



New & Revised Building Regulations F,L,O & S 2022

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New Approved Documents – F, L, O, S

ONLINE VERSION

HM Government

The Building Regulations 2010

Ventilation

APPROVED DOCUMENT

F

Volume 1: Dwellings
Requirement F1: Means of ventilation
Regulations: 39, 42 and 44

2021 edition – for use in England

ONLINE VERSION

HM Government

The Building Regulations 2010

Ventilation

APPROVED DOCUMENT

F

Volume 2: Buildings other than dwellings
Requirement F1: Means of ventilation
Regulations: 39 and 44

2021 edition – for use in England

ONLINE VERSION

HM Government

The Building Regulations 2010

Conservation of fuel and power

APPROVED DOCUMENT

L

Volume 1: Dwellings
Requirement L1: Conservation of fuel and power
Requirement L2: On-site generation of electricity
Regulations: 6, 22, 23, 24, 25, 25A, 25B, 26, 26A, 26C, 27, 27A, 27C, 28, 40, 40A, 43, 44 and 44ZA

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The Building Regulations 2010

Conservation of fuel and power

APPROVED DOCUMENT

L

Volume 2: Buildings other than dwellings
Requirement L1: Conservation of fuel and power
Requirement L2: On-site generation of electricity
Regulations: 6, 22, 23, 24, 25, 25A, 25B, 26, 26C, 27, 27C, 28, 40, 40A, 43, 44 and 44ZA

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Overheating

APPROVED DOCUMENT

O

Requirement O1: Overheating mitigation
Regulations: 40B

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The Building Regulations 2010

Infrastructure for the charging of electric vehicles

APPROVED DOCUMENT

S

Requirement S1: The erection of new residential buildings
Requirement S2: Dwellings resulting from a material change of use
Requirement S3: Residential buildings undergoing major renovation
Requirement S4: Erection of new buildings which are not residential buildings or mixed-use buildings
Requirement S5: Buildings undergoing major renovation work which are not residential buildings or mixed-use buildings
Requirement S6: The erection of new mixed-use buildings and mixed-use buildings undergoing major renovation
Regulations: 44D, 44E, 44F, 44G, 44H, 44I, 44J

2021 edition – for use in England

Part F 2021 – Ventilation

vol 1 – Dwellings vol 2 – Buildings other than dwellings

Part L 2021– Conservation of fuel and power

vol 1 – Dwellings vol 2 – Buildings other than dwellings

Part O 2021– Overheating

Part S 2021 – Infrastructure for the charging of electric vehicles

Format of new Approved Documents

- All produced in single column format for ease of use on mobile devices
- Requirement, Regulation and Guidance
- Detail key interactions with other parts of the building regulations
- Key terms identified in green text linked to definitions

ONLINE VERSION **S1**

Requirement S1 and regulation 44D: Electric vehicle charging provisions for new residential buildings

This section deals with requirement S1 from Part 5 of Schedule 1 and regulation 44D of the Building Regulations 2010.

Requirement

The erection of new residential buildings

S1. (1) A new residential building with associated parking must have access to electric vehicle charge points as provided for in paragraph (2).
(2) The number of associated parking spaces which have access to electric vehicle charge points must be—
(a) the total number of associated parking spaces, where there are fewer associated parking spaces than there are dwellings contained in the residential building; or
(b) the number of associated parking spaces that is equal to the total number of dwellings contained in the residential building, where there are the same number of associated parking spaces as, or more associated parking spaces than, there are dwellings.
(3) Cable routes for electric vehicle charge points must be installed in any associated parking spaces which do not, in accordance with paragraph (2), have an electric vehicle charge point where—
(a) a new residential building has more than 10 associated parking spaces; and
(b) there are more associated parking spaces than there are dwellings contained in the residential building.

Regulation

Application of paragraph S1 of Schedule 1 (the erection of new residential buildings)

44D. (1) The requirements of paragraph S1 of Schedule 1 apply in relation to the erection of a new residential building with associated parking as follows:
(2) The number of electric vehicle charge points that must be installed is the maximum number of electric vehicle charge points that it is possible to install at an average sum of £3000 or less for the connection cost of each electric vehicle charge point connection (the £3000 cap).
(3) If it is not possible to completely fulfil the requirements of paragraph S1(2) of Schedule 1 as a result of the operation of the £3000 cap, cable routes for electric vehicle charge points must be installed in the associated parking spaces that would otherwise be required to have electric vehicle charge points, but for the operation of the £3000 cap.
(4) Where the new residential building has, or will have, associated parking that is situated within a covered car park—
(a) if there are or will be any associated parking spaces situated in a position other than in a covered car park—
(i) the requirements of paragraph S1 of Schedule 1 must first be applied in relation to those parking spaces; then
(ii) if the number of associated parking spaces, which are situated in a position other than in a covered car park, is insufficient to completely fulfil the requirements of paragraph S1(2) of Schedule 1, cable routes for electric vehicle charge points must be installed in—
(aa) the number of parking spaces in the covered car park which, when added to the number of associated parking spaces which are situated in a position other than in the covered car park, corresponds to the total number of dwellings with associated parking, where the total number of associated parking spaces is 10 or less; and
(ab) all the associated parking spaces in the covered car park, where the total number of associated parking spaces is both less than the number of dwellings with associated parking and 10 or less; and
(c) all the associated parking spaces in the covered car park, where the total number of associated parking spaces is more than 10;
(5) If all the associated parking spaces are situated in a covered car park, cable routes for electric vehicle charge points must be installed—
(i) where there are 10 or fewer parking spaces—
(aa) in the number of associated parking spaces in the covered car park which corresponds to the total number of dwellings with associated parking; and
(bb) in all the parking spaces where there are fewer parking spaces than there are dwellings; and
(ii) in all the parking spaces in the covered car park, where there are more than 10 parking spaces.

NOTE Where the building control body is an approved inspector, see regulation 8 of the Building (Approved Inspectors etc.) Regulations 2010 (as amended).

Intention

In the Secretary of State's view, requirement S1 and regulation 44D are met if building work complies with all the following:

- For a new residential building where requirement S1 applies (paragraph 1.4), electric vehicle charge points are installed in accordance with paragraph 1.1.
- For new residential buildings where both of the following conditions apply, cable routes are installed:
 - The requirement to install electric vehicle charge points does not apply to all associated parking spaces (paragraph 1.4).
 - The building has more than 10 associated parking spaces.

4 Approved Document 5, 2021 edition ONLINE VERSION Building Regulations 2010

ONLINE VERSION

Selected key interactions with other parts of the Building Regulations

0.5 The approved documents set out what, in ordinary circumstances, may be accepted as one way to comply with the Building Regulations. Those designing or undertaking building work remain responsible for assessing, on a case-by-case basis, whether specific circumstances require additional or alternative measures to achieve compliance with the regulatory requirements. There are interactions between many of the requirements of the Building Regulations. Guidance on some key interactions is given below.

Interaction with Part B

0.6 This approved document, Approved Document 5, provides guidance on the installation and location of electric vehicle charge points. Where a car park is constructed or work is carried out on an existing car park, care must be taken to ensure that the fire safety requirements of the Building Regulations have been met. Follow the guidance in Approved Document B.

Interaction with Part K

0.7 This approved document, Approved Document 5, provides guidance on the location of electric vehicle charge points. Approved Document K gives guidance on vehicle barriers and loading bays.

Interaction with Part M

0.8 This approved document, Approved Document 5, provides guidance on the installation and location of electric vehicle charge points. Manual controls, where provided, should be within reasonable reach of the occupants. Access requirements must be considered when locating electric vehicle charge points. Accessible parking spaces must meet the Part M requirements. Follow the guidance in Approved Document M.

Interaction with Part P

0.9 This approved document, Approved Document 5, provides guidance on the installation and location of electric vehicle charge points. Where electrical work is carried out for a dwelling, Part P of the Building Regulations must be met. Follow the guidance in Approved Document P.

NOTE For workplaces, the Electricity at Work Regulations 1989 sets requirements.

2 Approved Document 5, 2021 edition ONLINE VERSION Building Regulations 2010

Transitional provisions – per plot

Parts F, L & O

Regulations and Approved Documents F (volumes 1 & 2), L (volumes 1 and 2) and O will come into effect on **15 June 2022**.

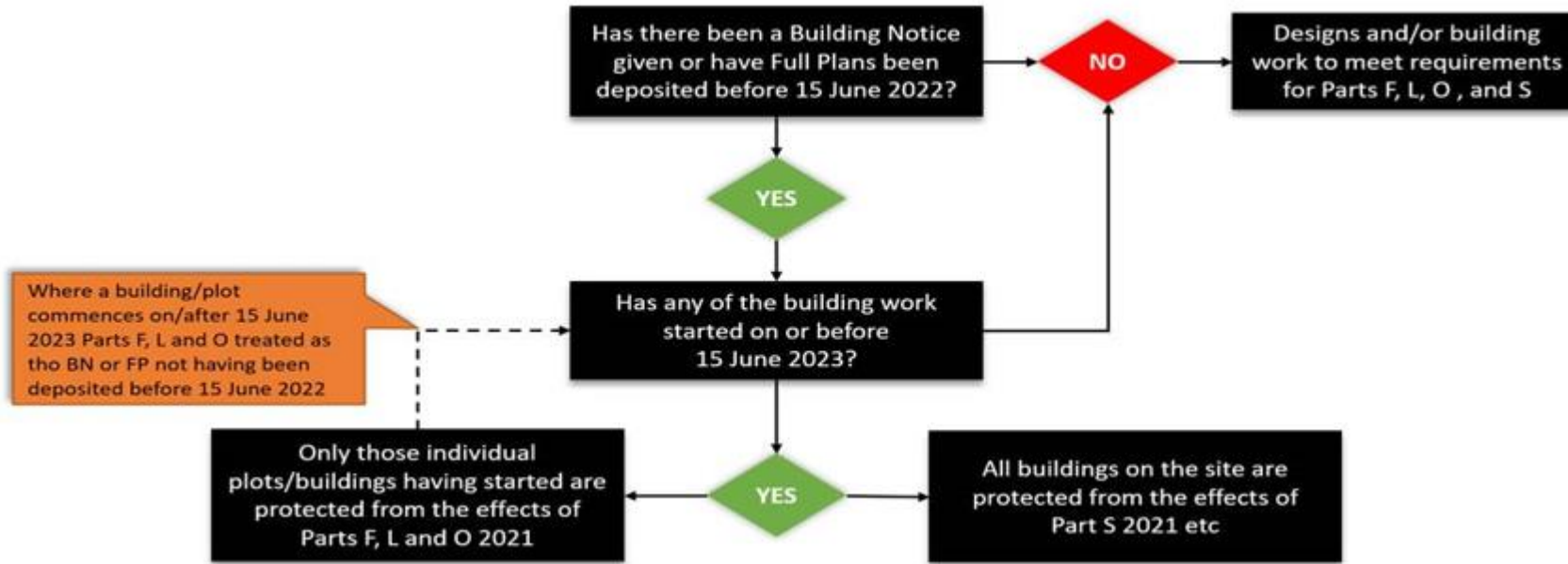
They will not apply in relation to building work on a particular building, where a building regulation application has been made, in respect of that building, before 15th June 2022, provided that the building work on that building is started before **15th June 2023**.

In some cases, applications will be in respect of a number of buildings on a site, for example a number of houses. In such cases, it is only those individual buildings for which work is commenced which can take advantage of the transitional provisions.

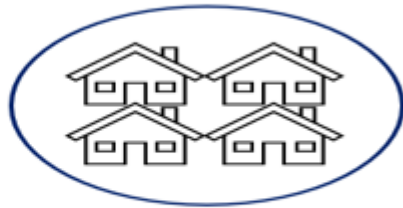
Don't get caught out!

Transitional provisions – per plot

Parts F, L, O & S



Before (F & L) ...



Transitional arrangements applied site-wide

Now...



Transitional arrangements apply to individual homes

With a reasonable period of **12 months** to commence work

Transitional provisions – for site Part S - Infrastructure for the charging of electric vehicles

Again comes into force from 15th June 2022 and will not apply to building work for which building regulation application, for that building, has been submitted before 15th June 2022 and is commenced on site before 15th June 2023

For this regulation, on multiple plot sites, if one plot is started then the whole site is deemed to have commenced



What constitutes commencement of work



In the Department's opinion the commencement of work would usually be marked by work such as:

- excavation for strip or trench foundations or for pad footings;
- digging out and preparation of ground for raft foundations;
- vibrofloatation (stone columns) piling, boring for piles or pile driving;
- drainage work specific to the building(s) concerned.

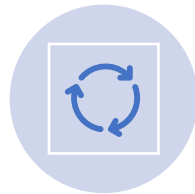
We consider that the following sorts of work would **not** be likely to constitute the commencement of work:

- removal of vegetation
- demolition of any previous buildings on the site;
- removal of topsoil;
- removal or treatment of contaminated soil;
- excavation of trial holes;
- dynamic compaction;
- general site servicing works (e.g., roadways)

Proposed route to Future Homes Standard (FHS)



June 2022 – interim Part F & L regulations come into effect – 31% less CO₂ emissions from new dwellings over current standards



Spring 2023-2024 – Technical consultation on specification for FHS

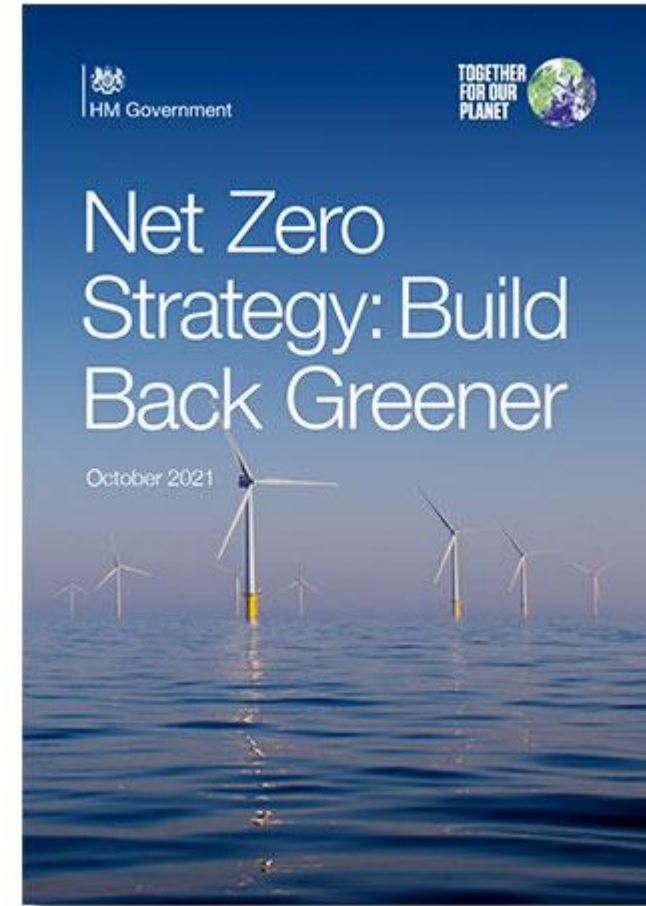


2025 – FHS comes into force – no fossil fuel heating, at least 75% lower CO₂ emissions than current standards

2019: the UK Government and the devolved administrations committed to the Net Zero by 2050 target as recommended by the Climate Change Committee

Government's current proposals for route to Net Zero

- An ambition that by 2035, **no new gas boilers will be sold**
- A new £450 million three-year **Boiler Upgrade Scheme** will see households offered grants of up to £5,000 for low-carbon heating systems so they cost the same as a gas boiler now.
- A new £60 million **Heat Pump Ready programme** that will provide funding for pioneering heat pump technologies and will support the government's target of 600,000 installations a year by 2028.
- **Delivering cheaper electricity** by rebalancing of policy costs from electricity bills to gas bills this decade.
- Further funding for the **Social Housing Decarbonisation Scheme** and **Home Upgrade Grants**, investing £1.75 billion. Additional funding of £1.425 billion for Public Sector Decarbonisation, with the aim of reducing emissions from public sector buildings by 75% by 2037
- Launching a **Hydrogen Village trial** to inform a decision on the role of hydrogen in the heating system by 2026
- Ensuring all new buildings in England are ready for **Net Zero from 2025**



Part F – Ventilation

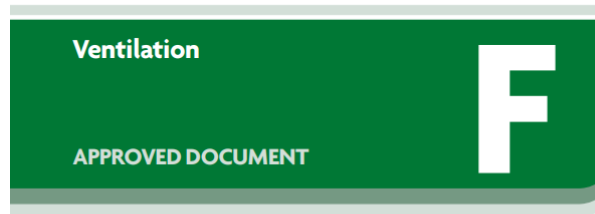
Vol 1 – Dwellings

Vol 2 – Buildings other than dwellings

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Volume 1: Dwellings

Requirement F1: Means of ventilation

Regulations: 39, 42 and 44

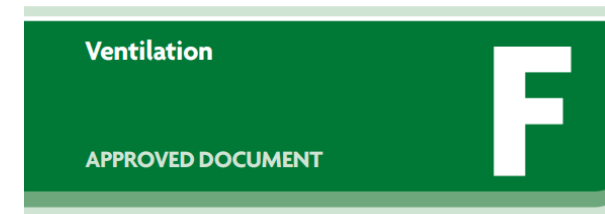
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Volume 2: Buildings other than dwellings

Requirement F1: Means of ventilation

Regulations: 39 and 44

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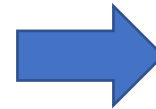
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Part F 2021 – Ventilation – volume 1 - dwellings

- Only applies to dwellings
- Contains the potential historic building exemption – but works should comply where reasonably practicable
- Simplified standards – now on a room by room basis

The systems of ventilation are slightly changed:-

System 1	Background ventilators and intermittent extract fans
System 2	Passive Stack Ventilation (PSV)
System 3	Continuous Mechanical Extract Ventilation (MEV)
System 4	Continuous Mechanical supply and extract with Heat Recovery (MVHR)



Natural ventilation
Continuous Mechanical Extract Ventilation (MEV)
Mechanical Ventilation with Heat Recovery (MHVR)

Part F 2021 – Ventilation – volume 1 - dwellings

Table 1.6 – Types of ventilation system	
System type	Dwellings covered by the guidance
Natural ventilation	Less airtight dwellings
Continuous Mechanical Extract Ventilation (MEV)	All dwellings
Mechanical Ventilation with Heat Recovery (MHVR)	All dwellings

NOTE: As defined in Appendix A, less airtight dwellings are dwellings which have **one** of the following.

- a. A design air permeability higher than $5\text{m}^3 /(\text{h}\cdot\text{m}^2)$ at 50Pa.
- b. An as-built air permeability higher than $3\text{m}^3 /(\text{h}\cdot\text{m}^2)$ at 50Pa

Part F 2021 Ventilation volume 1 dwellings

natural ventilation

Intermittent mechanical extract to wet rooms

Background ventilators required for all rooms

Night latch is not acceptable as a background ventilator

Background ventilators should be of equivalent size on opposing walls of dwelling to allow for cross ventilation

If near a sustained noise sound attenuation ventilators should be fitted

Part F 2021 – Ventilation – volume 1 - dwellings – natural ventilation - background ventilation

Table 1.7 Minimum equivalent area of background ventilators for natural ventilation

Room	Min equivalent area of background ventilators for dwellings with multiple floors	Min equivalent area of background ventilators for single storey dwellings
Habitable rooms	8,000mm ²	10,000mm ²
Kitchen	8,000mm ²	10,000mm ²
Utility room	No minimum	No minimum
Bathroom	4,000mm ²	4,000mm ²
Sanitary accommodation	No minimum	No minimum

* see Notes

Part F 2021 – Ventilation – volume 1 - dwellings - background ventilation

NOTES TO TABLE 1.7:

1. The use of this table is not appropriate in any of the following situations and expert advice should be sought.

- If the dwelling has only one exposed façade.
- If the dwelling has at least 70% of its openings on the same façade.
- If a kitchen has no windows or external façade through which a ventilator can be installed.

2. Where a kitchen and living room accommodation are not separate rooms (i.e. open plan), no fewer than three ventilators of the same equivalent area as for other habitable rooms should be provided within the open-plan space.

3. The **total number of ventilators** installed in a dwelling's habitable rooms and kitchens should be **no fewer than five**, except in one-bedroom properties, where there should be no fewer than four.

4. If a bathroom has no window or external façade through which a ventilator can be installed, the minimum equivalent area specified should be added to the ventilator sizes specified in other rooms

Part F 2021 Ventilation volume 1 dwellings

continuous mechanical ventilation

System should comprise of one of the following:-

- a. A central extract system
- b. Individual room extract fans
- c. A combination of a central extract system and individual room extract fans

Ventilation rates given in tables 1.2 (wet room) & 1.3 (whole dwelling vent rate)

Background ventilators of 4000mm² to be provided in all habitable rooms

Purge ventilation required for each habitable room to give 4 ac/hr.

Part F 2021 Ventilation volume 1 dwellings

mechanical ventilation & heat recovery

Likely to be used much more widely in new dwellings due to energy conservation requirements

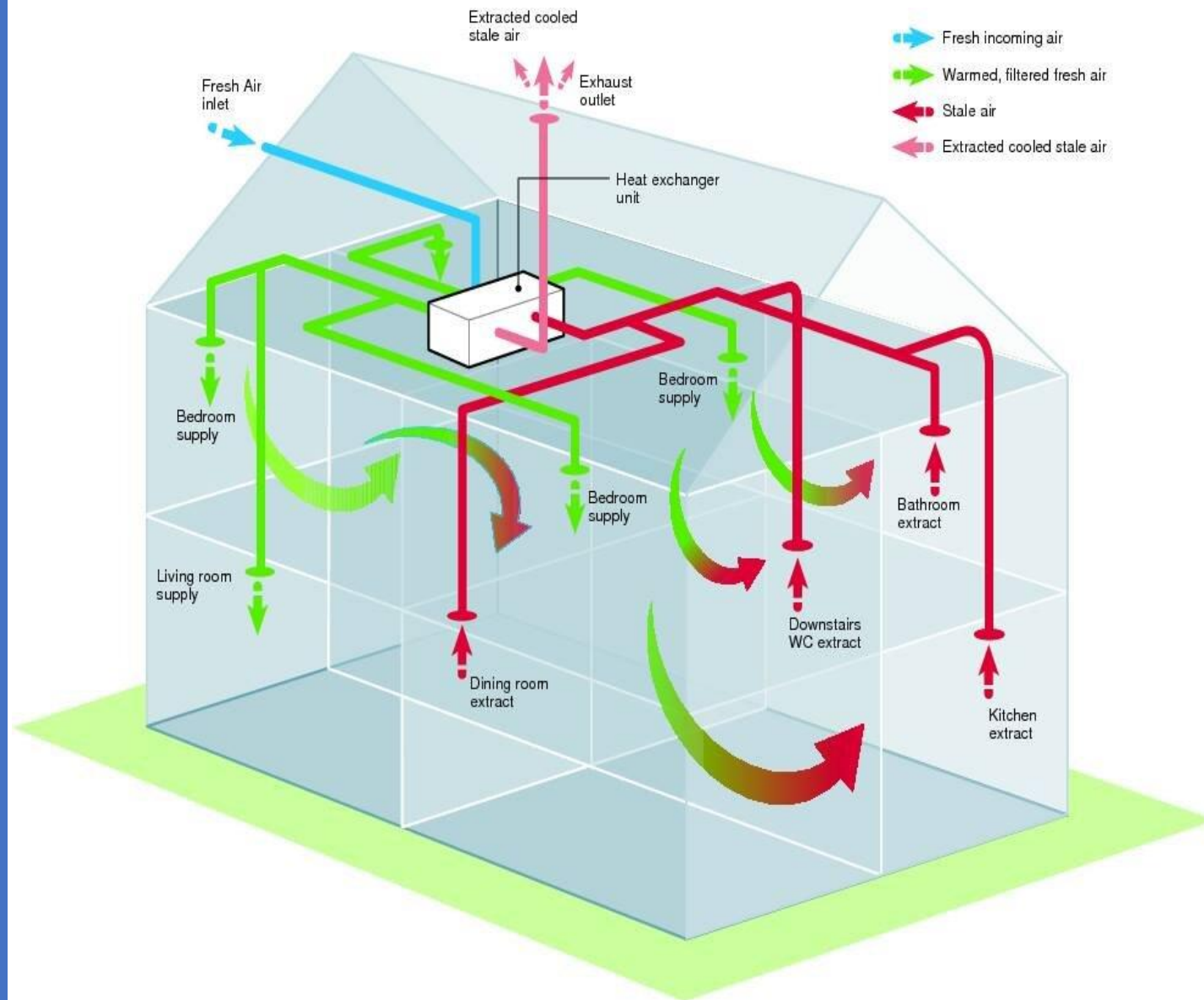
Ventilation rates given in table 1.2 (wet room) & 1.3 (whole dwelling vent rate)

No background ventilators required

Purge ventilation required for each habitable room to give 4 ac/hr.

Part F 2021 Ventilation volume 1 dwellings

mechanical ventilation & heat recovery



Part F 2021 Ventilation volume 1

Section 3 work on existing dwellings

- For an existing dwelling any building work (e.g. adding a room, replacing part of the ventilation system) should meet the relevant standards of AD F
- Where energy efficiency measures are to be carried out in a dwelling, PAS 2035 is considered an adequate means of demonstrating compliance for meeting the requirements of Reg F1



Part F 2021 Ventilation volume 1

Section 3 work on existing dwellings

New methods to determine if ventilation provision is sufficient when common energy efficiency work is undertaken

Simplified method, determine major and minor measures

Table 3.1 Energy efficiency measures

	Category of measure
Roof insulation	
a. Renewing loft insulation, including effective edge sealing at junctions and penetrations	Minor
b. Loft conversions or works that include changing a cold loft (insulation at ceiling level) to a warm loft (insulation at roof level)	Minor
Wall insulation	
c. Installing cavity wall insulation to any external wall	Minor
d. Installing external or internal wall insulation to less than or equal to 50% of the external wall area	Minor
e. Installing external or internal wall insulation to more than 50% of the external wall area	Major
Replacement of windows and doors⁽¹⁾	
f. Replacing less than or equal to 30% of the total existing windows or door units	Minor
g. Replacing more than 30% of the total existing windows or door units	Major
Draught-proofing (other than openings)⁽²⁾	
h. Replacing a loft hatch with a sealed/insulated unit	Minor
i. Sealing around structural or service penetrations through walls, floors or ceiling/roof	Minor
j. Sealing and/or insulating a suspended ground floor	Major
k. Removing chimney or providing another means of sealing over chimney, internally or externally	Major

NOTES:

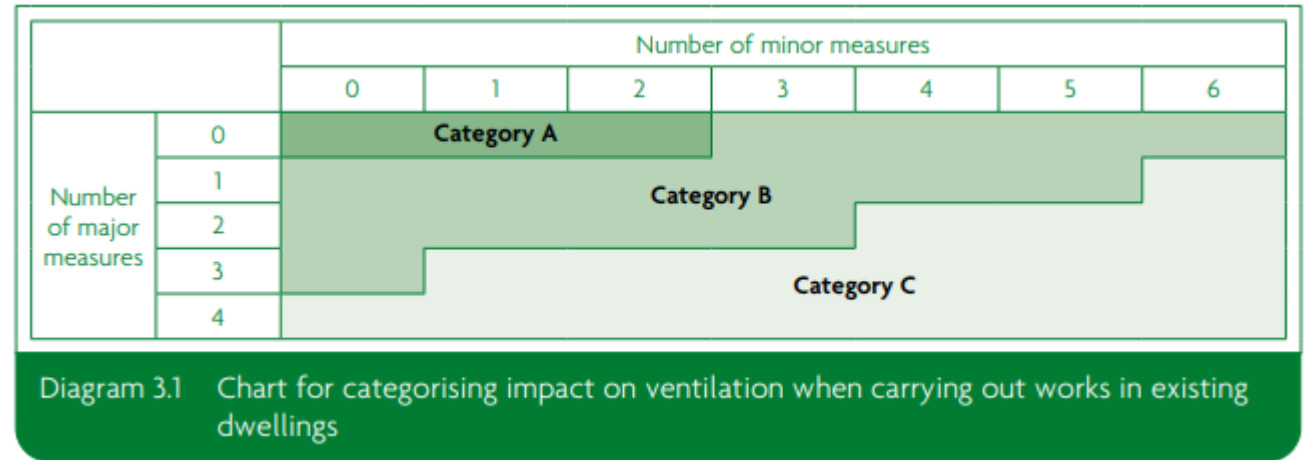
1. If the energy efficiency works involve only replacing windows, then the guidance in paragraphs 3.14 to 3.16 may be followed as an alternative means of demonstrating compliance.
2. Draught-proofing measures might not, on their own, constitute building work. This work may be controllable under the Building Regulations if carried out as part of other building work.

Part F 2021 Ventilation volume 1

Section 3 work on existing dwellings

New methods to determine if ventilation provision is sufficient when common energy efficiency work is undertaken

Simplified method, determine major and minor measures



Category A	No further ventilation needed
Category B	Further ventilation needed, in line with guidance for the relevant system
Category C	Building will be more airtight. Further ventilation needed, in line with guidance for the relevant system. Expert advice should be sought for natural ventilation systems

Part F 2021 – Ventilation – volume 1 - dwellings

- Minimising the ingress of external pollutants - introduced
- More emphasis on commissioning of systems - commissioning & test results need to be provided to the Building Control Body

AND

- Provision of information needed for owners on how to use system
- Template Completion checklists provided in AD F
- Domestic Compliance guide has now been taken into AD F

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

- Applies to all other buildings
- Contains the potential historic building exemption – but works should comply where reasonably practicable
- Applies to
 - a. Specific types of **occupiable rooms** – follow paragraphs 1.21 to 1.23.
 - b. Offices – follow paragraphs 1.24 to 1.37.
 - c. Car parks – follow paragraphs 1.38 to 1.40.
 - d. Building types other than offices or car parks – follow paragraph 1.41.(CIBSE Guide A)

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Occupiable Room – definition:

A room in a building other than a dwelling that is occupied by people, such as an office, workroom, classroom or hotel bedroom.

The following are **not** occupiable rooms: bathrooms, sanitary accommodation, utility rooms or rooms or spaces used solely or mainly for circulation, building services plant or storage purposes.

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Requirements (1):

- a. Extracts water vapour and indoor air pollutants from areas where they are produced in significant quantities before they spread through the building, following the guidance on extract ventilation in Section 1 for the relevant building type.
- b. Supplies a minimum level of outdoor air for occupants' health, following the guidance for whole building ventilation in Section 1 for the relevant building type.
- c. Rapidly dilutes indoor air pollutants and disperses water vapour when necessary in occupiable rooms and sanitary accommodation, following the guidance for purge ventilation in Section 1 for the relevant building type.
- d. **Monitors air quality** in specific types of occupiable rooms, following the guidance in paragraphs 1.21 to 1.23.

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Requirements (2)

- e. Minimises the entry of external pollutants, following the guidance in Section 2.
- f. Achieves all of the following, as far as is reasonably practicable.
 - i. Produces **low levels of noise**, following the guidance in paragraphs 1.5 and 1.6.
 - ii. Offers easy access for maintenance, following the guidance in paragraph 1.7.
 - iii. Provides protection from rain.
 - iv. Provides protection from cold draughts.
 - v. Does not significantly risk occupants' health.

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Ventilation strategy in AD F vol 2 relies on a combination of:-

- a. **Extract ventilation** from rooms where water vapour or pollutants are likely to be released (e.g. bathrooms, sanitary accommodation and kitchens in buildings other than dwellings), to minimise their spread to the rest of the building. Ventilation fans may be either intermittent operation or continuous operation.
- b. **Whole building ventilation** to provide fresh air to the building and to dilute, disperse and remove water vapour and pollutants not removed by extract ventilation.
- c. **Purge ventilation** to remove high concentrations of pollutants and water vapour. Purge ventilation is used intermittently and required only for pollutants produced by occasional activities (e.g. fumes from painting).
- d. **Monitoring of indoor air quality.**

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Monitoring of indoor air quality (CO₂)

- Occupiable rooms in offices
- Occupiable rooms where singing, loud speech or aerobic exercise or other aerosol generating activities are likely to take place
- Occupiable rooms where members of the public are likely to gather
- Occupiable rooms which are maintained at both low temperatures and low levels of humidity.



Doesn't apply to

- a. Small spaces up to 125m³ volume, or 50m² floor area.
- b. Large spaces over 800m³ in volume, or 320m² floor area

Part F 2021 – Ventilation – volume 2 – buildings other than dwellings

Table 1.1 Ventilation for buildings other than offices and car parks	
Building/space/activity	Regulations and guidance (also see CIBSE's Guide A and Appendices D and E)
Animal rooms	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016) <i>Code of Practice for the Housing and Care of Animals Bred, Supplied or Used for Scientific Purposes</i> (Home Office, 2014)
Building services plant rooms	Dangerous Substances and Explosive Atmospheres Regulations 2002 Provision for emergency ventilation to control dispersal of contaminating gas releases (e.g. refrigerant leak) is given in paragraphs 23 to 25 of HSE Guidance Note HSG 202 <i>General Ventilation in the Workplace – Guidance for Employers</i> . BS EN 378-3 <i>Refrigerating systems and heat pumps. Safety and environmental requirements – Installation site and personal protection</i> Follow manufacturers' guidance for adequate provision of air for service equipment.
Catering and commercial kitchens	HSE Catering Information Sheet No. 10: <i>Ventilation in catering kitchens</i> (2017) BESA DW 172 <i>Specification for Kitchen Ventilation Systems</i> (2018) CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Cleanrooms	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Common spaces ¹⁾	Either: a. natural ventilation by appropriately located ventilation opening(s) with a total opening area of at least 1/50 of the floor area of the common space b. mechanical ventilation installed to provide a supply of fresh air of 0.5 litres per second per m ² of floor area.
Data centres	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Dealing rooms	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Factories and workshops	Control of Substances Hazardous to Health (COSHH) Regulations 2002 Factories Act 1961 Health and Safety at Work etc. Act 1974 BESA TR 40 <i>Guide to Good Practice for Local Exhaust Ventilation</i> (2020) CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016) NOTE: Requirements are often exceeded by other criteria, such as the ventilation requirements of the particular manufacturing process.
Farms	Welfare of Farmed Animals (England) Regulations 2007 BS 5502 <i>Buildings and structures for agriculture</i>
Gymnasiums	Sport England Design Guidance Note: <i>Fitness and Exercise Spaces</i> (2008)
Healthcare buildings: non-surgical	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016) NHS Activity DataBase Health Technical Memorandum (HTM) 03-01 (Department of Health) Health Building Notes (HBN) – various (Department of Health)
Hospitals	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016) NHS Activity DataBase Health Technical Memorandum (HTM) 03-01 (Department of Health) Health Building Notes (HBN) – various (Department of Health)
Hotels	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)


Table 1.1 Continued	
Building/space/activity	Regulations and guidance (also see CIBSE's Guide A and Appendices D and E)
Industrial ventilation	<i>Industrial Ventilation: A Manual of Recommended Practice for Design</i> (American Conference of Government Industrial Hygienists, 2019) <i>Industrial Ventilation: A Manual of Recommended Practice for Operation and Maintenance</i> (American Conference of Government Industrial Hygienists, 2020) HSG 258 <i>Controlling Airborne Contaminants at Work</i> (HSE, 2017)
Museums, libraries and art galleries	BS 4971 <i>Conservation and care of archive and library collections</i> BS EN 16893 <i>Conservation of Cultural Heritage. Specifications for location, construction and modification of buildings or rooms intended for the storage or use of heritage collections</i>
Places of assembly	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Prison cells	PSI 17/2012 <i>Certified Prisoner Accommodation</i> (Ministry of Justice, 2012)
Sanitary accommodation	Same as for offices in paragraph 1.26: sanitary accommodation should have an intermittent air extract rate of both of the following: a. 15 litres per second per shower or bath. b. 6 litres per second per WC pan or urinal. Extract ventilators in sanitary accommodation should be capable of continuous operation if required.
Schools and education	Education (School Premises) Regulations 1999 Building Bulletin 101 <i>Guidelines on Ventilation, Thermal Comfort and Indoor Air Quality in Schools</i> (ESFA, 2018) Building Bulletin 101 can also be used as a guide to the ventilation required in other educational buildings, such as further education establishments, where the accommodation is similar to that in schools, e.g. sixth form accommodation. However, the standards may not be appropriate for particular areas where more hazardous activities take place than are normally found in schools, e.g. some practical and vocational activities that require containment or fume extraction. Building Bulletin 101 can also be used for children's centres and other early years settings, including day nurseries, playgroups, etc.
Shops and general retail premises	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Sports centres and swimming pools	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016) Sport England <i>Sports Halls Design and Layouts: Updated and Combined Guidance</i> (2012)
Supermarkets and food stores	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
Transportation buildings and facilities	CIBSE Guide B2 <i>Ventilation and Ductwork</i> (2016)
NOTE:	
	1. Common spaces are as defined in Appendix A.

Part L – Conservation of fuel & power

Vol 1 – Dwellings

Vol 2 – Buildings other than dwellings

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The Building Regulations 2010

Conservation of fuel and power

APPROVED DOCUMENT


L

Volume 1: Dwellings
Requirement L1: Conservation of fuel and power
Requirement L2: On-site generation of electricity
Regulations: 6, 22, 23, 24, 25, 25A, 25B, 26, 26A, 26C, 27, 27A, 27C, 28, 40, 40A, 43, 44 and 44ZA

2021 edition – for use in England

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Conservation of fuel and power

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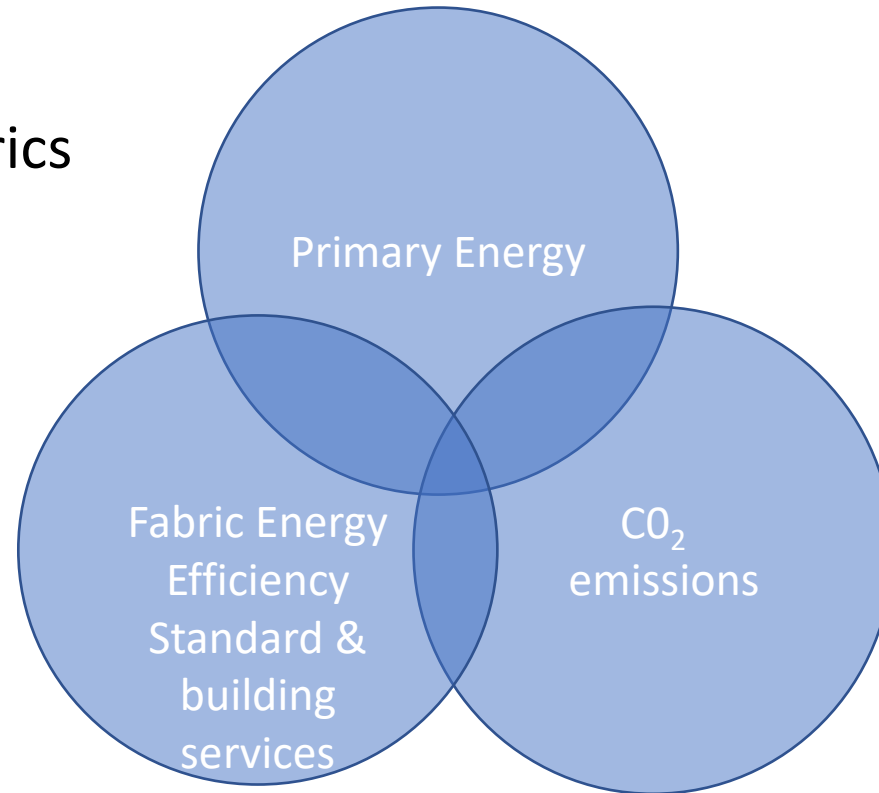
Volume 2: Buildings other than dwellings
Requirement L1: Conservation of fuel and power
Requirement L2: On-site generation of electricity
Regulations: 6, 22, 23, 24, 25, 25A, 25B, 26, 26C, 27, 27C, 28, 40, 40A, 43, 44 and 44ZA

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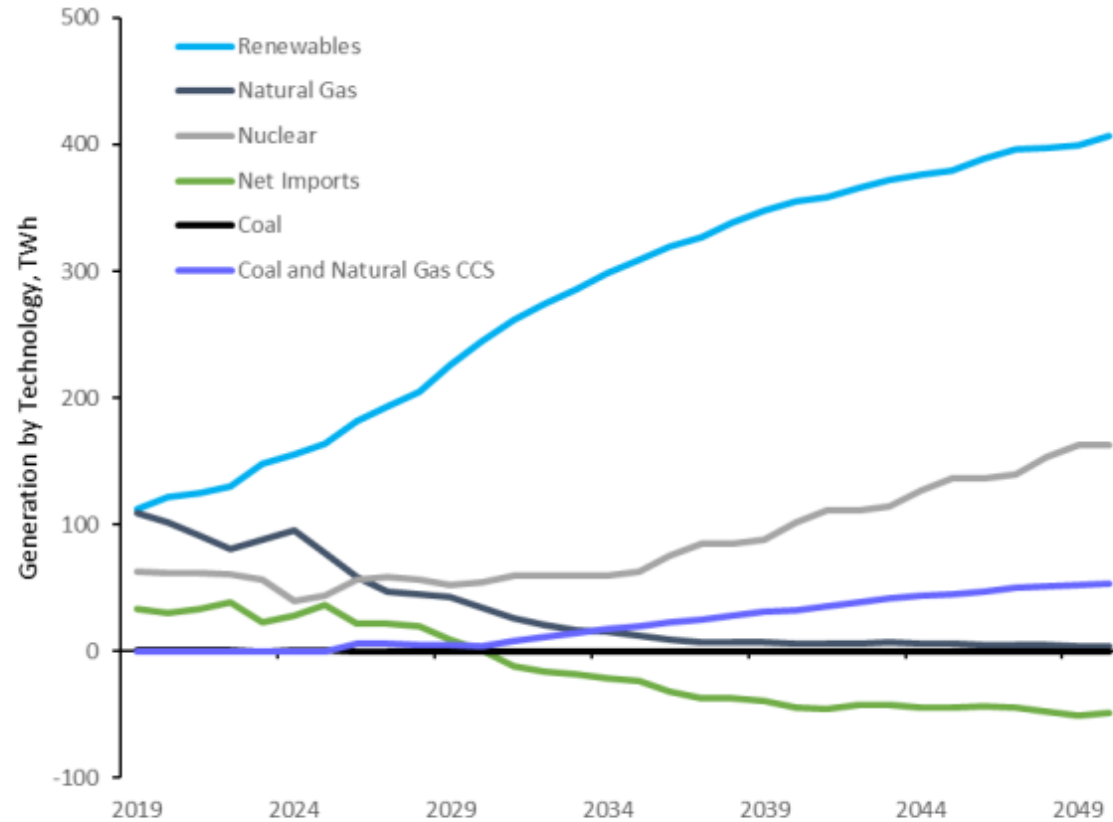
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Part L 2021 – Vol 1 – Dwellings – performance metrics

- 3 performance metrics now



Decarbonising the Electricity Grid



Source:
Updated Energy and
Emissions Projections
2019 - BEIS

Part L Vol 1 – Notional building specifications – new dwellings

	Current 2013 Part L standard	2021 Part L standard	Indicative FHS specification
Floor U value (W/m ² .K)	0.13	0.13	0.11
External wall U-value	0.18	0.18	0.15
Roof U value	0.13	0.11	0.11
Window U value	1.4	1.2	0.8
Door U value	1.0 - opaque 1.2 - semi glazed	1.0	1.0
Air permeability at 50 Pa	5.0m ³ /(h.m ²)	5.0m ³ /(h.m ²)	5.0m ³ /(h.m ²)
Heating appliance	Gas boiler	Gas boiler	Low carbon heating (eg heat pump)
Heat emitter type	Regular radiators	Low temperature heating 55°C	Low temperature heating 55°C
Waste water heat recovery	No	Yes	No

Part L - Vol 1 – Dwellings – Limiting U-values for fabric elements

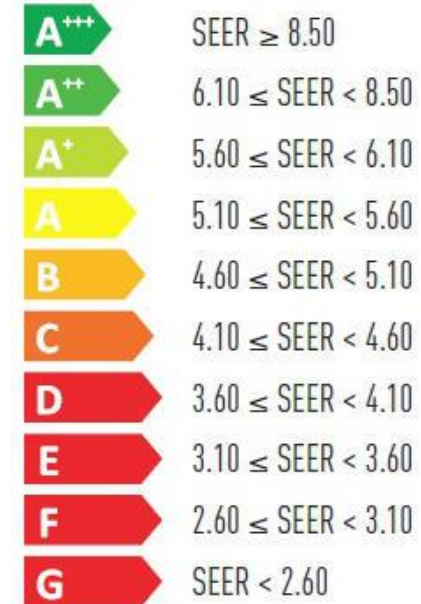
Table 4.1

Element	Current 2013 Part L standard U value (W/m ² .K)	2021 Part L standard U value (W/m ² .K)
External walls	0.30	0.26
Party walls	0.20	0.20
Floor	0.25	0.18
Roof (all types)	0.20	0.16
Windows	2.00	1.6
Rooflights	2.00	2.2 horizontal
Doors	2.00	1.6
Air Permeability	10.0 m ³ /(h.m ²) at 50Pa	8.0 m ³ /(h.m ²) at 50Pa Or Pulse 1.57m ³ /(h-m ²)

Part L Vol 1 — new dwellings – building services

Revisions to minimum building services efficiencies and controls for new dwellings		
Application	Current 2013 standard	2021 standard
Gas boiler efficiency	88% SEDBUK	92% ErP
Heat Pump Efficiency	SCOP 'D' if ≤12kW /COP2.5	COP3.00 for space heating COP 2.00 for domestic hot water
Comfort Cooling Efficiency	EER 2.5 if air cooled EER 2.5 if water cooled	SEER 4.00
Lighting Efficiency	45 lumens per circuit watt	75 lumens per circuit watt

SEER 



SCOP 

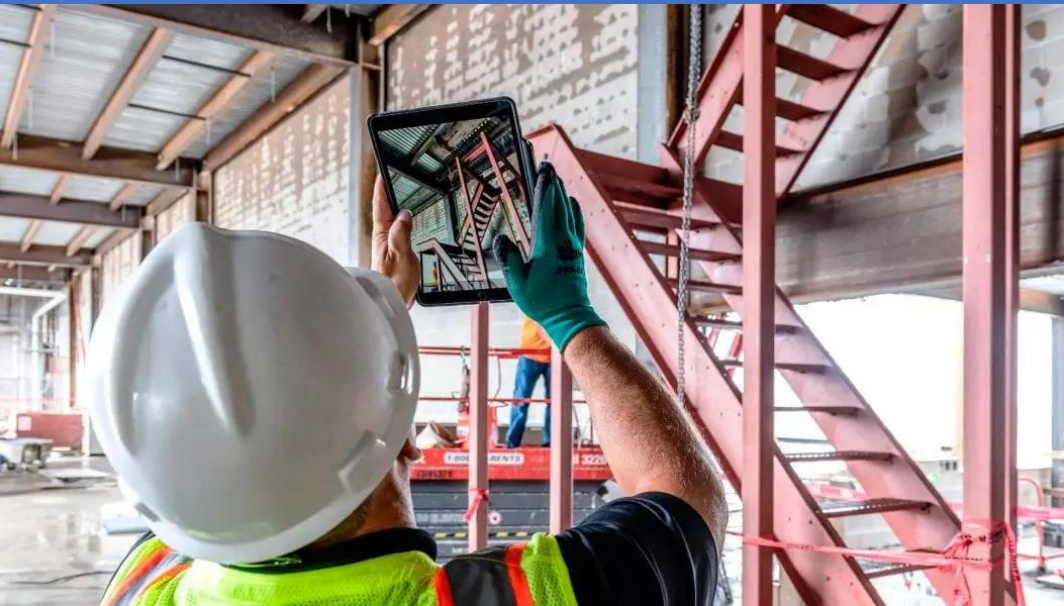


Part L - Vol 1 – Dwellings – airtightness testing

- All new dwellings will be required to be tested – end to sample testing
- This will apply to small sites now as well
- As well as the standard test ‘door blower’ method a new method is introduced – Pulse Testing
- No exemption from testing allowed if using air permeability rate of 15 m³/m²/hr @ 50 Pa.



Part L – Vol 1 - Dwellings - Photographic Evidence (1)



New Requirement

Reporting evidence of compliance – BREL Report – Appendix B – New Dwellings only

Photographic evidence of compliance with Part L should be provided to the new homeowner and the Building Control Body

The SAP 10.2 software will produce the BREL report

Developer/Builder needs to be aware that photographic evidence will be required throughout the build to show compliance with Part L at various specified stages

Photos need to be date/time stamped and geolocated

Part L – Vol 1

- Dwellings -

Photographic Evidence (2)

B8 - Photographs should be digital and of sufficient quality and high enough resolution to allow a qualitative audit of the subject detail.

Close-up photographs may be needed where a long shot image provides insufficient detail. More than one image of each detail may be needed.

Geolocation should be enabled to confirm the location, date and time of each image. Each image file name should include a plot number and detail reference according to the numbers used in paragraph B7.

Part L – Vol 1 - Dwellings - Photographic Evidence (3)

Photos are to show thermal continuity and quality of insulation and air tightness details:-

1. Foundations/substructure and ground floor
2. External walls
3. Roof
4. Openings

Also Details of Building Services:-

1. Plant/equipment identification label(s)
2. Primary pipework continuity of insulation
3. Mechanical ventilation ductwork continuity of insulation (for duct sections outside of thermal envelope eg roof space)

See AD L1 Appendix B

Part L - Vol1 - Dwellings – Home User Guide



For new dwellings, the operating and maintenance instructions should include a Home User Guide.



The Home User Guide should contain non-technical advice on how to operate and maintain the dwelling in a healthy and energy efficient manner.



The guide should contain advice on the following.

- a. Ventilation.
- b. Heating and domestic hot water.
- c. On-site electricity generation (if applicable).
- d. Staying cool in hot weather

Part L – Vol 1 - Existing dwellings

- **There are changes in energy efficiency standards in the following circumstances:**

A new or replacement thermal element being built

e.g. an extension

-

A controlled fitting being replaced

e.g. a window replacement

-

A thermal element being renovated

e.g. loft insulation

-

Building services being replaced or installed for the first time

e.g. fixed lighting

Part L – Vol 1 - Existing dwellings – Minimum standards for new and replacement thermal elements, windows and doors

Element	2013 standards U-values (W/m ² .K)	2021 standards U values (W/m ² .K)
Pitched roof - insulation at ceiling level	0.16	0.15
Pitched roof insulation at rafter level	0.18	0.15
Flat roof or roof with integral insulation	0.18	0.15
Walls	0.28	0.18
Floors	0.22	0.18
Window, roof window	1.6	1.4
Rooflight	1.6	2.2
Doors with >60% of internal face glazed	1.8	1.4
Other doors	1.8	1.4

Part L – Vol 1 - Existing dwellings – Limiting U values for existing elements in existing dwellings – table 4.3

Element	Threshold U value (W/m ² .K)	Improved U value (W/m ² .K)
Roof	0.35	0.16
Wall – cavity insulation	0.70	0.55
Wall – internal or external insulation	0.70	0.30
Floors	0.70	0.25

Part L – Vol 1 - Existing dwellings – building services

Improved efficiency standards for building services such as heating, lighting and hot water.

- Improved cooling systems efficiencies:

- **SEER 4.0**

- Improved heat pump performance:

- **SCOP 3.0** for space heating/**SCOP 2.0** for domestic hot water

- Improved lighting efficacy:

- **75 lamp lumens per circuit-watt**

New standards for building services:

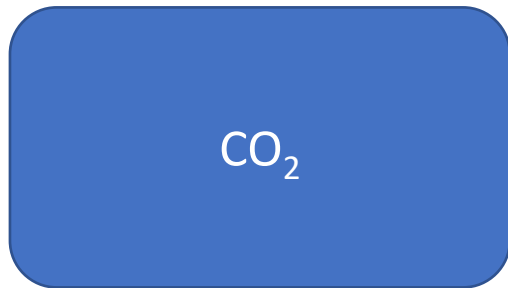
- **Thermostatic room controls** when a heating appliance is replaced.

- **Primary energy** calculation when switching fuel.

- **Low temperature emitters** (radiators or underfloor) designed to run at 55°C installed when central heating system fully replaced

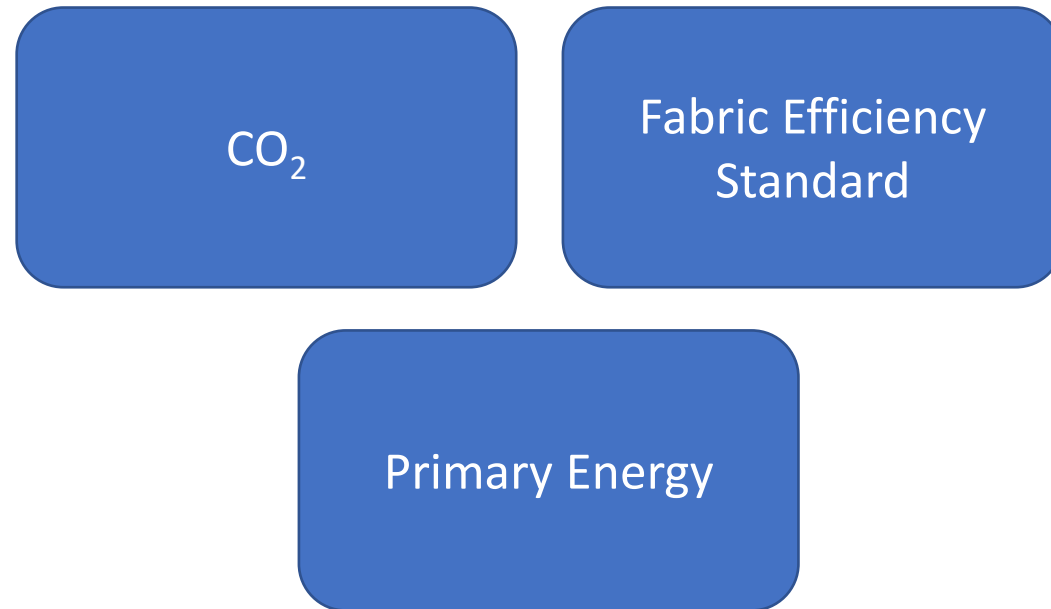
Part L – Vol 1 - Existing dwellings – Alternative compliance for thermal elements in extensions

Previous method



CO₂ produced must be no more than that from the dwelling plus a notional sized extension of the same size

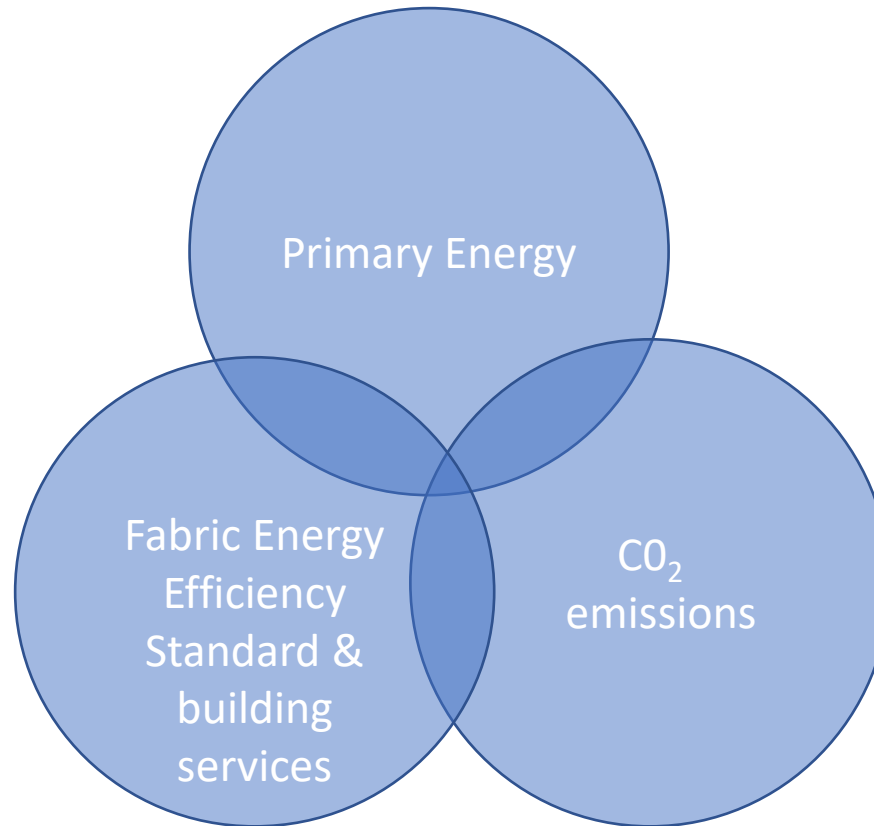
New method



Prevents extensions being built with poor fabric values & a heat pump

Part L – Vol 2 – Buildings other than dwellings

27% average decrease in
CO₂ produced



3 performance
metrics now

Part L – Vol 2 – Buildings other than dwellings

To achieve compliance the actual building needs to match or better the CO₂ and Primary Energy performance of the 'Notional Building' which sets a target.

The Notional Building is the same size and shape as the actual building, but with certain pre-defined characteristics.

Calculations undertaken using Simplified Building Energy Model (**SBEM**) or an approved Dynamic Simulation Model (**DSM**)

Part L – Vol 2 – Buildings other than dwellings – Notional building U values

National Calculation Methodology guide 2021 (table 1)

Construction elements U value for Notional building – sample from NCM Guide		
Element	U value (W/m ² .K)	
	Side lit and unlit activities	Top lit activities
Roofs	0.15	0.18
Exposed walls	0.18	0.26
Exposed floors and ground floors	0.15	0.22
Windows & glazed doors	1.4	-
Rooflights	-	2.1

Part L – Vol 2 – Buildings other than dwellings – elemental U values

Element	2013 U values U value (W/m ² .K)	2021 U values U value (W/m ² .K)
Pitched roof	0.25	0.16
Flat roof with integral insulation	0.25	0.18
Walls	0.35	0.26
Floors	0.25	0.18
Windows	2.2	1.6
Rooflight	2.2	2.2
Pedestrian doors	2.2	1.6
High usage entrance doors	3.5	3.0
Vehicle access and similar large doors	1.5	1.3
Roof ventilators	3.5	3.0
Air Permeability	10 m ³ / (h.m ²) @50Pa	8 m ³ / (h.m ²) @50Pa

Part L – Vol 2 – Buildings other than dwellings – other changes

Other changes to notional building include:

- Changes to lighting to bring in to line with modern standards (e.g. 95 luminaire lumens per circuit-watt for general lighting)
- Different specifications for high and low hot water demand buildings.
- Connections to existing heat networks incentivised, and new target for new heat networks.
- Numerous other changes including to glazing specification, heat recovery efficiency and performance of cooling systems.

Part L – Vol 2 – Buildings other than dwellings - exemptions

Exemptions

The following classes of buildings or parts of buildings other than dwellings are exempt from the energy efficiency requirements.

- a. **Places of worship** – buildings or parts of a building that are used primarily or solely for formal public worship, plus adjoining spaces the function of which is directly linked to that use (e.g. a vestry in a church).

NOTE: Parts of the building that are designed to be used separately, such as offices, catering facilities, day centres, meeting halls and accommodation, are not exempt from the energy efficiency requirements.

- b. **Temporary buildings** with a total planned time of use of two years or less.
- c. **Buildings with low energy demand** which are industrial sites, workshops or non-residential agricultural buildings.

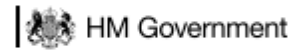
NOTE: Portable or modular buildings with a planned service life of longer than two years, whether on one or more sites, are not exempt. See paragraphs 2.11 to 2.19.

- d. **New and existing stand-alone buildings other than dwellings, with a total useful floor area of less than 50m².**
- e. Carports, covered yards, covered ways and some conservatories and porches (see paragraphs 0.18 to 0.19).

Part O Overheating



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Overheating

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Requirement O1: Overheating mitigation

Regulations: 40B

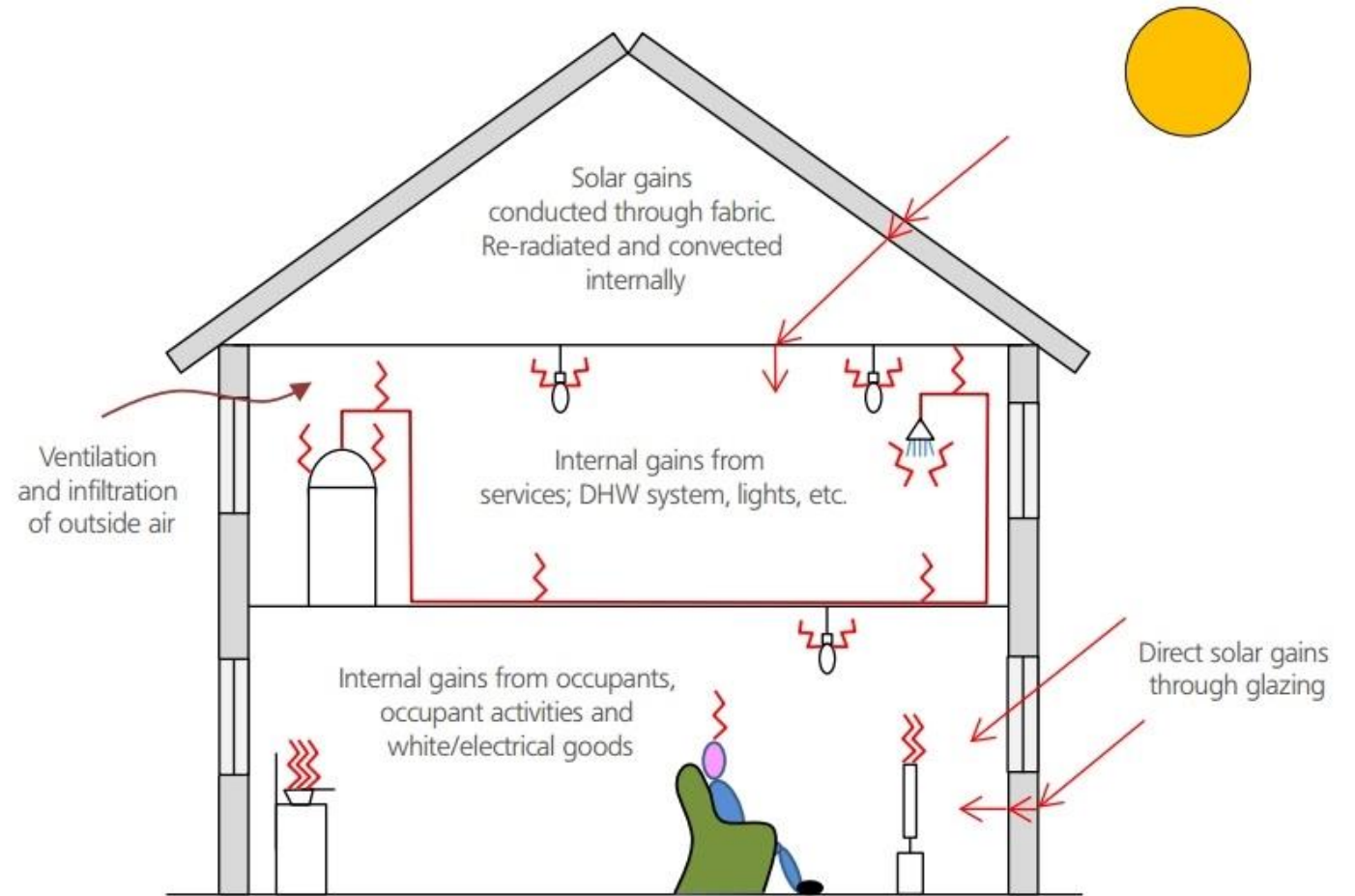
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Part O - Overheating

- Overheating is a risk for new homes that can affect the health and welfare of occupants, particularly during hot weather
- In the 2003 hot spell we had over 10 days of extreme heat there were 35,000 additional deaths in France and 5,500 in the UK
- The UK has one of the highest rates of chronic respiratory health which costs the country billions
- DLUHC undertook research into overheating in new homes recently and all 8 tested properties failed the CIBSE TM59 criteria
- Overheating problem likely to get worse due to climate change



Part O – Overheating - Requirement

O1 Overheating mitigation

(1) Reasonable provision must be made in respect of a dwelling, institution or any other building containing one or more rooms for residential purposes, other than a room in a hotel (“residences”) to—

(a) limit unwanted solar gains in summer;

(b) provide an adequate means to remove heat from the indoor environment.

(2) In meeting the obligations in paragraph (1)—

(a) account must be taken of the safety of any occupant, and their reasonable enjoyment of the residence; and

(b) mechanical cooling may only be used where insufficient heat is capable of being removed from the indoor environment without it.

Part O – Overheating - Scope

Residential buildings within the scope of Approved Document O - Table 0.1	
Title	Purpose for which the building is intended to be used
Residential (dwellings)	Dwellings, which includes both dwellinghouses and flats
Residential (institutional)	Home, school or other similar establishment, where people sleep on the premises. The building may be living accommodation for the care and maintenance of any of the following. <ul style="list-style-type: none"> a. Older and disabled people, due to illness or other physical or mental condition. b. People under the age of 5 years.
Residential (other)	Residential college, hall of residence and other student accommodation, and living accommodation for children aged 5 years and older.

Part O - Overheating - Methods of Compliance

Simplified Method	Dynamic Method
<ul style="list-style-type: none">• Dependent on a combination of cross-ventilation and geographical location:<ul style="list-style-type: none">• Buildings in London are more likely to overheat• Single aspect flats are more likely to overheat• Includes shading and ventilation	<ul style="list-style-type: none">• Uses CIBSE TM59• Uses the following to calculate overheating risk:<ul style="list-style-type: none">• Location• Materials' properties• Orientation• Air change rates• Occupancy scenario• A more flexible method

Compliance checklists in AD

Part O – Overheating - Simplified Method

Location dependant:

England is split into 2 areas

1. Greater London – high risk
2. Everywhere else – moderate risk



Two Requirements:

1. Limit solar gains

Limits on glazed areas as percentage of floor area, dependant on orientation and whether building has cross ventilation

In high risk areas additional shading is required to southerly facing windows from North East through to North West

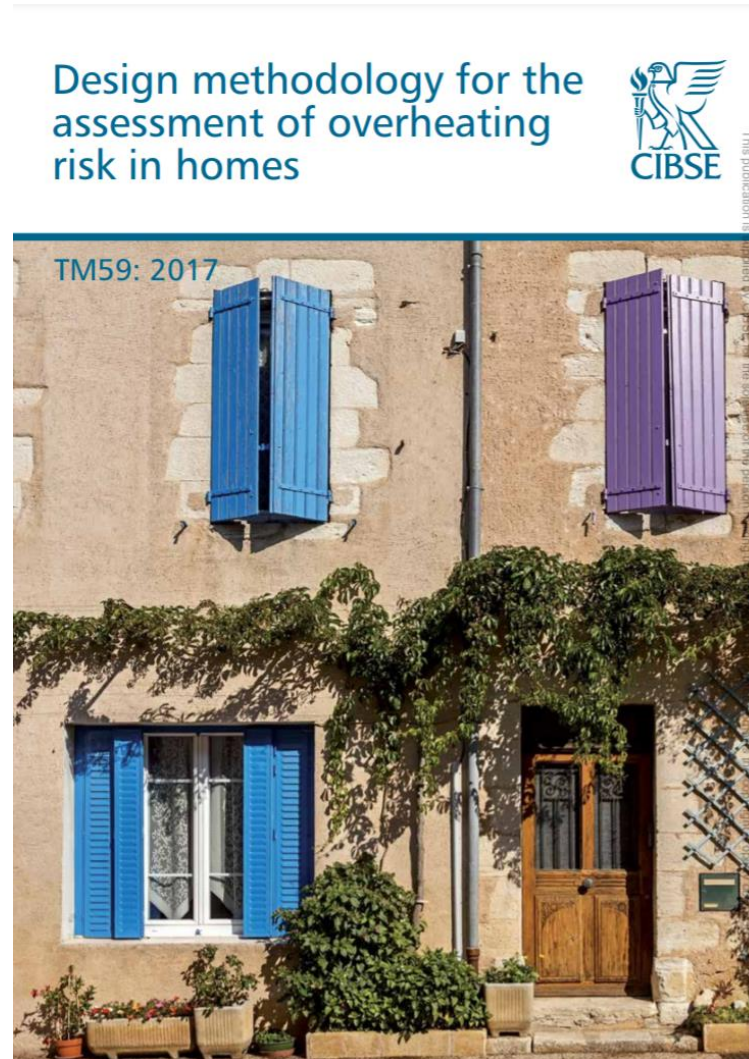
2. Remove excess heat

Minimum size of openings as a percentage of the floor area and glazed area of rooms – it is likely these will be in excess of Part F requirements

Part O – Overheating – Dynamic Method

CIBSE TM59

Offers a more flexible solution than the simplified method



Part O – Overheating – Dynamic Method

Limiting solar gains

Solar gains can be limited through:

- Fixed shading devices
- Glazing design
- Building design
- Shade of adjacent permanent buildings, structures or landscape

Not included:

- Internal curtains and blinds
- Tree/foilage shading

Removing excess heat

Excess heat can be removed through:

- Opening windows
 - Ventilation louvres in external walls
 - A mechanical ventilation system
-
- Mechanical cooling can be included once other methods have been exhausted.

Part O – Overheating

Issues that need to be taken into consideration

- Noise
- Pollution
- Security
- Protection from falling
- Protection from entrapment

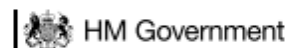
Information on overheating mitigation strategy to be provided to building owner



Part S – Infrastructure for the charging of electric vehicles



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The Building Regulations 2010

Infrastructure for
the charging of
electric vehicles

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S

Requirement S1: The erection of new residential buildings

Requirement S2: Dwellings resulting from a material change of use

Requirement S3: Residential buildings undergoing major renovation

Requirement S4: Erection of new buildings which are not residential buildings or mixed-use buildings

Requirement S5: Buildings undergoing major renovation work which are not residential buildings or mixed-use buildings

Requirement S6: The erection of new mixed-use buildings and mixed-use buildings undergoing major renovation

Regulations: 44D, 44E, 44F, 44G, 44H, 44I, 44J

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Part S –
Infrastructure
for the charging
of electric
vehicles

Approved document section	Related Building Regulations requirements
Section 0: Introduction	n/a
Section 1: New residential buildings	Requirement S1 of Schedule 1 and regulation 44D
Section 2: Material change of use and major renovations for residential buildings	Requirements S2 and S3 of Schedule 1 and regulations 44E and 44F
Section 3: New buildings other than residential or mixed-use buildings	Requirement S4 of Schedule 1 and regulation 44G
Section 4: Major renovations of buildings which are not residential or mixed-use buildings	Requirement S5 of Schedule 1 and regulation 44H
Section 5: Mixed-use buildings	Requirement S6 of Schedule 1 and regulation 44I
Section 6: Standards for electric vehicle charge points and cable routes	Regulation 44J
Appendix A: Key terms	n/a
Appendix B: Standards referred to	n/a
Appendix C: Documents referred to	n/a

Requirement S1

The erection of new residential buildings

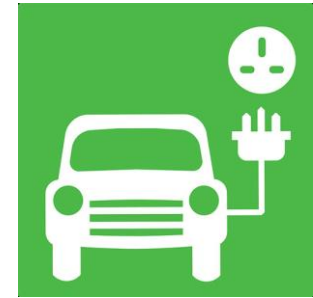
- (1) A new residential building with associated parking must have access to electric vehicle charge points as provided for in paragraph (2).
- (2) The number of associated parking spaces which have access to electric vehicle charge points must be—
 - (a) the total number of associated parking spaces, where there are fewer associated parking spaces than there are dwellings contained in the residential building; or
 - (b) the number of associated parking spaces that is equal to the total number of dwellings contained in the residential building, where there are the same number of associated parking spaces as, or more associated parking spaces than, there are dwellings.
- (3) Cable routes for electric vehicle charge points must be installed in any associated parking spaces which do not, in accordance with paragraph (2), have an electric vehicle charge point where—
 - (a) a new residential building has more than 10 associated parking spaces; and
 - (b) there are more associated parking spaces than there are dwellings contained in the residential building.

New dwellings

1.1 Where associated parking spaces are provided for a new residential building, the number of **associated parking spaces** that have access to an electric vehicle charge point must be a minimum of either of the following.

- a. The number of associated parking spaces.
- b. The number of dwellings that the car park serves

NOTE: Where no associated parking spaces are provided, there is no requirement to install an electric vehicle charge point.



Associated parking space

Any parking space that is available within the site boundary of the building, for the use by the occupant of, or a visitor to, a dwelling in the building, including any parking space which is for the use of any occupant of, or any visitor to, any dwelling in a building containing more than one dwelling.

Application of paragraph S1 of Schedule 1 (the erection of new residential buildings) Reg 44D.

The £3600 cap

Part 1

(1) The requirements of paragraph S1 of Schedule 1 apply in relation to the erection of a new residential building with associated parking as follows.

(2) The number of electric vehicle charge points that must be installed is the maximum number of electric vehicle charge points that it is possible to install at an average sum of **£3600** or less for the connection cost of each electric vehicle charge point connection ("**the £3600 cap**").

(3) If it is not possible to completely fulfil the requirements of paragraph S1(2) of Schedule 1 as a result of the operation of the **£3600 cap**, cable routes for electric vehicle charge points must be installed in the associated parking spaces that would otherwise be required to have electric vehicle charge points, but for the operation of the £3600 cap.

SIMPLY PUT...

Simply put

- 1.5 The **connection cost** for installing an electric vehicle charge point is the extra cost of the incoming electrical supply per electric vehicle charge point connection compared to the cost without electric vehicle charge points.


- Definition: 'Connection cost'

The cost of upgrades needed to the electricity system in order to accommodate a charge point, excluding the cost of any building work or the cost of the charge point itself.

- NOTE: For the purposes of this approved document, the connection cost should exclude VAT.

The £3600 cap

1.6 Where the connection cost is greater than £3600 per electric vehicle charge point connection, the maximum number of electric vehicle charge points should be installed before the extra grid connection costs exceed £3600 per electric vehicle charge point connection.



On a site where multiple new dwellings are planned (for example, where they are within the same notice/plans) an average connection cost may be used.

Connection cost

1.7 To show that the connection cost is greater than £3600 at least **two formal quotes** should be given to the building control body during the notice/plans stage as follows.

- At least one quote should be from a distribution network operator.
- Quotes should clearly show all of the following.
 - The total connection costs for electrical infrastructure without electric vehicle charge points for all dwellings, as an average cost per dwelling.
 - The total connection costs with electric vehicle charge points for all dwellings, as an average cost per dwelling.
 - The average additional connection costs per electric vehicle charge point per dwelling if electric vehicle charge points are installed for all dwellings with associated parking spaces.
 - The maximum number of electric vehicle charge points that can be installed before the extra grid connections costs exceed £3600 per charge point per dwelling.

Then it all gets a bit..



- **Application of paragraph S1 of Schedule 1 (the erection of new residential buildings) Reg 44D Covered Spaces**

Part 2

- (4) Where the new residential building has, or will have, associated parking that is situated within a covered car park—
- (a) if there are or will be any associated parking spaces situated in a position other than in a covered car park—
 - (i) the requirements of paragraph S1 of Schedule 1 must first be applied in relation to those parking spaces; then
 - (ii) if the number of associated parking spaces, which are situated in a position other than in a covered car park, is insufficient to completely fulfil the requirements of paragraph S1(2) of Schedule 1, cable routes for electric vehicle charge points must be installed in—
 - (aa) the number of parking spaces in the covered car park which, when added to the number of associated parking spaces which are situated in a position other than in the covered car park, corresponds to the total number of dwellings with associated parking, where the total number of associated parking spaces is 10 or less;
 - (bb) all the associated parking spaces in the covered car park, where the total number of associated parking spaces is both less than the number of dwellings with associated parking and 10 or less; and
 - (cc) all the associated parking spaces in the covered car park, where the total number of associated parking spaces is more than 10;

SIMPLY PUT...

Simply put

If the new residential building has some parking spaces in a covered car park, any outside spaces need to be dealt with first
– then deal with covered parking spaces
– **with caveats**



Definition: **Associated parking space**



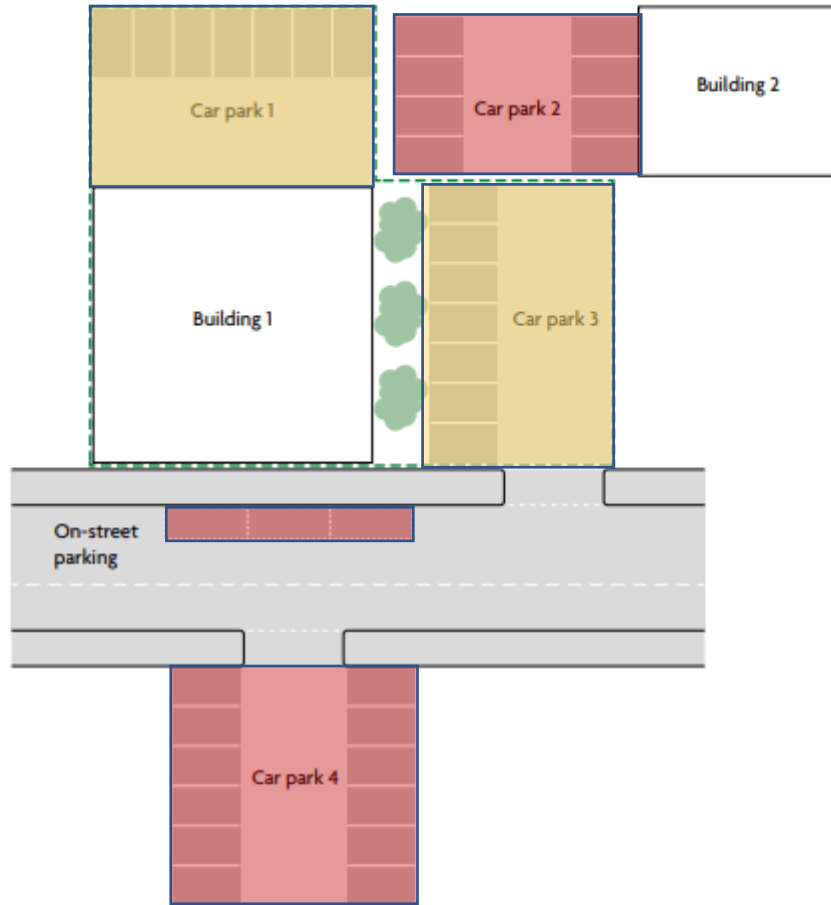
Any parking space that is available within the site boundary of the building, for the use by the occupant of, or a visitor to, a dwelling in the building, including any parking space which is for the use of any occupant of, or any visitor to, any dwelling in a building containing more than one dwelling.



NOTES:

1. Parking space 1, despite being separated from dwelling 1 by a garden, is within the site boundary and contains a parking space associated with dwelling 1.
2. Parking space 2 is within the site boundary of dwelling 1 and contains a parking space associated with dwelling 1.
3. Parking space 3 is outside the site boundary of dwelling 1. In this example, parking space 3 is separated from dwelling 1 by a public highway or a road that does not belong to the owners of dwelling 1.
4. Garage/Car port 1 is within the site boundary of dwelling 1, despite being separated from the building by a garden; therefore, parking space within the garage/car port is associated with dwelling 1. Note that some garages do not contain parking spaces (for example, if a car cannot reasonably be expected to be parked inside the garage).
5. Parking space 4 is outside the site boundary of dwelling 1. Parking space 4 is on land that belongs to the owners of dwelling 2.

- - - Site boundary for building 1
- Vegetation/landscaping



NOTES:

1. Car park 1 is within the site boundary for building 1 and contains parking spaces associated with building 1.
2. Car park 2 is outside the site boundary, and the parking spaces do not therefore need to be considered. The car park may be associated with a different building or under different ownership to building 1.
3. Car park 3, despite being separated from building 1 by vegetation/landscaping, is within the site boundary. If the parking spaces are for the use of the occupants/users of building 1, they are therefore associated with building 1.
4. Car park 4 is outside the site boundary of building 1. In this example, the car park is separated from the building by a public highway or a road under different ownership to that of the building.
5. The on-street parking is outside the site boundary of the building. In this example, the parking spaces are on a public highway or a road that does not belong to the owners of the building.
6. Car park 1 and car park 3 each contain seven parking spaces. The new building therefore has 14 associated parking spaces. The requirements for buildings with a minimum of 11 associated parking spaces apply.

NOTES:

1. **Car park 1** is within the site boundary for building 1 and contains parking spaces associated with building 1.
2. **Car park 2** is outside the site boundary, and the parking spaces do not therefore need to be considered. The car park may be associated with a different building or under different ownership to building 1.
3. **Car park 3**, despite being separated from building 1 by vegetation/landscaping, is within the site boundary. If the parking spaces are for the use of the occupants/users of building 1, they are therefore associated with building 1.
4. **Car park 4** is outside the site boundary of building 1. In this example, the car park is separated from the building by a public highway or a road under different ownership to that of the building.
5. The **on-street parking** is outside the site boundary of the building. In this example, the parking spaces are on a public highway or a road that does not belong to the owners of the building.
6. **Car park 1** and **car park 3** each contain seven parking spaces. The new building therefore has 14 associated parking spaces. The requirements for buildings with a minimum of 11 associated parking spaces apply.

Requirement S2 Dwellings resulting from a material change of use

- a. Where dwellings are created through or result from a material change of use of the type described in paragraph 2.1, electric vehicle charge points and cable routes are installed following the guidance in paragraphs 2.7 to 2.9 and for covered car parks in paragraphs 2.16 and 2.17.
- b. For historic and traditional buildings, the guidance in paragraphs 2.3 to 2.6 needs to be followed.

Requirement S3 Residential buildings undergoing major renovation work

- a. Where a residential building undergoes a major renovation of the type described in paragraph 2.10, electric vehicle charge points and cable routes are installed following the guidance in paragraphs 2.13 to 2.15 and for covered car parks in paragraphs 2.16 and 2.17.
- *Major renovation - The renovation of a building where more than 25% of the surface area of the building envelope undergoes renovation.
- NOTE: The surface area of the whole building must be included when assessing whether the works constitute a major renovation, even if the building is mixed use.

Requirement S3 Residential buildings undergoing major renovation work

Major renovations of residential buildings

2.11 For a residential building where **all** of the following apply, electric vehicle charge points should be provided for the associated parking spaces.

- a. Major renovation work is being done.
- b. The main purpose of the major renovation work is not to improve the fire safety of the walls or roof of the building.
- c. When work is complete, there will be more than 10 associated parking spaces for the use of the dwellings.
- d. Renovation work includes any of the following works carried out within the site boundary of the building.
 - i. Substantial work to the car park, such as resurfacing.
 - ii. Work to the electrical infrastructure of the car park.
 - iii. Work to the electrical infrastructure of the building, where the car park is located within the building.

Requirement S3 Residential buildings undergoing major renovation work

Application of major renovation requirements for residential buildings

2.13 For a residential building undergoing a major renovation, the requirement to install electric vehicle charge points only applies for associated parking spaces where **all** of the following apply.

- a. The electrical power supply to the building or car park prior to installation is sufficient for electric vehicle charge points to be installed. If the electrical power supply is insufficient, follow paragraph 2.8.
- b. The cost of installing electric vehicle charge points and cable routes is not more than 7% of the total capital cost of the major renovation.
- c. Where the cost of installing electric vehicle charge points and cable routes is more than 7% of the total cost of the major renovation, requirement S3 can be met by installing only cable routes in all associated parking spaces
- d. Where the cost of installing only cable routes is more than 7% of the total cost of the major
- e. The associated parking space is not within a covered car park

Requirement S4 New buildings other than residential or mixed-use buildings

...requirement S4 and regulation 44G will be met if building work complies with the following.

- a. For new buildings other than residential or mixed-use buildings with more than 10 parking spaces, both of the following are provided.
 - i. At least one electric vehicle charge point, as set out in paragraphs 3.1 to 3.4.
 - ii. Cable routes for at least one in every five parking spaces, as set out in paragraphs 3.1 to 3.4

Requirement S5
Buildings other
than residential
buildings
undergoing
major renovation
work

... requirement S5 and regulation 44H will be met if building work complies with the following.

- a. For major renovations to buildings other than dwellings with more than 10 parking spaces, both of the following are provided.
 - i. One electric vehicle charge point, as described in paragraphs 4.1 to 4.6.
 - ii. Cable routes for at least one in every five remaining parking spaces, as described in paragraphs 4.1 to 4.6.

Requirement S6 Mixed-use buildings

.... requirement S6 and regulation 44I will be met if building work complies with the following.

- a. For new mixed-use buildings.
 - i. Requirement S1 and regulation 44D are followed (paragraphs 1.1 to 1.7) relating to parts of the premises that include new dwellings.
 - ii. Requirement S4 and regulation 44G are followed (paragraphs 3.1 to 3.4) relating to parts of the premises that are not dwellings.
- b. For mixed-use buildings undergoing major renovation work.
 - i. Requirement S3 and regulation 44F are followed (paragraphs 2.10 to 2.15) relating to parts of the premises that include dwellings.
 - ii. Requirement S5 and regulation 44H are followed (paragraphs 4.1 to 4.6) relating to parts of the premises that are not dwellings.



Requirement S6 Mixed-use buildings

For example, if a new building is constructed which has retail space on the ground floor and dwellings on the floors above, then the requirements would apply as follows

- a. Requirement S1 would apply to the dwellings and the parts of the building provided solely for the dwellings, such as corridors and lobbies.
- b. Requirement S4 would apply to parts of the building provided solely for the retail space.

Where relevant work is undertaken on a mixed-use building, it should be determined which parking spaces are associated parking spaces for the use of occupants of the dwellings, and which parking spaces are for use by users of the non-residential function of the building. **If in doubt, the requirements for residential buildings should apply.**

Section 6 Minimum standards of an electric vehicle charge point



Regulation 44J:

- (1) For the purposes of this Part and Part S of Schedule 1, an electric vehicle charge point must meet the following minimum standards.
- (2) It must be capable of providing a reasonable power output for each parking space for which it is intended to be used.
- (3) It must be run on a dedicated circuit.
- (4) It must be compatible with all vehicles which may require access to it.

Interpretation of this Part and Part S of Schedule 1 “cable route” means a safe, unobstructed route from the power supply to the envisaged electric vehicle charge point location, for electrical cabling to be installed in the future.

Manual to the Building Regulations



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A code of practice for use in England



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Appendix I Key terms

Appendix II References



Building Safety Bill - update

- Due to become an Act very soon – within weeks
- A raft of secondary legislation will follow
- Will introduce a new regulator, the Building Safety Regulator (BSR) for in-scope buildings (HRBs)
 - These are residential buildings 7 storeys or more or over 18m high containing at least two dwellings/rooms for residential purposes or hospital and care homes
- Duty holder choice will be removed for building work on HRBs – the building regulation application will have to be made to the BSR who will consult with the local authority building control team in that area re plan vetting and site inspections
- Many more duties required on owners of HRBs, particularly regarding fire safety

Thank you