

INTERNATIONAL
STANDARD

ISO
3538

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**Road vehicles — Safety glazing
materials — Test methods for optical
properties**

*Véhicules routiers — Vitrages de sécurité — Méthodes d'essai des
propriétés optiques*



Reference number
ISO 3538:1997(E)

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 3538 was prepared by Technical Committee ISO/TC 22, *Road vehicles*, Subcommittee SC 11, *Safety glazing materials*.

This second edition cancels and replaces the first edition (ISO 3538:1978), which has been technically revised.

Annexes A to D of this International Standard are for information only.

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Road vehicles — Safety glazing materials — Test methods for optical properties

1 Scope

This International Standard specifies optical test methods relating to the safety requirements for all safety glazing materials in a road vehicle, whatever the type of glass or other material of which they are composed.

2 Definitions

For the purposes of this International Standard, the following definitions apply.

2.1 optical angular deviation: Angle between the directions of the incident ray and the emergent ray refracted by the safety glazing material.

2.2 optical distortion (in a given direction): Algebraic difference $\Delta\alpha$ in angular deviations α_1 and α_2 measured between two points M and M' on the surface of the safety glazing material, the distance between them being such that their projections on a plane at right angles to the direction of vision are separated by a given distance Δx (see figure 1). [ISO 3536:1992, 2.9]

NOTES

1 In figure 1, $\Delta\alpha = \alpha_1 - \alpha_2$ is the optical distortion in the direction MM' considering the sign of the angles;

$\Delta x = MC$ is the distance between two straight lines parallel to the direction of vision, and passing through the points M and M'.

2 Anti-clockwise deviation should be regarded as positive, and clockwise deviation as negative.

2.3 optical distortion (at a point M): Maximum optical distortion for all directions MM' from the point M (see figure 1).

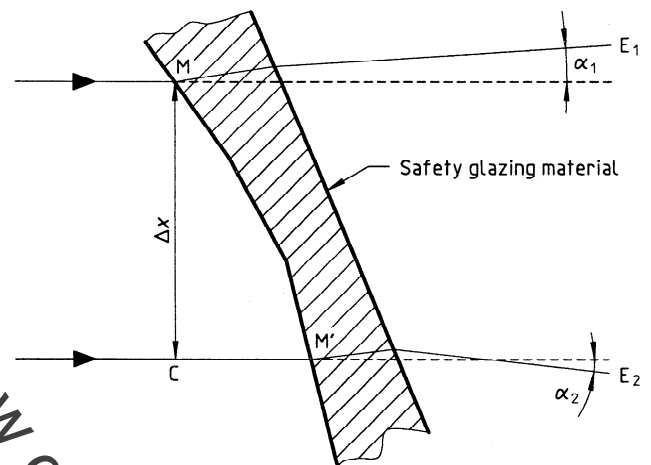


Figure 1 — Diagrammatic representation of optical distortion

2.4 CIE¹⁾ standard illuminant A: Radiant source whose relative spectral radiant power distribution $S_A(\lambda)$ in the visible spectrum (wavelength range from 380 nm to 780 nm) corresponds to a black body radiator at 2 856 K.

2.5 CIE 1931 standard observer: Ideal observer with colour matching function $V(\lambda)$ corresponding to a field of view subtending a 2° angle on the retina.

NOTE 3 This is commonly called the "2° standard observer".

2.6 Luminous reflectance: Ratio of the reflected luminous flux to the incident luminous flux.

NOTE 4 Luminous reflectance depends on relative spectral power distribution of the light source.

[ISO 3536:1992, 2.10]

1) International Commission on Illumination.