

# INTERNATIONAL STANDARD

ISO  
3146

Third edition  
2000-06-01

---

---

## Plastics — Determination of melting behaviour (melting temperature or melting range) of semi-crystalline polymers by capillary tube and polarizing-microscope methods

iTeh Standards  
*Plastiques — Détermination du comportement à la fusion (température de fusion ou plage de températures de fusion) des polymères semi-cristallins par méthodes du tube capillaire et du microscope polarisant*  
<https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fdb/iso-3146-2000>

### Document Preview

[ISO 3146:2000](https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fdb/iso-3146-2000)



Reference number  
ISO 3146:2000(E)

© ISO 2000

**PDF disclaimer**

This PDF file may contain embedded typefaces. In accordance with Adobe's licensing policy, this file may be printed or viewed but shall not be edited unless the typefaces which are embedded are licensed to and installed on the computer performing the editing. In downloading this file, parties accept therein the responsibility of not infringing Adobe's licensing policy. The ISO Central Secretariat accepts no liability in this area.

Adobe is a trademark of Adobe Systems Incorporated.

Details of the software products used to create this PDF file can be found in the General Info relative to the file; the PDF-creation parameters were optimized for printing. Every care has been taken to ensure that the file is suitable for use by ISO member bodies. In the unlikely event that a problem relating to it is found, please inform the Central Secretariat at the address given below.

# iTeh Standards

## (<https://standards.iteh.ai>)

### Document Preview

[ISO 3146:2000](#)

<https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fedb/iso-3146-2000>

© ISO 2000

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 22 734 10 79  
E-mail [copyright@iso.ch](mailto:copyright@iso.ch)  
Web [www.iso.ch](http://www.iso.ch)

Printed in Switzerland

## Contents

	Page
1 Scope .....	1
2 Normative reference .....	1
3 Terms and definitions .....	1
4 Method A — Capillary tube .....	2
5 Method B — Polarizing microscope .....	5

**iTeh Standards**  
**(<https://standards.iteh.ai>)**  
**Document Preview**

[ISO 3146:2000](#)

<https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fdb/iso-3146-2000>

## 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 3.

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 International Standard may be the subject of patent rights. ISO shall not be held responsible for identifying any or all such patent rights.

International Standard ISO 3146 was prepared by Technical Committee ISO/TC 61, *Plastics*, Subcommittee SC 5, *Physical-chemical properties*.

This third edition cancels and replaces the second edition (ISO 3146:1985), which has been technically revised.

**Standards  
(<https://standards.iteh.ai>)  
Document Preview**

[ISO 3146:2000](#)

<https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fdb/iso-3146-2000>

## Introduction

The melting behaviour of a crystalline or semi-crystalline polymer is a structure-sensitive property.

In polymers, a sharp melting point, such as is observed for low molecular mass substances, usually does not occur; instead a melting temperature range is observed on heating, from the first change of shape of the solid particles to the transformation into a highly viscous or viscoelastic liquid, with accompanying disappearance of the crystalline phase. The melting range depends upon a number of parameters, such as molecular mass, molecular mass distribution, per cent crystallinity, and thermodynamic properties.

It may also depend on the previous thermal history of the specimens. The lower or upper limit of the melting range, or its average value, is sometimes conventionally referred to as the "melting temperature".

# iTeh Standards (<https://standards.iteh.ai>) Document Preview

[ISO 3146:2000](#)

<https://standards.iteh.ai/catalog/standards/iso/6b5c9df5-ee5f-4c30-bb2c-c99a1a61fdb/iso-3146-2000>

