DIN EN 14501:2021-09 (E)

Blinds and shutters - Thermal and visual comfort - Performance characteristics and classification

Contents

Page

European foreword 4

Introduction 5

1 Scope 6

2 Normative references 6

3 Terms, definitions and symbols 7

4 Notations used 9
4.1 General 9
4.2 Visual or solar properties 9
4.3 Geometry of the radiation 10
4.4 Optical factors 11

5 Thermal comfort 11
5.1 General 11
5.2 Control of solar gains – Total solar energy transmittance g_{tot} 11
5.3 Secondary heat gains – Secondary heat transfer factor $q_{i,\,tot}$ 13
5.4 Protection from direct transmission – Normal/normal solar transmittance $\tau_{e,\,n\text{-}n}$ 14

6 Visual comfort 14
6.1 General 14
6.2 Darkening performance 16
6.3 Glare control 17
6.4 Night privacy 19
6.5 Visual contact with the outside 20
6.6 Daylight utilization 21
6.7 Rendering of colours 21

Annex A (normative) Reference glazing 22

A.1 General 22

A.2 Reference glazing with integrated data only 22

A.2.1 Glazing A 22

A.2.2 Glazing B 22

A.2.3 Glazing C 23

A.2.4 Glazing D 24

A.2.5 Glazing E 24

A.3 Reference glazing with spectral data 25

A.3.1 General 25

A.3.2 Glazing F 25

A.3.3 Glazing G 26

A.3.4 Glazing H 26

A.3.5 Spectral data for the panes 26

A.3.5.1 Pane 1: clear single pane (4 mm) 26

A.3.5.2 Pane 2: pane with low emissivity coating (4 mm) **28**
A.3.5.3 Pane 3: solar control pane (6 mm) **30**
Annex B (informative) **The meaning of the secondary internal heat transfer factor $q_{i,tot}$** **33**
Annex C (informative) **Example of performance presentation** **34**
C.1 Thermal comfort **34**
C.2 Visual comfort **34**
Annex D (informative) **Daylight Glare Probability** **36**
D.1 General **36**
D.2 Glare **36**
D.3 Daylight Glare Probability **36**
D.3.1 General **36**
D.3.2 Annual evaluation **37**
D.3.3 Simplified annual glare evaluation **38**
D.3.3.1 General **38**
D.3.3.2 Solar protection device being opaque in the extended and closed position **39**
D.3.3.3 Solar protection device where the curtain is made of textile, film or perforated opaque material **40**
D.3.3.4 Sunshine zones **42**
Annex E (normative) **Opacity performance of curtain material** **44**
Bibliography **45**