

IRISH STANDARD

I.S. EN 15251:2007

INDOOR ENVIRONMENTAL INPUT
PARAMETERS FOR DESIGN AND
ASSESSMENT OF ENERGY PERFORMANCE
OF BUILDINGS ADDRESSING INDOOR AIR
QUALITY, THERMAL ENVIRONMENT,
LIGHTING AND ACOUSTICS

National Standards Authority of Ireland Glasnevin, Dublin 9 Ireland

Tel: +353 1 807 3800 Fax: +353 1 807 3838 http://www.nsai.ie

Sales

http://www.standards.ie

This Irish Standard was published under the authority of the National Standards Authority of Ireland and comes into effect on:
7 June 2007

NO COPYING WITHOUT NSAI PERMISSION EXCEPT AS PERMITTED BY COPYRIGHT LAW

© NSAI 2007 Price Code P

Údarás um Chaighdeáin Náisiúnta na hÉireann

This is a free page sample. Access the full version online.

EUROPEAN STANDARD NORME EUROPÉENNE EUROPÄISCHE NORM EN 15251

May 2007

ICS 91.140.01

English Version

Indoor environmental input parameters for design and assessment of energy performance of buildings addressing indoor air quality, thermal environment, lighting and acoustics

Critères pour l'environnement intérieur et évaluation des performances énergétiques des bâtiments couvrant la qualité d'air intérieur, la thermique, l'éclairage et l'acoustique Eingangsparameter für das Raumklima zur Auslegung und Bewertung der Energieeffizienz von Gebäuden -Raumluftqualität, Temperatur, Licht und Akustik

This European Standard was approved by CEN on 26 March 2007.

CEN members are bound to comply with the CEN/CENELEC Internal Regulations which stipulate the conditions for giving this European Standard the status of a national standard without any alteration. Up-to-date lists and bibliographical references concerning such national standards may be obtained on application to the CEN Management Centre or to any CEN member.

This European Standard exists in three official versions (English, French, German). A version in any other language made by translation under the responsibility of a CEN member into its own language and notified to the CEN Management Centre has the same status as the official versions.

CEN members are the national standards bodies of Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



EUROPEAN COMMITTEE FOR STANDARDIZATION COMITÉ EUROPÉEN DE NORMALISATION EUROPÄISCHES KOMITEE FÜR NORMUNG

Management Centre: rue de Stassart, 36 B-1050 Brussels

EN 15251:2007 (E)

Contents Page

Forewo	ord	4
Introdu	ction	5
1	Scope	6
2	Normative references	6
3	Terms and definitions	7
4	Symbols and abbreviations	. 11
5	Interactions with other standards	. 11
6	Design input criteria for dimensioning of buildings, heating, cooling, mechanical and natural ventilation systems	. 13
6.1	General	
6.2	Thermal environment	. 14
6.3	Indoor air quality and ventilation rates	. 15
6.4	Humidity	. 16
6.5	Lighting	. 16
6.6	Noise	. 17
7	Indoor environment parameters for energy calculation	. 17
7.1	General	. 17
7.2	Thermal environment	. 17
7.3	Indoor air quality and ventilation	. 18
7.4	Humidity	. 19
7.5	Lighting	. 19
8	Evaluation of the indoor environment and long term indicators	. 19
8.1	General	. 19
8.2	Design indicators	. 19
8.3	Calculated indicators of indoor environment	. 20
8.4	Measured indicators	. 20
8.5	Subjective evaluations	. 21
9	Inspections and measurement of the indoor environment in existing buildings	. 22
9.1	General	. 22
9.2	Measurements	. 22
10	Classification and certification of the indoor environment	. 24
10.1	General	. 24
10.2	Detailed classification and certification	. 24
10.3	Recommended overall evaluation of the indoor environment and certification	. 24
Annex	A (informative) Recommended criteria for the thermal environment	. 25

EN 15251:2007 (E)

A.1	Recommended categories for design of mechanical heated and cooled buildings	25
A.2	Acceptable indoor temperatures for design of buildings without mechanical cooling systems	27
A .3	Recommended indoor temperatures for energy calculations	31
Δηηρχ	B (informative) Basis for the criteria for indoor air quality and ventilation rates	32
B.1	Recommended design ventilation rates in non-residential buildings	32
B.1.1	General	
B.1.2	Method based on person and building component	32
B.1.3	Method based on ventilation rate per person or per m ² floor areafloor area	35
B.1.4	Recommended values of CO ₂ for energy calculation	36
B.2	Recommended design ventilation rates in residential buildings	36
B.3	Recommended criteria for dimensioning of humidification and de-humidification	
B.4	Recommended ventilation during un-occupied hours	39
Annex	C (informative) Example on how to define low and very low polluting buildings	40
Annex	D (informative) Recommended criteria for lighting	41
Annex	E (informative) Indoor system noise criteria of some spaces and buildings	42
Annex	F (informative) Long term evaluation of the general thermal comfort conditions	43
Annex	G (informative) Recommended criteria for acceptable deviations	46
G.1	Building Category	46
G.2	Length of deviation	46
Annex	H (informative) Methodologies for subjective evaluations	47
Annex	I (informative) Examples of classification and certification of the indoor	
	environment	48
l.1	The design criteria used	48
1.2	Whole year computer simulations of the indoor environment and energy	
	performance	
1.3	Long term measurement of selected parameters for the indoor environment	
l. 4	Subjective responses from occupants	49
Bibliog	yraphy	51

EN 15251:2007 (E)

Foreword

This document (EN 15251:2007) has been prepared by Technical Committee CEN/TC 156 "Ventilation for buildings", the secretariat of which is held by BSI.

This European Standard shall be given the status of a national standard, either by publication of an identical text or by endorsement, at the latest by November 2007, and conflicting national standards shall be withdrawn at the latest by November 2007.

This standard has been prepared under a mandate given to CEN by the European Commission and the European Free Trade Association (Mandate M/343), and supports essential requirements of EU Directive 2002/91/EC on the energy performance of buildings (EPBD). It forms part of a series of standards aimed at European harmonisation of the methodology for the calculation of the energy performance of buildings. An overview of the whole set of standards is given in CEN/TR 15615, Explanation of the general relationship between various CEN standards and the Energy Performance of Buildings Directive (EPBD) ("Umbrella document").

Attention is drawn to the need for observance of relevant EU Directives transposed into national legal requirements. Existing national regulations with or without reference to national standards, may restrict for the time being the implementation of the European Standards mentioned in this report.

According to the CEN/CENELEC Internal Regulations, the national standards organizations of the following countries are bound to implement this European Standard: Austria, Belgium, Bulgaria, Cyprus, Czech Republic, Denmark, Estonia, Finland, France, Germany, Greece, Hungary, Iceland, Ireland, Italy, Latvia, Lithuania, Luxembourg, Malta, Netherlands, Norway, Poland, Portugal, Romania, Slovakia, Slovenia, Spain, Sweden, Switzerland and United Kingdom.



The is a new provider i arenade and chare publication at the limit below	This is a free preview.	Purchase the	entire publication	at the link below:
--	-------------------------	--------------	--------------------	--------------------

Product Page

- Dooking for additional Standards? Visit Intertek Inform Infostore
- Dearn about LexConnect, All Jurisdictions, Standards referenced in Australian legislation