
**Kovinski materiali - Preskus po Charpyju - 1. del: Preskusna metoda
(prevzet standard EN 10045-1:1990 z metodo platnice)**

Metallic materials - Charpy impact test - Part 1: Test method

Matériaux métalliques - Essais de flexion par choc sur éprouvette Charpy
- Parti 1: Méthode d'essai

Metallische Werkstoffe - Kerbschlagbiegeversuch nach Charpy - Teil 1:
Prüfverfahren

[SIST EN 10045-1:1996](https://standards.iteh.ai/catalog/standards/sist/5f235652-2465-4cf5-97a0-cac3e4b3b878/sist-en-10045-1-1996)

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Deskriptorji: kovinski materiali, mehanski preskusi, preskusi z udarcem, preskušanci,
preskusni pogoji

ICS 77.040.10

Referenčna številka
SIST EN 10045-1:1996 (en)

Nadaljevanje na straneh od II do III in od 1 do 13

UVOD

Standard SIST EN 10045-1, Kovinski materiali - Preskus po Charpyju - 1. del: Preskusna metoda, prva izdaja, 1996, ima status slovenskega standarda in je z metodo platnice prevzet evropski standard EN 10045-1, Metallic materials - Charpy impact test - Part 1: Test method, 1990-03, v angleškem jeziku.

NACIONALNI PREDGOVOR

Standard EN 10045-1:1990 je pripravil tehnični odbor Evropske organizacije za standardizacijo ECISS/TC 1A Mehansko preskušanje kovin.

Evropski standard EN 10045 obsega dva dela; prvi del obravnava preskusno metodo, drugi del pa preverjanje strojev za preskušanje z udarcem. Standard EN 10045-1 je izdelan na podlagi dveh standardov ISO: ISO 83:1976, Steel - Charpy impact test (U-notch) in ISO 148:1983, Steel - Charpy impact test (V-notch).

Standard EN 10045-1 ne obravnava posebnih oblik preskušancev. Posebne oblike preskušancev zajema nemški standard DIN 50115:1991, Kerbschlagbiegeversuch - Besondere Probenform und Auswertverfahren.

Odločitev za prevzem evropskega standarda EN 10045-1:1990 po metodi platnice je dne 1996-04-16 sprejel tehnični odbor USM/TC PKG Preskušanje kovinskih gradiv.

Ta slovenski standard je dne 1996-05-31 odobril direktor USM.

ZVEZA S STANDARDOM

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S prevzemom tega evropskega standarda velja poleg standardov, navedenih v izvorniku, še naslednja zveza:

SIST ISO 286-1

<https://standards.iteh.ai/catalog/standards/sist/5f235652-2465-4cf5-97a0-31e4b31878/sist-en-10045-1-1996>

Sistem toleranc in ujemov ISO - 1. del: Osnove toleranc, odstopkov in ujemov

OSNOVA ZA IZDAJO STANDARDARDA

- Prevzem standarda EN 10045-1:1990

OPOMBI

- Powsod, kjer se v besedilu standarda uporablja izraz evropski standard, to pomeni v SIST EN 10045-1:1996 slovenski standard.
- Uvod in nacionalni predgovor nista sestavni del standarda.

VSEBINA	Stran
Predgovor	2
1 Namen in področje uporabe	3
2 Zveze s standardi	4
3 Opis preskusne metode	4
4 Izrazi in oznake.....	4
5 Preskušanci	5
6 Stroj za preskušanje.....	7
7 Postopek preskušanja.....	9
8 Poročilo o preskušanju.....	10
Dodatek A: Seznam nacionalnih standardov, ki ustrezajo EN 10045-2	13

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EUROPEAN STANDARD

EN 10 045

NORME EUROPEENNE

Part 1

EUROPAISCHE NORM

March 1990

UDC 669:620.178.746.22

Key words: Metal products, mechanical tests, Charpy impact tests, test specimens, testing conditions.

English version

Metallic materials - Charpy impact test - Part 1:
Test method

Matériaux métalliques - Essai de flexion par choc sur éprouvette Charpy - Partie 1: Méthode d'essai

Metallische Werkstoffe - Kerbschlagbiegeversuch nach Charpy - Teil 1: Prüfverfahren

This European Standard was accepted by CEN on 1989-11-27. CEN members are bound to comply with the requirements of the CEN/CENELEC Common Rules 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 Central Secretariat 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 CEN Central Secretariat has the same status as the official versions.

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CEN

European Committee for Standardization
Comité Européen de Normalisation
Europäisches Komitee für Normung

Central Secretariat: rue Bréderode 2, B-1000 Brussels

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Ref. No. EN 10 045-1:1990 E

BRIEF HISTORY

The proposal for this European Standard was prepared by the Technical Committee ECISS/TC1A 'Mechanical and physical tests', the Secretariat of which has been allocated to the Association Francaise de Normalisation (AFNOR).

It represents the first part of the general standard : Metallic materials - Impact test.

This European Standard replaces the EURONORMS :

EU 7-55 : Charpy Impact test for steel

EU-45-63 : Impact testing using V-notch, beam type test piece.

This European Standard was adopted by CEN on 1989-11-27

According to the Common CEN/CENELEC Rules, being part of the Internal Regulations of CEN, the following countries are bound to implement this European Standards : Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

FOREWORD

The standard EN 10 045 concerns metallic materials - Charpy impact test and comprises the following parts:

Part 1 Method of test

Part 2 Verification of pendulum impact testing machines

Part 1 of EN 10 045 is based on the following ISO Standards:

- ISO 83 - 1976 : Steel - Charpy impact test (U-notch)
- ISO 148 - 1983 : Steel - Charpy impact test (V-notch)

Contents

	Foreword	
1.	Object and field of application	3
2.	References	4
3.	Principle	4
4.	Designations	4
5.	Test pieces	5
6.	Testing machine	7
7.	Test requirements	9
8.	Test report SIST EN 10045-1:1996 https://standards.iteh.ai/catalog/standards/sist/5f235652-2465-4cf5-97a0-cac3e4b3b878/sist-en-10045-1-1996	10
Annex A	List of national standards corresponding to the reference European standard in preparation	

1. OBJECT AND FIELD OF APPLICATION

1.1 This part of this European Standard describes the Charpy impact test (U and V notch) for metallic materials.

For certain particular metallic materials and applications, the Charpy impact test may be the subject of specific standards and particular requirements.

2. REFERENCES

ISO 286-1-1988 ISO system of limits and fits - Part 1 : General, tolerances and deviations

EN 10 045-2 1) Metallic materials - Charpy impact test - Part 2 :
Verification of pendulum impact testing machines

3. PRINCIPLE

The test consists of breaking by one blow from a swinging pendulum, under conditions defined hereafter, a test piece notched in the middle and supported at each end. The energy absorbed is determined in joules. This absorbed energy is a measure of the impact strength of the material.

4. DESIGNATIONS

The designations applicable to this standard are as indicated in table 1 and figures 1 and 2.

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Table 1 - Designations
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Reference (see Fig. 1 and Fig. 2)	Designation	Unit
1	Length of test piece	mm
2	Height of test piece	mm
3	Width of test piece	mm
4	Height below notch	mm
5	Angle of notch	Degree
6	Radius of curvature of base of notch	mm
7	Distance between anvils	mm
8	Radius of anvils	mm
9	Angle of taper of each anvil	Degree
10	Angle of taper of striker	Degree
11	Radius of curvature of striker	mm
12	Width of striker	mm
-	Energy absorbed by breakage KU or KV	Joule

1) In preparation. Until this European Standard is published reference can be made to the corresponding national or international standards, a list of which is given in Annex A.

5. TEST PIECES

5.1 Sampling, number of test pieces and their location shall be as specified in the relevant product standard.

5.2 The standard test piece shall be 55 mm long and of square section with 10 mm sides. In the centre of the length, there shall be a notch. Two types of notch are specified.

- a) V notch of 45°, 2 mm deep with a 0,25 mm radius of curvature at base of notch

If standard test pieces cannot be obtained from the material, a reduced section test piece, with a width of 7,5 mm or 5 mm (see table 2) shall be used, the notch being cut in one of the narrow faces.

- b) U notch or keyhole notch, 5 mm deep, with a 1 mm radius of curvature at base of notch.

The test pieces shall be machined all over, except in the case of precision cast foundry test pieces in which the two faces parallel to the plane of symmetry of the notch can be unmachined.

5.3.

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The plane of symmetry of the notch shall be perpendicular to the longitudinal axis of the test piece.

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5.4

The tolerances on the specified dimensions of the test piece shall be as given in table 2.