International Standard 2740

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Sintered metal materials (excluding hardmetal) — Tensile test pieces

Matériaux en métal fritté (à l'exclusion des métaux-durs) — Éprouvettes de traction

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Foreword

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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. They are approved in accordance with ISO procedures requiring at least 75 % approval by the member bodies voting.

International Standard ISO 2740 was prepared by Technical Committee ISO/TC 119, *Powder metallurgy*.

This second edition cancels and replaces the first edition (ISO 2740-1973), of which it constitutes a minor revision.

Users should note that all International Standards undergo revision from time to time and that any reference made herein to any other International Standard implies its latest edition, unless otherwise stated.

Printed in Switzerland

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

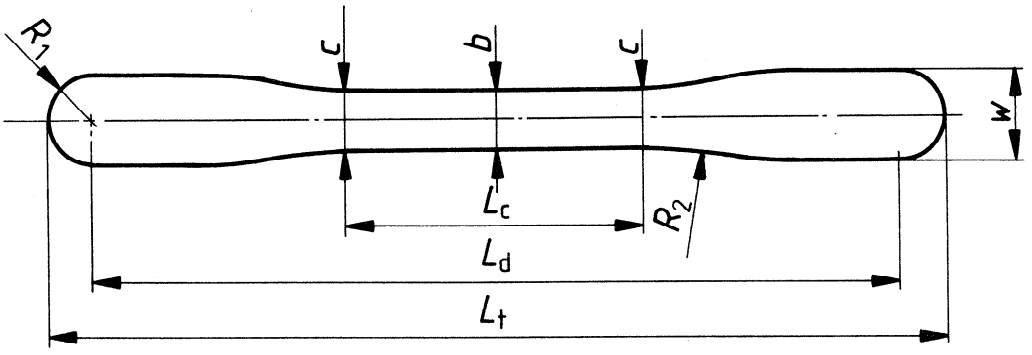
ISO 6892, *Metallic materials — Tensile testing*.

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.



Dimensions in millimetres

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

Figure 1

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 6892.

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).

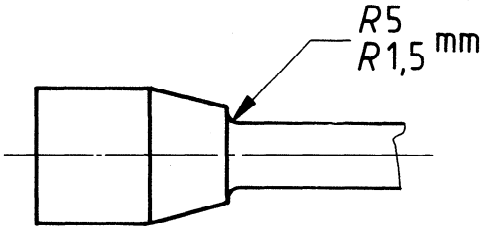


Figure 2

5 Additional information

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.