

# Ventilative Cooling in Regulations

# Building Regulations in the UK

- The Building Regulations in the UK are formulated in three sets,
  - England and Wales,
  - Scotland and
  - Northern Ireland.
- There are many similarities but also differences
- This presentation focuses on England and Wales and has used the guidance within the Approved Documents (AD).
- Building Regulations can be downloaded from:  
<http://www.planningportal.gov.uk/buildingregulations/approveddocuments/>

This section covers the technical guidance contained in Part A (Approved Document A) of schedule 1 of the Building Regulations concerned with the requirements with respect to structural safety.

This section covers the technical guidance contained in Part B (Approved Document B) of schedule 1 of the Building Regulations concerned with the requirements with respect to fire safety.

[Contaminants and moisture](#)

This section covers the technical guidance contained in Part C (Approved Document C) of schedule 1 of the Building Regulations concerned with the requirements with respect to site preparation and resistance to contaminants and moisture.

## [Building Regulations](#)

[Building Regulations](#)

[How to get approval](#)

[Determinations & appeals](#)

[Building Policy & Legislation](#)

[Greener Buildings](#)

[Good Practice Guides](#)

### [Part D \(Toxic Substances\)](#)

This section covers the technical guidance contained in Part D (Approved Document D) of schedule 1 of the Building Regulations concerned with the requirements with respect to Toxic Substances.

### [Part E \(Resistance to sound\)](#)

This section covers the technical guidance contained in Part E (Approved Document E) of schedule 1 of the Building Regulations with the requirements with respect to resistance to sound.

### [Part F \(Ventilation\)](#)

This section covers the technical guidance contained in Part F (Approved Document F) of schedule 1 of the Building Regulations concerned with the requirements with respect to ventilation.

### [Part G \(Sanitation, Hot Water Safety and Water Efficiency\)](#)

This section covers the technical guidance contained in Part G (Approved Document G) of schedule 1 of the Building Regulations with the requirements with respect to Sanitation, Hot Water Safety and Water Efficiency.

### [Part H \(Drainage and waste disposal\)](#)

This section covers the technical guidance contained in Part H (Approved Document H) of schedule 1 of the Building Regulations with the requirements with respect to Drainage and waste disposal.

### [Part J \(Heat producing appliances\)](#)

This section covers the technical guidance contained in Part J (Approved Document J) of schedule 1 of the Building Regulations with the requirements with respect to heat producing appliances.

### [Part K \(Protection from falling\)](#)

This section covers the technical guidance contained in Part K (Approved Document K) of schedule 1 of the Building Regulations with the requirements with respect to protection from falling.

### [Part L \(Conservation of fuel and power\)](#)

This section covers the technical guidance contained in Part L (Approved Document L) of schedule 1 of the Building Regulations with the requirements with respect to Conservation of fuel and power.

### [Part M \(Access to and Use of Buildings\)](#)

This section covers the technical guidance contained in Part M (Approved Document M) of schedule 1 of the Building Regulations with the requirements with respect to Access to and use of buildings.

## Part F (Ventilation)

This section covers the technical guidance contained in Part F (Approved Document F) of schedule 1 of the Building Regulations.

It covers the requirements with respect to ventilation.

Follow the links from this page to access the approved document, details of any previous appeals and determinations and further information relating to this part.

### Approved Document F

Download the latest version of the Approved Document or view archived copies of previous versions

### See also

[Make a planning application](#)

[View our interactive household guidance](#)

[Find your local planning authority](#)

[View our frequently asked questions \(FAQs\)](#)

### Replacement windows

Approved Document F includes the guidance that all replacement windows should be fitted with trickle ventilators - find out more here.

### Ventilation (Part F) - FAQ

This section provides answers to frequently asked questions (FAQs) about Part F of the Building Regulations.

### Domestic Ventilation Compliance Guide

The following documents are principally associated with the guidance relating to Part F.

### Research Reports

The Building Regulations are underpinned by research which aims to provide a sound scientific basis to the requirements and guidance relating to each of the technical parts.

### Consultations

Before bringing into effect changes to the technical requirements, or the supporting Approved Document(s), of the Building Regulations, Government seeks views on the proposed changes through a formal consultation process.

### RIAs

Government departments assess the likely outcomes of regulating in order to try to achieve the right balance between under-regulating, which may fail to protect the public, and over-regulating, which may create excessive bureaucracy.

### Part F - Determinations and appeals

### Elsewhere in

### Approved documents

[Approved documents](#)

[Approved Documents - Downloads](#)

[Part A \(Structural safety\)](#)

[Part B \(Fire safety\)](#)

[Part C \(Resistance to contaminants and moisture\)](#)

[Part D \(Toxic Substances\)](#)

[Part E \(Resistance to sound\)](#)

[Part G \(Sanitation, Hot Water Safety and Water Efficiency\)](#)

[Part H \(Drainage and waste disposal\)](#)

[Part J \(Heat producing appliances\)](#)

[Part K \(Protection from falling, collision and overhanging\)](#)

[Part L \(Conservation of fuel and power\)](#)

[Part M \(Access to and use of buildings\)](#)

## Approved Document F - Ventilation

**Publication title:** Approved Document F - Ventilation (2010 edition)

**Date published:** reprinted December 2010

**ISBN:** 978 1 85946 370 3

**Price:** £12.50 ([free to download](#))

### Summary

This 2010 edition of Approved Document F - Ventilation has been updated and replaces the previous edition.

It incorporates amendments made to reflect any changes arising as a result of the Building Regulations 2010. The changes mainly reflect regulation number changes as a result of re-ordering. There have been no amendments to the substantive requirements in Schedule 1 (ie Parts A to P) of the Building Regulations.

Below is a link to an amendment slip showing how the old regulation numbers correspond to the new regulation numbers.

### Changes coming into effect in 2013.

DCLG has published the 2013 Amendments to Approved Documents for use with a number of current Approved Documents, and can be found in the download section below. This document lists the amendments to Approved Documents A, B Vol 1, B Vol 2, C, D, E, F, G, H, J, L1A, L1B, L2A, L2B and M.

Changes to Approved Document F come into effect on the 6 April 2013 and 1 July 2013 for use in England\*.

\* This Approved Document gives guidance for compliance with the Building Regulations for building work carried out in England. It also applies to building work carried out on excepted energy buildings in Wales as defined in the [Welsh Ministers \(Transfer of Functions\) \(No. 2\) Order 2009](#).

### Download

[Approved Document F - Ventilation \(2010 Edition incorporating further 2010 amendments\)](#) (PDF 2.32 MB)

This is the current edition of Approved Document F - Ventilation. It supersedes the original 2010 edition (see archived version below) by incorporating the changes made as a result of the Building Regulations 2010 and Building (Approved Inspectors etc) Regulations 2010.

[Amendments to Approved Documents and Compliance Guides 2010: List of revisions and corrections](#) (PDF 123 Kb)

[2013 Amendments to Approved Documents](#) (PDF 479 Kb)

For use from 6 April 2013 with the current Approved Document.

### Order



### See also

[Make a planning application](#)

[View our interactive householder guidance](#)

[Find your local planning authority](#)

[View our frequently asked questions \(FAQs\)](#)

### Elsewhere in

### [Approved documents](#)

[Approved documents](#)

[Approved Documents - Downloads](#)

[Part A \(Structural safety\)](#)

[Part B \(Fire safety\)](#)

[Part C \(Resistance to contaminants and moisture\)](#)

[Part D \(Toxic Substances\)](#)

[Part E \(Resistance to sound\)](#)

[Part G \(Sanitation, Hot Water Safety and Water Efficiency\)](#)

[Part H \(Drainage and waste disposal\)](#)

[Part J \(Heat producing appliances\)](#)

[Part K \(Protection from falling\)](#)

[Part L \(Conservation of fuel and power\)](#)

[Part M \(Access to and Use of Buildings\)](#)

[Part N \(Glazing safety\)](#)

[Part P \(Electrical Safety\)](#)

[Workmanship and Materials](#)



[Building Regulations](#) > [Approved documents](#) > Part L (Conservation of fuel and power) > **Approved Document L - Conservation of fuel and power**

## Approved Document L - Conservation of fuel and power

The current version of 'Approved Document L: Conservation of fuel and power' is split into four parts, click the links below to access the individual parts or the archived versions:

- [Approved Document L1A: Conservation of fuel and power \(New dwellings\)](#)
- [Approved Document L1B: Conservation of fuel and power \(Existing dwellings\)](#)
- [Approved Document L2A: Conservation of fuel and power \(New buildings other than dwellings\)](#)
- [Approved Document L2B: Conservation of fuel and power \(Existing buildings other than dwellings\)](#)
- [Archived Versions](#)

### EPBD changes affecting Part L in 2013

DCLG has published the [2013 Amendments to Approved Documents](#) for use with a number of current Approved Documents.

The changes listed in this document for Approved Documents L1a, L1B, L2A, L2B are made to take account of a recast of the European Energy Performance of Buildings Directive (Directive 2010/31/EU) with amended guidance for:

- Energy Performance Certificates that comes into force on 9 January 2013; (all 4 ADLs)
- the analysis of high efficiency alternative systems for new buildings occupied by public authorities on 9 January 2013 and for all other new buildings on 9 July 2013; (ADL1A and ADL2A)
- the major renovation of existing buildings that comes into force for buildings occupied by public authorities on 9 January 2013 and for all buildings on 9 July 2013. (ADL1B and ADL2B)

The changes also take account of the introduction of a new Approved Document 7 that comes into effect on 1 July 2013, this has been updated to reflect the European Construction Products Regulation which will come fully into force on 1 July 2013. (common to all ADLs and other ADs)

## Approved Document L1A: Conservation of fuel and power (New dwellings)

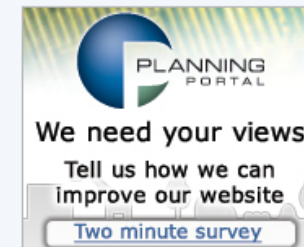
**Publication title:** Approved Document L1A: Conservation of fuel and power (New dwellings)

**Date published:** republished December 2010

**ISBN:** 978 1 85046 324 6



### User Survey



### Elsewhere in

### [Approved documents](#)

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[Part N \(Glazing safety\)](#)



# Part F -Ventilation

- Focusses on IAQ requirements
- Links with energy:
  - ventilation is linked to **control of thermal comfort**
  - reference is made to **purge ventilation**
  - building **air tightness** and **testing** is specifically addressed with associated ventilation provision (eg increased 'for dwellings with a design air permeability tighter then or equal to  $5\text{m}^3/(\text{h m}^2)$  at 50 Pa.
- Search specifically for 'cooling'
  - 'The ventilation provisions will not necessary meet cooling needs'
- Search for 'thermal comfort'
  - 'ventilation may also provide a means to control thermal comfort but this is not controlled under the building regulation. Part L addresses minimising energy use due to the effect of solar gain in the summer'.
  - Purge ventilation may also be used to improve thermal comfort, although this is not controlled by the building regulations'

# Part L – Conservation of Fuel and Power

Focusses on energy use

- Two terms are used to describe the energy performance;
  - BER is the Building CO<sub>2</sub> Emission Rate and
  - TER is the minimum (Target) energy performance,
  - both expressed in mass of CO<sub>2</sub> emitted per year per square metre of the total useful floor area of the buildings (kg/m<sup>2</sup>/y).
  - Energy performance certificate and compliance are outlined in detail
- Cooling
  - Is not directly linked with ventilation
  - Thermal comfort is not found through a search
- Non-domestic building compliance guide
  - Section 9 – comfort cooling - on how to calculate SEER
  - Section 10 – air distribution systems – mechanical systems on specific fan power and heat recovery.



# Part L - 2013 amendments and proposed changes

- 2013 - Consideration of high-efficiency alternative systems for new buildings
  - Decentralised energy supply systems based on energy from renewable sources
  - Co-generation
  - District or block heating and cooling
  - Heat pumps
- 2012 Consultation focussed on energy use – results published in Dec 2012
- iSBEM is the National Calculation Method for non-domestic building
- Ventilative cooling can be considered as part of energy performance

In summary:

- Ventilative cooling is considered as part of energy performance in the regulations (Part L)
- Ventilation regulations (Part F) focus on IAQ
- New thermal comfort guidelines are being introduced (aligned with Category II in Standard BS EN15251) which might allow more flexibility in internal environmental conditions

# Thank you!

