INTERNATIONAL STANDARD

ISO 14490-2

First edition
2005-11-01

Optics and optical instruments — Test methods for telescopic systems —

Part 2: Test methods for binocular systems

Optique et instruments d'optique — Méthodes d'essai pour systèmes télescopiques —

Partie 2: Méthodes d'essai pour systèmes binoculaires

Reference number
ISO 14490-2:2005(E)

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
Web www.iso.org

Published in Switzerland

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 14490-2 was prepared by Technical Committee ISO/TC 172, *Optics and photonics*, Subcommittee SC 4, *Telescopic systems*.

ISO 14490 consists of the following parts, under the general title *Optics and optical instruments — Test methods for telescopic systems*:

— *Part 1: Test methods for basic characteristics*

— *Part 2: Test methods for binocular systems*

— *Part 3: Test methods for telescopic sights*

— *Part 4: Test methods for astronomical telescopes*

— *Part 5: Test methods for transmittance*

— *Part 6: Test methods for veiling glare index*

— *Part 7: Test methods for limit of resolution*

The following part is under preparation:

— *Part 8: Test methods for night-vision devices*

Optics and optical instruments — Test methods for telescopic systems —

Part 2:
Test methods for binocular systems

1 Scope

This part of ISO 14490 is applicable to binocular telescopic systems and specifies the test methods for determination of the following characteristics:

— non-parallelism of the axes of bundles of rays emergent from the eyepieces;

— interpupillary distance;

— relative difference in magnification;

— focusing difference between telescopes of binocular systems.

2 Normative references

The following referenced documents are indispensable for the application of this document. For dated references, only the edition cited applies. For undated references, the latest edition of the referenced document (including any amendments) applies.

ISO 14132-1:2002, *Optics and optical instruments — Vocabulary for telescopic systems — Part 1: General terms and alphabetical indexes of terms in ISO 14132*

ISO 14132-2:2002, *Optics and optical instruments — Vocabulary for telescopic systems — Part 2: Terms for binoculars, monoculars and spotting scopes*

ISO 14490-1:2005, *Optics and optical instruments — Test methods for telescopic systems — Part 1: Test methods for basic characteristic*s

3 Terms and definitions

For the purposes of this document, the terms and definitions given in ISO 14132-1 and ISO 14132-2 apply.

4 Measurement of non-parallelism of axes

4.1 General

The optical axes of both telescopes of the instrument shall be parallel so as to ensure normal binocular vision during observation through the instrument. The acceptable degree of non-parallelism of optical axes of the telescopes is based on the physiological properties of the human eye.