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BUREAU OF INDIAN STANDARDS

DRAFT FOR COMMENTS ONLY

Draft Indian Standard

Glass in building — Electrochromic glazings — Accelerated ageing test and requirements (ISO 18543 : 2021, MOD)

भारतीय मानक मसौदा

भवन में काँच — इलेक्ट्रोक्रोमिक ग्लेज़िंग — त्वरित आयु परीक्षण और आवश्यकताएँ

(ISO 18543 : 2021, संशोधित)

ICS 81.040.20

Glass, Glassware and Laboratoryware Sectional Committee, CHD 10

Last date for Comments: 25 October 2025

NATIONAL FOREWORD

(Formal clauses shall be added later)

Electrochromic glazings perform several important functions in a building envelope, including

— minimizing the solar energy heat gain,

— providing for passive solar energy gain,

— controlling a variable visual connection with the outside world,

— enhancing thermal comfort (controlling heat gain), energy efficiency performance, illumination, and glare control, and

— providing for architectural expression.

Therefore, it is important to understand the relative serviceability of these glazings.

This document is intended to provide a means for evaluating the durability of electrochromic glazings.

The test procedures covered in this document includes:

a) rapid but realistic cycling between high and low light transmission states;

b) environmental parameters that are typically used in weatherability tests such as simulated solar exposure and high temperature, which are realistic for the intended use of electrochromic glazings.

Certain conventions are, however, not identical to those used in Indian Standards. Attention is particularly drawn to the following:

a) Wherever the words 'International Standard' appears referring to this standard, they should be read as 'Indian Standard'.

b) Comma (,) has been used as a decimal marker, while in Indian Standards, the current practice is to use a point (.) as the decimal marker.

In this adopted standard, reference appears to certain International Standards for which Indian Standards also exit. The corresponding Indian Standards, which are to be substituted in their places, are listed below along with their degree of equivalence for editions indicated:

International Standard	*Corresponding Indian Standard*	*Degree of Equivalence*
ISO 9050, Glass in building — Determination of light transmittance, solar direct transmittance, total solar energy transmittance, ultraviolet transmittance and related glazing factors	IS 16231 (Part 2): 2019 Use of Glass in Buildings — Code of Practice Part 2 Energy and Light (*first revision*)	Not Equivalent
ISO 12543 (all parts), Glass in building — Laminated glass and laminated safety glass	IS 2553 (Part 1): 2018 Safety glass — Specification: Part 1 architectural, building and general uses (*fourth revision*)	Not Equivalent
ISO 20492 (all parts), Glass in building — Insulating glass	IS 17346: 2020 Insulating Glazing Unit — Specification	Not Equivalent

This standard also makes a reference to the packing and marking of the product, details of which is given in **National Annex A**.

For the purpose of deciding whether a particular requirement of this standard is complied with, the final value, observed or calculated expressing the result of a test or analysis, shall be rounded off in accordance with IS 2: 2022 'Rules for rounding off numerical values (*second revision*)'. The number of significant places retained in the rounded off value should be the same as that of the specified value in this standard.

'FOR COMPLETE TEXT OF THE DOCUMENT, KINDLY REFER ISO 18543 : 2021

Note: The technical content of the document has not been enclosed as these are identical with the corresponding ISO Standard. For obtaining the copy of the complete ISO Standard, please contact:

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NATIONAL ANNEX A

(*National Foreword*)

A-1 PACKING

Glass shall be packed as agreed to between the manufacturer and the purchaser

A-1.1 The packet shall be marked with the following information:

a) Indication of the source of manufacture,

b) Nominal thickness of glass,

c) Code or batch number,

d) Month and year of manufacture, and

e) Type of glass (Laminated or Insulating).

A-2 MARKING

Each piece of finished glass shall be marked indelibly and distinctly with the following information:

a) It shall be marked either with the word ‘Laminated Smart Glass’ or ‘Insulating Smart Glass’; and,

b) Indication of the source and year of manufacture.

A-2.1 BIS Certification Marking

Each glass may also be marked with the standard mark.

A-2.1.1 The use of the Standard Mark is governed by the provisions of Bureau of Indian Standards Act, 2016 and the Rules and Regulations made thereunder. The details of conditions under which the licence for the use of the Standard Mark may be granted to manufacturers or producers may be obtained from the Bureau of Indian Standards.