

# INTERNATIONAL STANDARD

ISO  
31-1:1992  
31-2:1992  
31-3:1992  
31-4:1992  
31-5:1992  
31-6:1992  
31-7:1992  
31-8:1992  
31-9:1992  
31-10:1992  
31-12:1992  
31-13:1992

AMENDMENT 1  
1998-12-15

---

---

## Quantities and units —

Part 1: Space and time

Part 2: Periodic and related phenomena

Part 3: Mechanics

Part 4: Heat

Part 5: Electricity and magnetism

Part 6: Light and related electromagnetic radiations

Part 7: Acoustics

Part 8: Physical chemistry and molecular physics

Part 9: Atomic and nuclear physics

Part 10: Nuclear reactions and ionizing radiations

Part 12: Characteristic numbers

Part 13: Solid state physics

## AMENDMENT 1

*Grandeurs et unités —*

*Partie 1: Espace et temps*

*Partie 2: Phénomènes périodiques et connexes*

*Partie 3: Mécanique*

*Partie 4: Chaleur*

*Partie 5: Électricité et magnétisme*

*Partie 6: Lumière et rayonnements électromagnétiques connexes*

*Partie 7: Acoustique*

*Partie 8: Chimie physique et physique moléculaire*

*Partie 9: Physique atomique et nucléaire*

*Partie 10: Réactions nucléaires et rayonnements ionisants*

*Partie 12: Nombres caractéristiques*

*Partie 13: Physique de l'état solide*

## AMENDEMENT 1



Reference number  
ISO 31 (parts 1 to 10, 12 and 13):1992/Amd.1:1998(E)

## 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.

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.

Amendment 1 to parts 1 to 10, 12 and 13 of International Standard ISO 31:1992 was prepared by Technical Committee ISO/TC 12, *Quantities, units, symbols, conversion factors*.

[ISO 31-3:1992/Amd 1:1998](https://standards.iteh.ai/catalog/standards/sist/aa832586-e504-4d9a-ab6d-f213abae0585/iso-31-3-1992-amd-1-1998)

<https://standards.iteh.ai/catalog/standards/sist/aa832586-e504-4d9a-ab6d-f213abae0585/iso-31-3-1992-amd-1-1998>

© ISO 1998

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 the publisher.

International Organization for Standardization  
Case postale 56 • CH-1211 Genève 20 • Switzerland  
Internet iso@iso.ch

Printed in Switzerland

## Quantities and units —

- Part 1: Space and time
- Part 2: Periodic and related phenomena
- Part 3: Mechanics
- Part 4: Heat
- Part 5: Electricity and magnetism
- Part 6: Light and related electromagnetic radiations
- Part 7: Acoustics
- Part 8: Physical chemistry and molecular physics
- Part 9: Atomic and nuclear physics
- Part 10: Nuclear reactions and ionizing radiations
- Part 12: Characteristic numbers
- Part 13: Solid state physics

### AMENDMENT 1

Page v

Replace subclause 0.3.2 with the following text:

#### 0.3.2 Remark on units for quantities of dimension one

The coherent unit for any quantity of dimension one is the number one, symbol 1. When the value of such a quantity is expressed, the unit symbol 1 is generally not written out explicitly.

#### EXAMPLE

Refractive index  $n = 1,53 \times 1 = 1,53$

Prefixes shall not be used to form multiples or submultiples of this unit. Instead of prefixes, powers of 10 may be used.

#### EXAMPLE

Reynolds number  $Re = 1,32 \times 10^3$

Considering that plane angle is generally expressed as the ratio of two lengths and solid angle as the ratio of two areas, in 1995 the CGPM has specified that, in the International System of Units, the radian, rad, and the steradian, sr, are “dimensionless” derived units. This implies that the quantities plane angle and solid angle are considered as derived quantities of dimension one. The units radian and steradian may be omitted, or they may be used in expressions for derived units to facilitate distinction between quantities of different nature but having the same dimension.