SLOVENSKI STANDARD
SIST EN ISO 14556:2016

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Nadomešča:
SIST EN ISO 14556:2001
SIST EN ISO 14556:2001/A1:2007

Kovinski materiali - Udarni preskus žilavosti po Charpyju (V-zareza) - Instrumentirana preskusna metoda (ISO 14556:2015)

Metallic materials - Charpy V-notch pendulum impact test - Instrumented test method (ISO 14556:2015)

Metallische Werkstoffe - Kerbschlagbiegeversuch nach Charpy (V Kerb) - Instrumentiertes Prüfverfahren (ISO 14556:2015)

Matériaux métalliques - Essai de flexion par choc sur éprouvette Charpy à entaille en V - Méthode d'essai instrumenté (ISO 14556:2015)

Ta slovenski standard je istoveten z: **EN ISO 14556:2015**

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77.040.10 Mehansko preskušanje kovin Mechanical testing of metals

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English Version

Metallic materials - Charpy V-notch pendulum impact test - Instrumented test method (ISO 14556:2015)

Matériaux métalliques - Essai de flexion par choc sur éprouvette Charpy à entaille en V - Méthode d'essai instrumenté (ISO 14556:2015)

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EUROPÄISCHES KOMITEE FÜR NORMUNG

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European foreword

This document (EN ISO 14556:2015) has been prepared by Technical Committee ISO/TC 164 "Mechanical testing of metals" in collaboration with Technical Committee ECISS/TC 101 "Test methods for steel (other than chemical analysis)" the secretariat of which is held by AFNOR.

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of an identical text or by endorsement, at the latest by April 2016, and conflicting national standards shall be withdrawn at the latest by April 2016.

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 14556:2000.

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Endorsement notice

The text of ISO 14556:2015 has been approved by CEN as EN ISO 14556:2015 without any modification.

INTERNATIONAL STANDARD

ISO 14556

Second edition
2015-09-01

Metallic materials — Charpy V-notch pendulum impact test — Instrumented test method

Matériaux métalliques — Essai de flexion par choc sur éprouvette Charpy à entaille en V — Méthode d'essai instrumenté

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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.

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).

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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 WTO principles in the Technical Barriers to Trade (TBT) see the following URL: Foreword - Supplementary information

The committee responsible for this document is ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 4, *Toughness testing*.

This second edition cancels and replaces the first edition (ISO 14556:2000), which has been technically revised.

Metallic materials — Charpy V-notch pendulum impact test — Instrumented test method

1 Scope

This International Standard specifies a method of instrumented Charpy V-notch pendulum impact testing on metallic materials and the requirements concerning the measurement and recording equipment.

With respect to the Charpy pendulum impact test described in ISO 148-1, this test provides further information on the fracture behaviour of the product under impact testing conditions.

General information about instrumented impact testing can be found in Reference [1] to Reference [5].

2 Normative references

The following documents, in whole or in part, are normatively referenced in 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 148-1, *Metallic materials — Charpy pendulum impact test — Part 1: Test method.*

ISO 148-2, *Metallic materials — Charpy pendulum impact test — Part 2: Verification of testing machines.*

3 Terms and definitions

For the purposes of this document, the following terms and definitions apply.

3.1 Characteristic values of force

3.1.1
general yield force
F_{gy}
force at the transition point from the linearly increasing part to the curved increasing part of the force-displacement curve

Note 1 to entry: It represents a first approximation of the force at which yielding has occurred across the entire test piece ligament (see 9.3).

3.1.2
maximum force
F_m
maximum force in the course of the force-displacement curve

3.1.3
unstable crack initiation force
F_{iu}
force at the beginning of the steep drop in the force-displacement curve (unstable crack initiation)

3.1.4
crack arrest force
F_a
force at the end (arrest) of unstable crack propagation

3.2 Characteristic values of displacement

3.2.1
general yield displacement
s_{gy}
displacement corresponding to the general yield force, F_{gy}

3.2.2
displacement at maximum force
s_m
displacement corresponding to the maximum force, F_m

3.2.3
crack initiation displacement
s_{iu}
displacement corresponding to the force at unstable crack initiation, F_{iu}

3.2.4
crack arrest displacement
s_a
displacement corresponding to the force at the end (arrest) of unstable crack propagation, F_a

3.2.5
total displacement
s_t
displacement at the end of the force-displacement curve

3.3 Characteristic values of impact energy

3.3.1
energy at maximum force
W_m
partial impact energy from $s = 0$ to $s = s_m$

3.3.2
unstable crack initiation energy
W_{iu}
partial impact energy from $s = 0$ to $s = s_{iu}$

3.3.3
crack arrest energy
W_a
partial impact energy from $s = 0$ to $s = s_a$

3.3.4
total impact energy
W_t
energy absorbed by the test piece during the test

Note 1 to entry: Calculated from the area under the force-displacement curve from $s = 0$ to $s = s_t$.

4 Symbols and abbreviated terms

For the purposes of this document, the symbols and abbreviations given in Table 1 are applicable (see also Figure 2 and Figure 3).