

This is a preview of "ISO 13314:2011". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2011-12-15

---

---

## **Mechanical testing of metals — Ductility testing — Compression test for porous and cellular metals**

*Essais mécaniques des métaux — Essais de ductilité — Essai de compression des métaux poreux et cellulaires*



Reference number  
ISO 13314:2011(E)

© ISO 2011

This is a preview of "ISO 13314:2011". [Click here to purchase the full version from the ANSI store.](#)



**COPYRIGHT PROTECTED DOCUMENT**

© ISO 2011

All rights reserved. Unless otherwise specified, no part of this publication may be reproduced or utilized in any form or by any means, electronic or mechanical, including photocopying and microfilm, without permission in writing from either ISO at the address below or ISO's member body in the country of the requester.

ISO copyright office  
Case postale 56 • CH-1211 Geneva 20  
Tel. + 41 22 749 01 11  
Fax + 41 22 749 09 47  
E-mail [copyright@iso.org](mailto:copyright@iso.org)  
Web [www.iso.org](http://www.iso.org)

Published in Switzerland

This is a preview of "ISO 13314:2011". [Click here to purchase the full version from the ANSI store.](#)

## Contents

Page

Foreword .....	iv
Introduction.....	v
1 Scope.....	1
2 Normative references.....	1
3 Terms and definitions .....	1
4 Principle .....	4
5 Apparatus.....	4
6 Test specimen.....	4
6.1 Geometry.....	4
6.2 Number of test specimens .....	4
6.3 Sampling of test specimen.....	4
7 Test procedure.....	5
7.1 Test temperature.....	5
7.2 Measurement of initial dimensions of test specimen.....	5
7.3 Test speed.....	5
7.4 General conduct of test .....	6
7.5 Preliminary test and unloading test .....	6
7.6 Zero point for the compressive strain.....	6
7.7 Energy absorption and energy absorption efficiency .....	6
8 Test report.....	7
8.1 General information .....	7
8.2 Optional information .....	7

## 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.

International Standards are drafted in accordance with the rules given in the ISO/IEC Directives, Part 2.

The main task of technical committees is to prepare International Standards. Draft International Standards adopted by the technical committees are circulated to the member bodies for voting. Publication as an International Standard requires approval by at least 75 % of the member bodies casting a vote.

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.

ISO 13314 was prepared by Technical Committee ISO/TC 164, *Mechanical testing of metals*, Subcommittee SC 2, *Ductility testing*.

This is a preview of "ISO 13314:2011". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

Porous and cellular metals have attractive properties due to their unique cell morphology. When they are used as a crush energy absorbing component of automotive machines, compressive properties are necessary for industrial design. However, the deformation behaviour of porous metals and metallic foams is quite different from conventional dense metals. Test methods for conventional metallic materials are not suitable for porous metals and metallic foams. Standardization of a test method for porous metals and metallic foams is required.