



SIS - Standardiseringskommissionen i Sverige

Handläggande organ

MATERIALNORMCENTRALEN

SVENSK STANDARD **SS-EN 24 497**

Fastställt	Utgåva	Sida	Ikraftsätter
1993-08-31	1	1 (1 + 5 + 5)	ISO 4497:1983

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

Metalliska pulver — Bestämning av partikelstorlek genom torrsiktning (ISO 4497:1983)

Denna standard utgörs av både den svenska och engelska versionen av europastandarden EN 24 497:1993.

EN 24 497:1993 ikraftsätter ISO 4497:1983.

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.

Metallic powders — Determination of particle size by dry sieving (ISO 4497:1983)

This standard consists of the Swedish and English versions of the European Standard EN 24 497:1993.

EN 24 497:1993 endorses ISO 4497:1983.

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 24 497

April 1993

UDC 621.762:669-492.2:6210.928.2:620.1

Descriptors: Powder metallurgy, metallic powder, grain size analysis, sieve analysis, sieves

English version

**Metallic powders — Determination of particle size
by dry sieving (ISO 4497:1983)**

Poudres métalliques — Détermination
de la granulométrie par tamisage à sec
(ISO 4497:1983)

Metallpulver — Bestimmung der Teilchen-
größen durch Trockensiebung
(ISO 4497:1983)

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
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EN 24 497

April 1993

UDK 621.762:669-492.2:6210.928.2:620.1

Nyckelord: Pulvermetallurgi, metalliskt pulver, kornstorleksanalys, siktanalys, siktar

Svensk version

**Metalliska pulver — Bestämning av partikelstorlek
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Poudres métalliques —
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granulométrie par tamisage
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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 4497:1983 "Metallic powders – Determination of particle size by dry sieving" was submitted to the CEN Primary Questionnaire procedure.

Following the positive result of the CEN/CS Proposal ISO 4497:1983 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 4497:1983 was approved by CEN as a European Standard without any modification.

NOTE: The European references to international publications are given in annex ZA (normative).

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EN 24 497:1993

Förord

1992 var ISO 4497:1983, Metallic powders – Determination of particle size by dry sieving, föremål för en första omröstning inom CEN.

Som en följd av det positiva utfallet lades ISO 4497:1983 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 4497:1983 antogs av CEN utan ändring som europastandard.

ANM: De europeiska referenserna till internationella dokument ges i bilaga ZA (bindande).

1 Scope and field of application

This International Standard specifies a method of determining the particle size distribution of metallic powders by dry sieving into size fractions.

The method is applicable to dry, unlubricated metallic powders, but not applicable to powders in which the morphology differs markedly from being equiaxial, for example flake-type powders.

The method is not applicable to metallic powders having a particle size wholly or mostly under 45 μm .

2 References

ISO 565, *Test sieves — Woven metal wire cloth, perforated plate and electroformed sheet — Nominal sizes of openings.*

ISO 2591, *Test sieving.*

3 Principle

Separation of the metallic powder into particle size fractions by shaking through a set of wire cloth test sieves arranged in consecutive order of size of aperture openings.

Weighing of the fractions retained on each sieve and the fraction passing the finest sieve.

4 Apparatus

4.1 Calibrated series of non-magnetic wire cloth sieves, having different nominal aperture sizes. Each sieve cloth shall be mounted in a non-magnetic metal frame having a nominal diameter of 200 mm and a nominal depth within the range 25 mm to 50 mm.

NOTE — ISO 2591 specifies a nominal depth of 50 mm.

The test sieve frames shall nest snugly with one another, and the set shall be completed with a lid on top and a collecting pan below the bottom sieve.

The calibration of sieves shall be carried out according to ISO 2591, sub-clause 3.1.3.

The aperture size of the test sieves shall be chosen from the principal size (R 20/3) sieves of ISO 565, but if this is not appropriate the principal sizes can be partly or totally replaced from one of the intermediate sizes (R 40/3 or R 20). The aperture sizes of the test sieves shall be chosen so as to determine adequately the particle size distribution of the test portion (see clause 7).

NOTE — An irregular or partial set of test sieves may be selected, if agreed between the supplier and the purchaser.

4.2 Mechanical sieving machine, if used (see 6.2).

4.3 Balance, capable of weighing at least 100 g to an accuracy of $\pm 0,05$ g.

4.4 Soft brush.

5 Preparation of test portion

5.1 In general, the powder shall be tested in the as-received condition. If necessary, the powder may be dried. However, if the powder is susceptible to oxidation, the drying shall take place in vacuum or an inert gas.

5.2 The test portion shall have a mass of approximately 100 g for powders having an apparent density greater than 1,50 g/cm³. If the apparent density of the powder is 1,50 g/cm³ or less, the mass of the test portion shall be approximately 50 g.

6 Procedure

6.1 The series of test sieves selected shall be assembled complete with lid and collecting pan in consecutive order of size of apertures, with the sieve having the largest aperture on top. The test portion shall be placed on the top sieve and this should be closed by a lid.

6.2 The sieving shall be performed either by hand or by means of a mechanical sieving machine.

NOTE — As different types of sieving machines are known to give different results when using the same sieves and the same powder, it is generally possible to establish a correlation between different machines for a particular powder.