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ISO 9050

Glass in building — Determination of luminous and solar characteristics of glazing

*Verre dans la construction — Détermination des caractéristiques
lumineuses et solaires des vitrages*

**Third edition
2026-07**



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This document was prepared by Technical Committee ISO/TC 160, *Glass in building*.

This third edition cancels and replaces the second edition (ISO 9050:2003^[16]), which has been technically revised.

The main changes are as follows:

- changes to the calculation of the internal heat transfer coefficient;
- clarification provided that UV transmittance is determined only for the total range and not split into UVA and UVB;
- modification to normalized relative spectral distribution of global solar radiation based on 10 nm wavelength intervals;
- a procedure is provided for the calculation of the spectral properties of laminated glass;
- guidance is given on how to determine the spectral characteristics of screen printed glass;
- introduction of a matrix method for non-scattering incoherent optical systems, including multiple layers;
- modifications to the formulae to permit calculation and declaration of the luminous and solar properties of BIPV glazing;
- examples of calculation of colour rendering index have been given.

Any feedback or questions on this document should be directed to the user's national standards body. A complete listing of these bodies can be found at www.iso.org/members.html.

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While this document presents the formulae for the exact calculations of the spectral characteristics of glazing, it does not consider the uncertainty of the measurements necessary to determine the spectral parameters that are used in the calculations. It should be noted that, for simple glazing systems where few measurements are required, the uncertainty of the results will be satisfactory if correct measurements procedures have been followed. When the glazing systems become complex and a large number of measurements is required to determine the spectral parameters, the uncertainty is cumulative with the number of measurements and should be considered in the final results.

In this document, the term “interface” is considered a surface characterized by its transmission and reflections of light intensities. That is, the interaction with light is incoherent, all phase information being lost. In the case of thin films (not described in this document), interfaces are characterized by transmission and reflections of light amplitudes, i.e. the interaction with light is coherent and phase information is available. Finally, for clarity, a coated interface can be described as having one or more thin films, but the entire stack of thin films is characterized by its resulting transmission and reflection of light intensities.

In [Annex B](#), the procedure for the calculation of spectral characteristics of laminated glass makes specific reference to coated glass. The same procedure can be adopted for filmed glass (e.g. adhesive backed polymeric film applied to glass).