
**Non-destructive testing — Aids to visual
inspection — Selection of low-power
magnifiers**

*Essais non destructifs — Moyens d'examen visuel — Choix des loupes à
faible grossissement*



Foreword

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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.

International Standard ISO 3058 was prepared by Technical Committee ISO/TC 135, *Non-destructive testing*, Subcommittee SC 2, *Surface methods*.

This second edition cancels and replaces the first edition (ISO 3058:1974), which has been technically revised.

Annex A forms an integral part of this International Standard. Annexes B and C are for information only.

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Introduction

Experience has shown that a lack of familiarity with the principles underlying the performance, selection and use of low-power magnifiers is a cause of significant loss in terms of time and effort and is markedly detrimental to the efficiency of visual inspection.

This International Standard is intended to provide general guidance on the choice of low-power magnifiers used in the examination of metallic and other surfaces in order to detect the presence of imperfections or to assess condition and texture.

As necessary, terms of special significance in the context of this document are defined in annex A.

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1 Scope

1.1 This International Standard specifies the characteristics of the following types of low-power magnifiers and gives recommendations for their selection for the inspection of surfaces.

- Single-element magnifiers of magnification typically up to $\times 4$ (Type A).
- Multi-element magnifiers of magnification typically up to $\times 10$ (Type B).
- Twin-system magnifiers of magnification typically up to $\times 15$ (Type C), categorized as follows:
 - a) binocular, normally with a long working distance (Type C.1);
 - b) bi-ocular¹⁾, including those refined with stops or other attachments, for quasi-stereoscopic vision (Type C.2).
- Concave-mirror magnifiers with front-surface reflectors in powers typically up to $\times 6$ (Type D).

1.2 This International Standard is not concerned with:

- watch-makers' loupes and spectacles;
- single-element, spherical- or cylindrical-lens magnifiers in which either the lens or the lens-mount rests on the surface of the object to be examined (this includes magnifiers provided with any form of graduated scale for the purpose of measurement);
- plastic lens sacs, liquid-filled;
- magnifiers intended for the examination of internal surfaces.

2 Description of types

2.1 In all types of magnifier an illuminator may be incorporated in the lens mount or the stand.

The stand may take the form of a distance-piece, tripod, pillar or other support.

2.2 "Reading-glass" magnifiers, Type A, shall normally be hand held. Type A and B may take the form of hand-held pocket-size magnifiers.

¹⁾ The distinction between bi-ocular viewing and stereoscopic viewing is defined in annex A.