



SIS - Standardiseringskommissionen i Sverige

Handläggande organ

MATERIALNORMCENTRALEN

SVENSK STANDARD **SS-EN 23 327**

Fastställt	Utgåva	Sida	Ikraftsätter
1993-08-31	1	1 (1+4+4)	ISO 3327:1982

SIS FASTSTÄLLER OCH UTGER SVENSK STANDARD SAMT SÄLJER NATIONELLA OCH INTERNATIONELLA STANDARDPUBLIKATIONER ©

Hårdmetall — Bestämning av böjhållfasthet (ISO 3327:1982)

Denna standard utgörs av både den svenska och engelska versionen av europastandarden EN 23 327:1993.

EN 23 327:1993 ikraftsätter ISO 3327:1982.

Vid tryckningen har de två versionerna lagts sida mot sida, men numrerats löpande, så att varje uppslag numrerats som en sida.

De officiella franska och tyska versionerna kan också köpas genom SIS.

Hardmetals — Determination of transverse rupture strength (ISO 3327:1982)

This standard consists of the Swedish and English versions of the European Standard EN 23 327:1993.

EN 23 327:1993 endorses ISO 3327:1982.

The two versions are printed with the pages side by side, but are numbered in consecutive order, so that each set of pages has only one page number.

The official French and German versions can also be bought through SIS.

EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 23 327

April 1993

UDC 669.018.25:620.174.24

Descriptors: Powder metallurgy, hard metals, mechanical tests, bend tests, flexural strength

English version

**Hardmetals — Determination of transverse
rupture strength (ISO 3327:1982)**

Métaux-durs — Détermination
de la résistance à la flexion
(ISO 3327:1982)

Hartmetalle — Bestimmung der
Biegerbruchfestigkeit
(ISO 3327:1982)

This European Standard was approved by CEN on 1993-04-02. 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 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 the Central Secretariat has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

CEN

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

Central Secretariat: rue de Stassart 36, B-1050 Brussels

EUROPASTANDARD
EUROPEAN STANDARD
NORME EUROPÉENNE
EUROPÄISCHE NORM

EN 23 327

April 1993

UDK 669.018.25:620.174.24

Nyckelord: Pulvermetallurgi, hårdmetall, mekanisk provning, böjprovning, böjhållfasthet

Svensk version

**Hårdmetall — Bestämning av böjhållfasthet
(ISO 3327:1982)**

Métaux-durs — Détermination
de la résistance à la flexion
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Hardmetals — Determination of
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Denna europastandard antogs av CEN 1993-04-02. CEN-medlemmarna är förpliktade att följa fordringarna i CEN/CENELECs interna bestämmelser som anger på vilka villkor denna europastandard i oförändrat skick skall ges status som nationell standard.

Aktuella förteckningar och bibliografiska referenser rörande sådana nationella standarder kan på begäran erhållas från CENs centralsekretariat eller från någon av CENs medlemmar.

Denna europastandard finns i tre officiella versioner (engelsk, fransk, tysk). En version på något annat språk, översatt under ansvar av en CEN-medlem till sitt eget språk och anmäld till CENs centralsekretariat har samma status som de officiella versionerna.

CENs medlemmar är de nationella standardiseringsorganen i Belgien, Danmark, Finland, Frankrike, Grekland, Irland, Island, Italien, Luxemburg, Nederländerna, Norge, Portugal, Schweiz, Spanien, Storbritannien, Sverige, Tyskland och Österrike.

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Foreword

In 1992 ISO 3327:1982 "Hardmetals – Determination of transverse rupture strength" was submitted to the CEN Primary Questionnaire procedure.

Following the positive result of the CEN/CS Proposal ISO 3327:1982 was submitted to the CEN Formal Vote. The result of the Formal Vote was positive.

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 October 1993, and conflicting national standards shall be withdrawn at the latest by October 1993.

According to the Internal Regulations of CEN/CENELEC, the following countries are bound to implement this European Standard:

Austria, Belgium, Denmark, Finland, France, Germany, Greece, Iceland, Ireland, Italy, Luxembourg, Netherlands, Norway, Portugal, Spain, Sweden, Switzerland and United Kingdom.

Endorsement notice

The text of the International Standard ISO 3327:1982 was approved by CEN as a European Standard without any modification.

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EN 23 327:1993

Förord

1992 var ISO 3327:1982, Hardmetals – Determination of transverse rupture strength, föremål för en första omröstning inom CEN.

Som en följd av det positiva utfallet lades ISO 3327:1982 fram för formell slutomröstning, vilken gav positivt resultat.

Denna europeiska standard skall ges status som nationell standard, antingen genom publicering av en identisk text eller genom ikraftsättning, senast i oktober 1993 och motstridande nationella standarder skall dras in senast i oktober 1993.

Enligt CEN/CENELECs interna regler är följande länder skyldiga att ikraftsätta denna europastandard:

Belgien, Danmark, Finland, Frankrike, Grekland, Irland, Island, Italien, Luxemburg, Nederländerna, Norge, Portugal, Schweiz, Spanien, Storbritannien, Sverige, Tyskland och Österrike.

Meddelande om ikraftsättning

Texten i den internationella standarden ISO 3327:1982 antogs av CEN utan ändring som europastandard.

1 Scope

This International Standard specifies a method for the determination of the transverse rupture strength of hardmetals.

2 Field of application

The method is applicable to hardmetals of negligible ductility. If it is used for hardmetals showing significant plastic deformation before breaking, incorrect results may be obtained. In such instances, the method may be used for comparison purposes only.

3 Symbols and designations

See table 1.

Table 1 — Symbols and designations

Symbol	Designation	Unit
F	Force required to fracture the test piece	N
l	Distance between supports	mm
b	Width of test piece perpendicular to its height	mm
h	Height of test piece parallel to the direction of application of the test force	mm
k	Correction factor to compensate for the chamfer	
R_{bm}	Transverse rupture strength	N / mm ²

4 Principle

Breaking a test piece lying freely on two supports by application of a force at the midpoint of the span under conditions of short-term static application of the force.

5 Apparatus

5.1 The test equipment shall comprise any device capable of applying a uniformly increasing force with an accuracy of 1 % or better.

5.2 The fixture for testing shall have two freely lying support cylinders (rollers) with a fixed distance between them and a freely lying force cylinder (roller). The three cylinders shall be of equal diameter between 3,2 and 6 mm.

Alternatively, the force may be applied by a ball having a diameter of 10 mm.

The support cylinders and the force cylinder or ball shall be made of tungsten carbide hardmetal which will not be visibly deformed by the applied force. The surface roughness R_a of the cylinders and of the ball shall not be greater than 0,63 μm .

5.3 The support cylinders shall be mounted parallel, with a span between them of $30 \pm 0,5$ mm for type A test pieces and $14,5 \pm 0,5$ mm for type B test pieces. The measurement of the span used for the calculation shall be made to an accuracy of 0,1 mm for type B test pieces and to an accuracy of 0,2 mm for type A test pieces.

5.4 The mounting of the cylinders shall be such as to minimize deviations from parallelism of the support cylinders.

5.5 For safety, the fixture shall be surrounded by a suitable protective guard.

6 Test pieces

6.1 The test pieces shall be of rectangular cross-section and shall have the dimensions shown in table 2.

Table 2 — Dimensions of test pieces

Dimensions in millimetres

Type	Length	Width	Height
A	35 ± 1	$5 \pm 0,25$	$5 \pm 0,25$
B	20 ± 1	$6,5 \pm 0,25$	$5,25 \pm 0,25$

NOTE — In general, type B test pieces give strength values which are about 10 % higher than those obtained using type A test pieces, provided that they have the same surface conditions. The repeatability is similar for both types of test piece.