

This is a preview of "ISO 21254-3:2011". [Click here to purchase the full version from the ANSI store.](#)

First edition  
2011-07-15

---

---

## **Lasers and laser-related equipment — Test methods for laser-induced damage threshold —**

### **Part 3: Assurance of laser power (energy) handling capabilities**

*Lasers et équipements associés aux lasers — Méthodes d'essai du  
seuil d'endommagement provoqué par laser —*

*Partie 3: Possibilités de traitement par puissance (énergie) laser*



Reference number  
ISO 21254-3:2011(E)

© ISO 2011

This is a preview of "ISO 21254-3:2011". [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 21254-3:2011". [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 Symbols and units of measurement.....	2
5 Test methods .....	3
5.1 Principle.....	3
5.2 Test methods .....	3
6 Accuracy.....	6
7 Test report.....	6
Annex A (informative) Example of a test report.....	7
Annex B (informative) Notes on use .....	10
Annex C (informative) Details of the derivation of the operating-characteristic curve .....	14
Bibliography.....	16

## 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 21254-3 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 9, *Electro-optical systems*.

This first edition of ISO 21254-3:2011 cancels and replaces ISO 11254-3:2006, which has been technically revised.

ISO 21254 consists of the following parts, under the general title *Lasers and laser-related equipment — Test methods for laser-induced damage threshold*:

- *Part 1: Definitions and general principles*
- *Part 2: Threshold determination*
- *Part 3: Assurance of laser power (energy) handling capabilities*
- *Part 4: Inspection, detection and measurement* [Technical Report]

This is a preview of "ISO 21254-3:2011". [Click here to purchase the full version from the ANSI store.](#)

## Introduction

This part of ISO 21254 describes two methods of verifying the power density (energy density) handling capability of optical components, both coated and uncoated.

The methods will give consistent measurement results and can therefore be used for acceptance testing or to produce results which can be compared between test laboratories.

The methods are applicable to all combinations of laser wavelengths and pulse lengths. Comparison of laser damage threshold data can, however, be misleading unless the measurements have been carried out at identical wavelengths and pulse lengths.