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**Sintered metal materials, excluding  
hardmetals — Fatigue test pieces**

*Matériaux métalliques frittés, à l'exclusion des métaux-durs —  
Éprouvettes pour essais de fatigue*

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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](http://www.iso.org/directives)).

Attention is drawn to the possibility that some of the elements of this document may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights. Details of any patent rights identified during the development of the document will be in the Introduction and/or on the ISO list of patent declarations received (see [www.iso.org/patents](http://www.iso.org/patents)).

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 World Trade Organization (WTO) principles in the Technical Barriers to Trade (TBT) see the following URL: [www.iso.org/iso/foreword.html](http://www.iso.org/iso/foreword.html).

The committee responsible for this document is ISO/TC 119, *Powder metallurgy*, Subcommittee SC 3, *Sampling and testing for sintered metal materials (excluding hardmetals)*.

This third edition cancels and replaces the second edition (ISO 3928:1999), which has been technically revised.

# Sintered metal materials, excluding hardmetals — Fatigue test pieces

## 1 Scope

This document specifies

- the die cavity dimensions used for making fatigue test pieces by pressing and sintering, together with certain dimensions of the test piece obtained from such a die, and
- the dimensions of the test pieces machined from sintered and powder forged materials.

This document is applicable to all sintered metals and alloys, excluding hardmetals.

## 2 Normative references

There are no normative references in this document.

## 3 Terms and definitions

No terms and definitions are listed in this document.

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>

## 4 Pressed and sintered test pieces for fatigue test by reverse bend and axial testing

### 4.1 General

The pressed and sintered piece may also be subjected to further treatment, such as sizing, polishing or heat treatment. If such treatments are applied, they shall be stated in the test report. In a metallographically examined cross section of a test piece, in the gauge region, the piece shall show no micro-lamination greater than 0,25 mm in length. The press tool shall be maintained in a good condition to avoid excessive burr. The edges of the sintered parts shall be broken in the gauge area to remove any burr from compaction.

### 4.2 Test piece specification: unnotched

[Figure 2](#) a) shows a drawing of the unnotched test piece. The flatness and parallelism of 0,1 mm are mandatory. The other dimensions are advisory.

### 4.3 Test piece specification: notched

[Figure 3](#) a) shows a drawing of the notched test piece. The flatness and parallelism of 0,1 mm are mandatory. The other dimensions are advisory. As the 5,5 mm tooling radius of the die is subject to wear, the corresponding radius dimension of the test piece shall be reported.