

Handgehaltene motorbetriebene Maschinen - Messverfahren zur Ermittlung der Schwingungsemission - Teil 13: Eintreibgeräte (ISO 28927-13:2022)

This European Standard was approved by CEN on 26 November 2021.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN-CENELEC Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN-CENELEC Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and United Kingdom.

EUROPEAN COMMITTEE FOR STANDARDIZATION
COMITÉ EUROPÉEN DE NORMALISATION
EUROPÄISCHES KOMITEE FÜR NORMUNG

CEN-CENELEC Management Centre: Rue de la Science 23, B-1040 Brussels

Ref. No. EN ISO 28927-13:2022 E

Contents

Page

European foreword

This document (EN ISO 28927-13:2022) has been prepared by Technical Committee ISO/TC 118 "Compressors and pneumatic tools, machines and equipment" in collaboration with Technical Committee CEN/TC 231 “Mechanical vibration and shock” the secretariat of which is held by DIN.

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 September 2022, and conflicting national standards shall be withdrawn at the latest by September 2022.

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

This document supersedes CEN ISO/TS 8662-11:2004, CEN ISO/TS 8662-11:2004/AC:2004.

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

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

Any feedback and questions on this document should be directed to the users’ national standards body/national committee. A complete listing of these bodies can be found on the CEN website.

According to the CEN-CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Croatia, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Republic of North Macedonia, Romania, Serbia, Slovakia, Slovenia, Spain, Sweden, Switzerland, Turkey and the United Kingdom.

Endorsement notice

The text of ISO 28927-13:2022 has been approved by CEN as EN ISO 28927-13:2022 without any modification.

Annex ZA
(informative)

Relationship between this European Standard and the essential requirements of Directive 2006/42/EC aimed to be covered

This European Standard has been prepared under a Commission's standardization request "M/396 Mandate to CEN and CENELEC for Standardisation in the field of machinery" to provide one voluntary means of conforming to essential requirements of Directive 2006/42/EC of the European Parliament and of the Council of 17 May 2006 on machinery, and amending Directive 95/16/EC (recast).

Once this standard is cited in the Official Journal of the European Union under that Directive, compliance with the normative clauses of this standard given in Table ZA.1 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.

Table ZA.1 — Correspondence between this European Standard and Annex I of Directive 2006/42/EC

The relevant Essential Requirements of Directive 2006/42/EC	Clauses of this EN	Remarks/Notes
2.2.1.1. Instructions	Clauses 5, 6, 7, 8, 9, 10, 11 and Annex B.	

WARNING 1 — Presumption of conformity stays valid only as long as a reference to this European Standard is maintained in the list published in the Official Journal of the European Union. Users of this standard should consult frequently the latest list published in the Official Journal of the European Union.

WARNING 2 — Other Union legislation may be applicable to the product(s) falling within the scope of this standard.

INTERNATIONAL STANDARD

ISO 28927-13

First edition
2022-02

Hand-held portable power tools — Test methods for evaluation of vibration emission —

Part 13: Fastener driving tools

Machines à moteur portatives — Mesurage des vibrations au niveau des poignées —

Partie 13: Machines à enfoncer les fixations

Reference number
ISO 28927-13:2022(E)

COPYRIGHT PROTECTED DOCUMENT

ISO copyright office
CP 401 • Ch. de Blandonnet 8
CH-1214 Vernier, Geneva
Phone: +41 22 749 01 11
Email: copyright@iso.org
Website: www.iso.org

Published in Switzerland

Contents

Page

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.

The procedures used to develop this document and those intended for its further maintenance are described in the ISO/IEC Directives, Part 1. In particular the different approval criteria needed for the different types of ISO documents should be noted. This document was drafted in accordance with the editorial rules of the ISO/IEC Directives, Part 2 (see www.iso.org/directives).

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. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see www.iso.org/patents).

Any trade name used in this document is information given for the convenience of users and does not constitute an endorsement.

For an explanation on the meaning of ISO specific terms and expressions related to conformity assessment, as well as information about ISO's adherence to the World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: www.iso.org/iso/foreword.html.

This document was prepared by Technical Committee ISO/TC 118, *Compressors and pneumatic tools, machines and equipment*, Subcommittee SC 3, *Pneumatic tools and machines,* in collaboration with the European Committee for Standardization (CEN) Technical Committee CEN/TC 231, *Mechanical vibration and shock*, in accordance with the Agreement on technical cooperation between ISO and CEN (Vienna Agreement).

This first edition of ISO 28927-13 cancels and replaces ISO 8662-11:1999 and ISO 8662-11:1999/Amd 1:2001, which have been technically revised. The main changes compared to the previous edition are as follows:

— vibration measurement in three axes and at both hand positions;

— new transducer positions;

— improved definition of transducer positions and orientation.

A list of all the parts in the ISO 28927-series can be found on the ISO website.

Any feedback or questions on this document should be directed to the user’s national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

Introduction

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

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

The vibration test codes for portable hand-held machines given in the ISO 28927 (all parts) are based on ISO 20643, which gives general specifications for the measurement of the vibration emission of hand-held and hand-guided machinery. The ISO 28927 (all parts) specifies the operation of the machines under type-test conditions and other requirements for the performance of type tests. The structure/numbering of its clauses follows that of ISO 20643.

The basic principle for transducer positioning first introduced in the EN 60745 (all parts) of European standards is followed, representing a deviation from ISO 20643 for reasons of consistency. The transducers are primarily positioned next to the hand in the area between the thumb and the index finger, where they give the least disturbance to the operator gripping the machine.

The values obtained are type-test values intended to be representative of the average of the upper quartile of typical vibration magnitudes in real-world use of the machines. However, the actual magnitudes will vary considerably from time to time and depend on many factors, including the operator, the task and the inserted tool or consumable. The state of maintenance of the machine itself might also be of importance. Under real working conditions the influences of the operator and process can be particularly important at low magnitudes. It is therefore not recommended that emission values below 2,5 m/s^2 be used for estimating the vibration magnitude under real working conditions in such cases, 2,5 m/s^2 is the recommended vibration magnitude for estimating the machine vibration.

If accurate values for a specific workplace are required, then measurements [according to ISO 5349 (all parts)] in that work situation could be necessary. Vibration values measured in real working conditions can be either higher or lower than the values obtained using this part of ISO 28927.

The vibration test codes given in the ISO 28927 (all parts) supersede those given in the ISO 8662 (all parts), whose parts have been replaced by the corresponding parts of ISO 28927.

INTERNATIONAL STANDARD **ISO 28927-13:2022(E)**

Hand-held portable power tools — Test methods for evaluation of vibration emission —

Part 13: Fastener driving tools

1 Scope

This document specifies a laboratory method for measuring the vibration at the handle of fastener driving tools. It is a type test procedure for establishing the vibration value on the handle of a hand-held power tool operating under a specified load.

This document is applicable to fastener driving tools driven pneumatically or by other means, using nails, staples or pins.

This document is applicable to tools with single sequential actuation, contact actuation, contact actuation with automatic reversion or continual contact actuation (see Figures 1 to 3).

This document is not applicable to tools operating in full sequential mode due to their much longer intervals in between individual actuations. However, to provide an indication for comparison of different tools of this type (see Figures 4 and 5), Annex C provides informative guidance.

NOTE Today current knowledge does not allow any conclusions regarding physiological and pathological effects between isolated shocks and continuous shock sequences, and their repetition rates.

2 Normative references

The following documents are referred to in the text in such a way that some or all of their content constitutes requirements of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 5349-1:2001, *Mechanical vibration — Measurement and evaluation of human exposure to hand-transmitted vibration — Part 1: General requirements*

ISO 5391:2003, *Pneumatic tools and machines — Vocabulary*

ISO 17066:2007, *Hydraulic tools — Vocabulary*

ISO 20643:2005, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission*

ISO 20643:2005/Amd 1:2012, *Mechanical vibration — Hand-held and hand-guided machinery — Principles for evaluation of vibration emission – Amd 1: Accelerometer positions*

ISO 28927-5:2009, *Hand-held portable power tools — Test methods for evaluation of vibration emission — Part 5: Drills and impact drills*

ISO 28927-5:2009/Amd 1:2015, *Hand-held portable power tools — Test methods for evaluation of vibration emission — Part 5: Drills and impact drills – Amd 1: Feed force*

EN 12096:1997, *Mechanical vibration — Declaration and verification of vibration emission values*