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Metalurgija prahov - Slovar (ISO/DIS 3252:2018)

Powder metallurgy - Vocabulary (ISO/DIS 3252:2018)

Pulvermetallurgie - Begriffe (ISO/DIS 3252:2018)

Métallurgie des poudres - Vocabulaire (ISO/DIS 3252:2018)

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Powder metallurgy — Vocabulary

Métallurgie des poudres — Vocabulaire

ICS: 77.160; 01.040.77

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ISO/DIS 3252:2018(E)

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.

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This document was prepared by Technical Committee ISO/TC 119, *Powder metallurgy*.

This fifth edition, which cancels and replaces the fourth edition (ISO 3252:1999), which has been updated by the addition of additional terms in current use.

Powder metallurgy — Vocabulary

1 Scope

This document defines terms relating to powder metallurgy. Powder metallurgy is the branch of metallurgy which relates to the manufacture of metallic powders, or of articles made from such powders with or without the addition of non-metallic powders, by the application of forming and sintering processes.

The terms are classified alphabetically under the following main headings:

- 1 Powders
- 2 Forming
- 3 Sintering
- 4 Post-sintering treatments
- 5 Powder metallurgy materials

NOTE Additional information on certain of the terms defined can be found in the standards given in parentheses at the end of certain definitions. These are listed in the Bibliography.

2 Normative references

There are no normative references in this document.

3 Terms and definitions

ISO and IEC maintain terminological databases for use in standardization at the following addresses:

- IEC Electropedia: available at <http://www.electropedia.org/>
- ISO Online browsing platform: available at <http://www.iso.org/obp>

3.1 Terms for powders

3.1.1

acicular

needle-shaped ([Figure 1](#))

3.1.2

angle of repose

basal angle of a pile formed by a powder when freely poured under specified conditions on to a horizontal surface

3.1.3

apparent density

mass per unit volume of a powder obtained follow specific methods (e.g. ISO 3923-1 and ISO 3923-2 for free-flowing powders)

3.1.4

agglomerate

several particles adhering together ([Figure 2](#))

ISO/DIS 3252:2018(E)**3.1.5****alloyed powder**

metal powder consisting of at least two constituents that are partially or completely alloyed with each other

3.1.6**angular**

sharp-edged or roughly polyhedral (Figure 3)

3.1.7**atomized metal powder**

metal powder produced by disintegration of molten metals or alloys into droplets which are allowed to solidify into individual particles

Note 1 to entry: The medium of disintegration is usually a rapidly moving gas or liquid stream.

3.1.8**binder**

cementing medium; either a material added to the powder to increase the green strength of the compact, and which is expelled during sintering; or a material (usually of lower melting point) added to a powder mixture for the specific purpose of cementing together powder particles which alone would not sinter into a strong body

3.1.9**blended powder**

powder made by blending powders of the same nominal composition

3.1.10**blending**

thorough intermingling of powders of the same nominal composition (not to be confused with *mixing*, [3.1.51](#))

3.1.11**bulk density**

mass per unit volume of a powder under nonstandard conditions

3.1.12**bridging**

formation of arched cavities in a powder mass

3.1.13**cake**

bonded mass of unpressed metal powder

3.1.14**carbonyl powder**

powder produced by the thermal decomposition of a metal carbonyl

3.1.15**chill-block cooling**

process for producing rapidly solidified powders by cooling a thin layer of molten material on a solid substrate

3.1.16**chopped powder**

powder produced by chopping material such as sheet, ribbon, fibre or filament

3.1.17**classification**

separation of powder into fractions according to particle size