
INTERNATIONAL STANDARD



2740

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Sintered metal materials (excluding hardmetal) – Tensile test pieces

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FOREWORD

ISO (the International Organization for Standardization) is a worldwide federation of national standards institutes (ISO Member Bodies). The work of developing International Standards is carried out through ISO Technical Committees. Every Member Body interested in a subject for which a Technical Committee has been set up 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.

Draft International Standards adopted by the Technical Committees are circulated to the Member Bodies for approval before their acceptance as International Standards by the ISO Council.

International Standard ISO 2740 was drawn up by Technical Committee ISO/TC 119, *Powder metallurgical materials and products*, and circulated to the Member Bodies in July 1972.

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It has been approved by the Member Bodies of the following countries :

Australia	Germany	South Africa, Rep. of
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Canada	Japan	Sweden
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ISO 2740:1973

No Member Body expressed disapproval of the document.

Sintered metal materials (excluding hardmetal) – Tensile test pieces

1 SCOPE

This International Standard specifies

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

2 FIELD OF APPLICATION

This International Standard is applicable to all sintered metals and alloys, excluding hardmetal.

3 REFERENCE

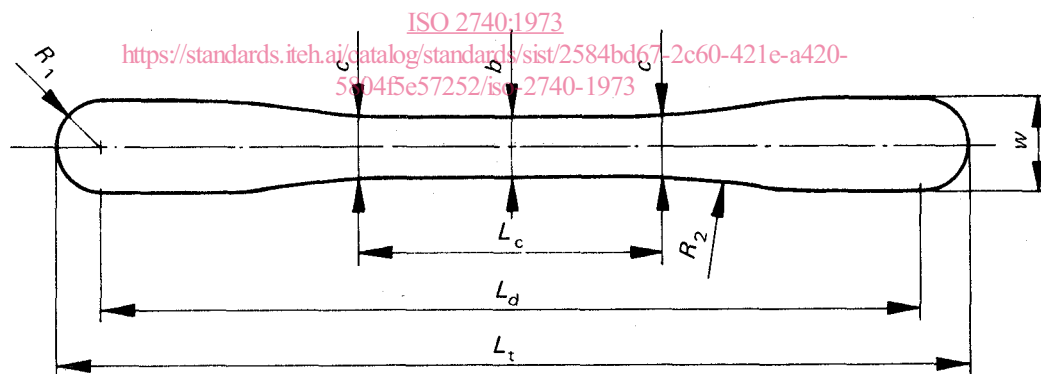
ISO 82, *Steel – Tensile testing*.¹⁾

4 MANUFACTURE OF TEST PIECES

4.1 Pressed and sintered test pieces

4.1.1 Die specifications

The dimensions of the cavity of the die used to make the test piece shall be as shown in Figure 1.



Values in millimetres

b	c	L_c	L_d	L_t	w	R_1	R_2
5,70 $\pm 0,02$	$b + 0,25$	32	81,0 $\pm 0,5$	89,7 $\pm 0,5$	8,7 $\pm 0,2$	4,35	25

FIGURE 1

1) At present at the stage of draft. (Revision of ISO/R 82.)

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The die should preferably be made of hardmetal and its surface finish shall be such as to allow compression of the test piece under normal conditions.

4.1.2 Test piece specifications

The tensile test piece shall have a thickness between 5,4 and 6,0 mm and, if necessary, marks may be scribed 25 mm apart and symmetrically about the centreline. Between these marks, the test piece thickness shall not vary by more than 0,04 mm. The gauge length shall be marked in such a way that the tensile properties are not affected.

The test piece grips may be grooved.

4.2 Machined test pieces

Machined tensile test pieces shall have a cylindrical useful part, the dimensions of which conform to ISO 82.

When the diameter of the useful part of the test piece is less than 4 mm, its value shall be stated, together with the fact that the results of the test may not be comparable with those obtained from test pieces of larger diameters.

For sintered products it is recommended that a test piece having two shoulders at each end be used. The radius of the inner shoulder shall be between 1,5 and 5 mm (see Figure 2).

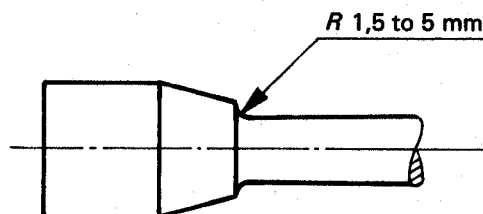


FIGURE 2

NOTE — As the results of the test may depend on the material of the die, the die material shall be described in the test report which shall also state whether the test piece is pressed and sintered or machined.

If necessary, the data required for the identification of the test piece shall be agreed between manufacturer and user.

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