HARWOOD
BUILDING CONTROL

S.E.A
Building Compliance Ltd

OUR GUIDE TO THE LATEST BUILDING REGULATION CHANGES

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TRANSITIONAL ARRANGEMENTS

The new requirements came into effect on 15th June 2022 in England.

Where an application is registered before that date, the work can proceed to the previous requirements, provided that work commences before 15th June 2023.

This arrangement applies per plot and not per application, so large sites may have to have specifications changed for any plots not commenced by 15th June 2023.

This would equally apply to any plots on applications already submitted, if not commenced.

Before...

Transitional arrangements applied site-wide

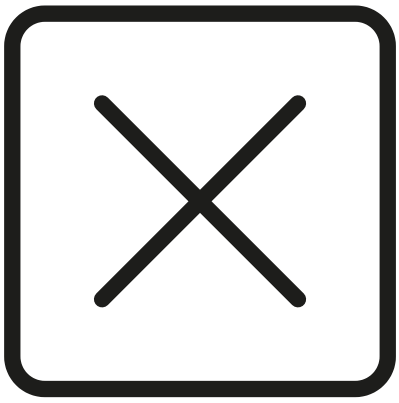
After...

Transitional arrangements apply to individual homes

What constitutes a site start:

- 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.

What does NOT constitute a site start:

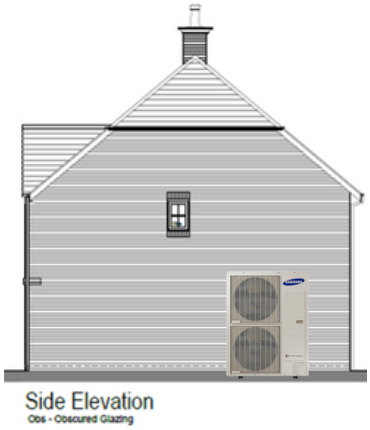


- Planning application
- Removal of vegetation
- Demolition of any previous buildings on the site
- Removal of top soil
- Removal or treatment of contaminated soil
- Excavation of trial holes
- Dynamic compaction
- General site servicing works (e.g. roadways)

PART L – WHAT CAN WE BUILD NOW?

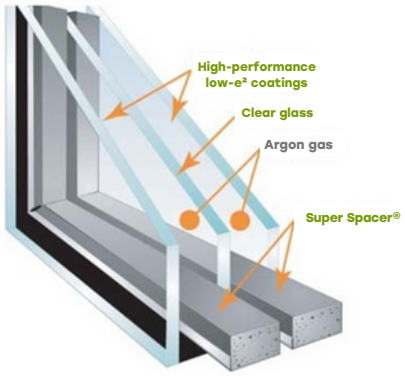
Part L 2021

New Notional Building



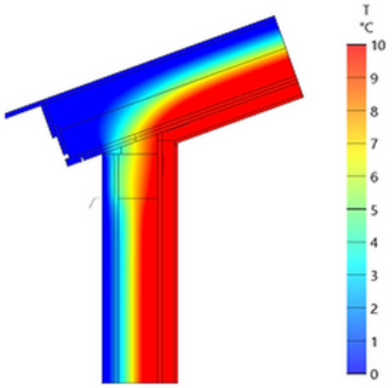
Air Source Heat Pump

Photovoltaics (PV) Panels



Triple glazing

New Part 'O'
Overheating



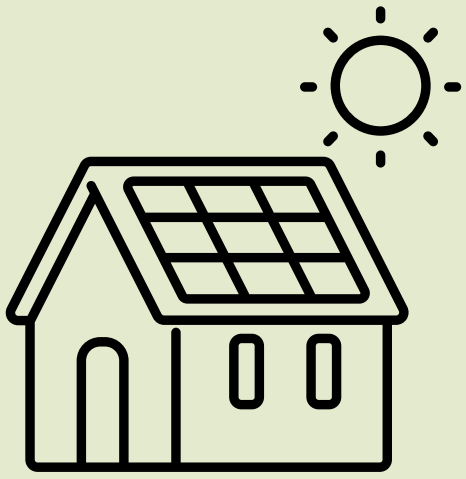
Thermal Bridging

PART L 2021 NEW FABRIC STANDARDS

Fabric Element	Current Part L1a –SAP 2012	SAP 2021 / SAP 10
10Floors0.13W	0.13W/m²K	0.13W/m²K
Walls	0.18W/m²K	0.18W/m²K
Roofs	0.13W/m²K	↓ 0.11W/m²K
Party Walls	0.0W/m²K	0.0/m²K
Glazing	1.4W/m²K	↓ 1.2W/m²K
Rooflights	N/A	1.7W/m²K
Roof Windows	1.4W/m²K	↓ 1.2W/m²K
Entrance doors	1.0W/m²K	1.0W/m²K
Semi Glazed Doors	1.2W/m²K	↓ 1.0W/m²K
Airtightness	5.0m³/(h.m²)	5.0m³/(h.m²)

Photovoltaic (PV) panels added in the Part L 2021

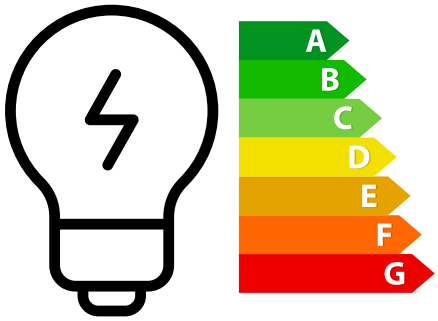
- Houses kWp= 40% of ground floor area, including unheated spaces / 6.5
- Flats and maisonettes kWp= 40% of dwelling floor area / (6.5 x number of storeys in block)
- Roof orientation
- Internal space

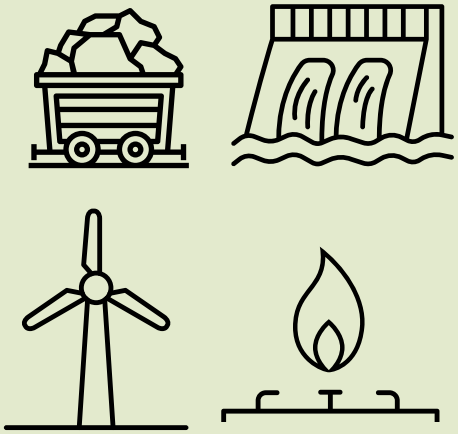


KEY CHANGES IN PART L 2021

Fixed lighting requirements

- Fixed lighting capacity (lm) = 185 x TFA
- Efficacy of all fixed lighting = 80 lm/W





Primary Energy new to Part L

Primary Energy

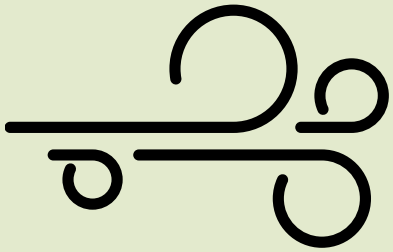
- Heating,
- Water heating
- Ventilation
- Lighting

The Target Primary Energy Rate (TPER) is defined in kWhPE/m2/year, and is the maximum allowable primary energy usage by the dwelling.

Wastewater Heat Recovery (WWHR) is new to Part L

Showers & WWHR - Waste Water Recovery

- Shower Flow Rate
- No. Of baths & Showers



New air testing requirements

- Sampling has been removed
- ALL dwellings to be Air Tested

Thermal Junctions in Part L 2021

- Calculated PSI values required
- Approved details removed
- Lower targets to meet for all thermal junctions
- New evidence requirements

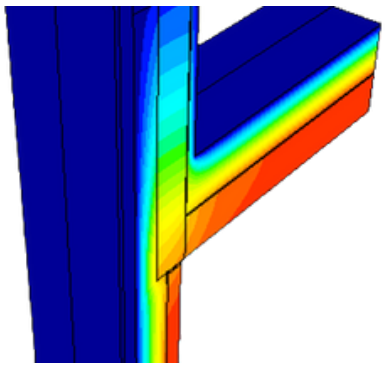


Table R2: Reference values of psi for junctions (England)

	Ref	Junction detail	Ψ (W/m.K)	
			Option1	Option2
Junctions with an external wall	E1	Steel lintel with perforated steel base plate	0.04	0.05
	E2	Other lintels (including other steel lintels)	0.04	0.05
	E3	Sill	0.03	0.05
	E4	Jamb	0.03	0.05
	E5	Ground floor (normal)	0.06	0.16
	E19	Ground floor (inverted)	0.07	0.07
	E20	Exposed floor (normal)	0.11	0.32
	E21	Exposed floor (inverted)	0.11	0.32
	E22	Basement floor	0.07	0.07
	E6	Intermediate floor within a dwelling	0.01	0
	E7	Party floor between dwellings (in blocks of flats) [a]	0.06	0.07
	E8	Balcony within a dwelling, wall insulation continuous [b]	0	0
	E9	Balcony between dwellings, wall insulation continuous [b] [c]	0.06	0.02
	E23	Balcony within or between dwellings, balcony support penetrates wall insulation	0.04	0.02
	E10	Eaves (insulation at ceiling level)	0.04	0.06
	E24	Eaves (insulation at ceiling level - inverted)	0.04	0.24
	E11	Eaves (insulation at rafter level)	0.04	0.04
	E12	Gable (insulation at ceiling level)	0.08	0.06
	E13	Gable (insulation at rafter level)	0.07	0.08
	E14	Flat roof	0.05	0.08
	E15	Flat roof with parapet	0.1	0.56
	E16	Corner (normal)	0.04	0.09
	E17	Corner (inverted – internal area greater than external area)	-0.03	-0.09
	E18	Party wall between dwellings [c]	0.05	0.06
	E25	Staggered party wall between dwellings [c]	0.05	0.06

Part L1b - Extensions

Thermal element	Value for applications submitted <15th June	Value for applications submitted >14th June
External wall	0.28	0.18
Floor	0.22	0.18
Roof	0.16-0.18	0.15
Windows (including roof windows and curtain walling)	1.6	1.4
Timber windows	N/A	1.6
External doors >60% glazed	1.8 (Band E)	1.4 (Band C)
Other external doors	1.8 (Band E)	1.4 (Band B)
External fire doors	N/A	1.8
Roof light and any kerb/upstand	1.6	2.2
Rooflight upstand built on site	N/A	0.35

External walls	Masonry, assuming inner leaf lightweight blocks maximum 0.15 conductivity and plasterboard on dabs internal finish
PIR (0.02 conductivity)	100mm + 50 mm residual cavity
Mineral wool batts (0.032 conductivity)	150mm or 100mm with 52.5 insulated plasterboard
Mineral wool batts (0.37 conductivity)	150mm with 10mm PIR internally

External Walls	Timber Frame, with any external finish with a 12.5mm plasterboard internal finish and 100mm studs
PIR (0.02 conductivity)	100mm between and 50mm over
Mineral wool (0.032 conductivity)	100mm between and 60mm PIR over

Part L photographic evidence and air testing

1A Ground floor perimeter edge insulation
1B External door threshold
1C Below damp-proof course on external walls
2A External walls ground floor to wall junction
2B External walls structural penetrating elements
3A Roof joist/rafter level
3B Roof eaves and gables edges
4A Window positioning
4B External doorset positioning
5 Airtightness
6A Plant/equipment identification label (s)
6B Primary pipework
6C Mechanical ventilation ductwork

For every plot on site

Who will be checking this?

Building Control or SAP assessor

Photos must be geotagged and dated – could be many per site

Must be taken during construction – cannot be an afterthought

PART B – WHAT CAN WE BUILD NOW?

Apartment block

24 units with commercial below

Part B change to Regulations and combustible insulation

- 175mm + 100mm between studs
- 175mm + 100mm between studs

PART O

New Part O came into force in June 2022 alongside the new Part L, F and S.

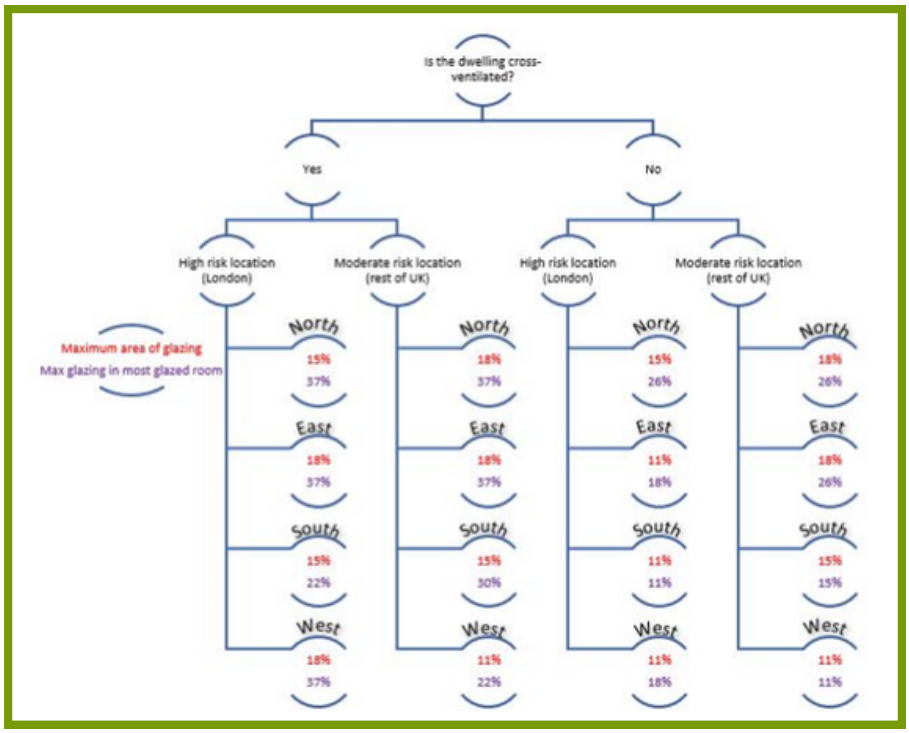
This applies to residential dwellings, institutions, student accommodation.

Option 1
Simplified method

Option 2
Dynamic thermal modelling

- Limit unwanted solar gains in the summer
- Provide adequate means to remove heat from indoor environment

Option 1 Complying with the simplified method

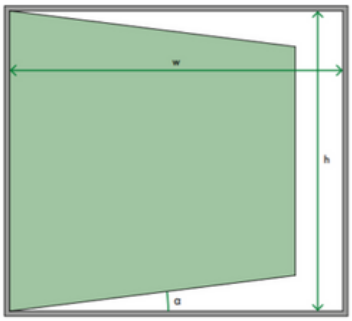


Restrictive on area of windows

Cross ventilation

Location

Orientation



Ventilation areas are described as a free area.

Windows in use should ideally consider the equivalent area of the opening, not the area on elevation.

Moderate risk area
Cross-ventilation

Semi-detached house

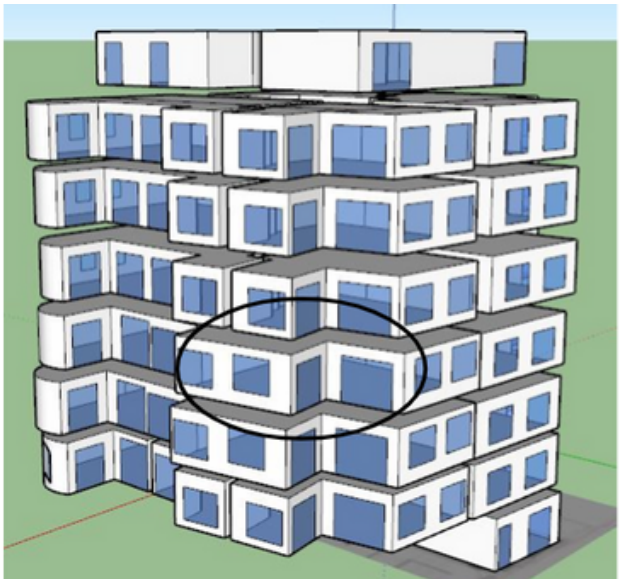
Largest glazed façade = South
Total area = 87.16m2
Total area of glazing = 15.21m2
Percentage of glazing = **17%**
This exceeds the maximum 15%
Most glazed room = Living room 27.73m2
Glazing = 4.9m2
Percentage of glazing = **17%**
This meets the 30% requirement

This house would comply if the rear was orientated North or East but not West

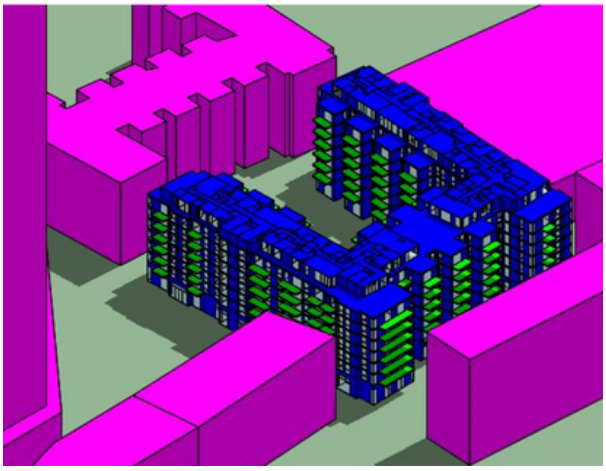
Moderate risk area
No cross-ventilation

Apartment

Largest glazed façade = East
Total area = 70.18m2
Total area of glazing = 18.9m2
Percentage of glazing = **26.9%**
This exceeds the maximum 18%
Most glazed room = Living room 34.9m2
Glazing = 9.9m2
Percentage of glazing = **28%**
This exceeds the maximum 26%

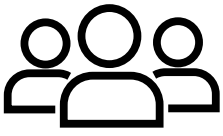


Dynamic simulation against TM59

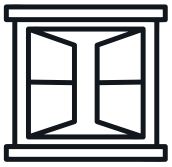


It requires full dynamic simulation over a full year

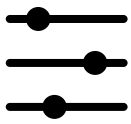
Analyses the building at 10-minute intervals for dynamic changes in temperature based on building envelope, building services, sun position, occupancy and equipment use, window/ventilation details & shading



Occupancy



Window operation



Pipework & HIU losses

Equipment

Weather

Option 2 Compliance – dynamic method

The dynamic method considers limiting solar gains and removing excess heat.

Solar gain

Solar gain CAN be limited through:

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

Solar gain CANNOT be limited by:

- Internal curtains and blinds
- Tree cover

Removing excess heat

Excess heat CAN be removed through:

- Opening windows
- Ventilation louvres
- Mechanical ventilation

Mechanical cooling should only be considered once all other methods have been exhausted

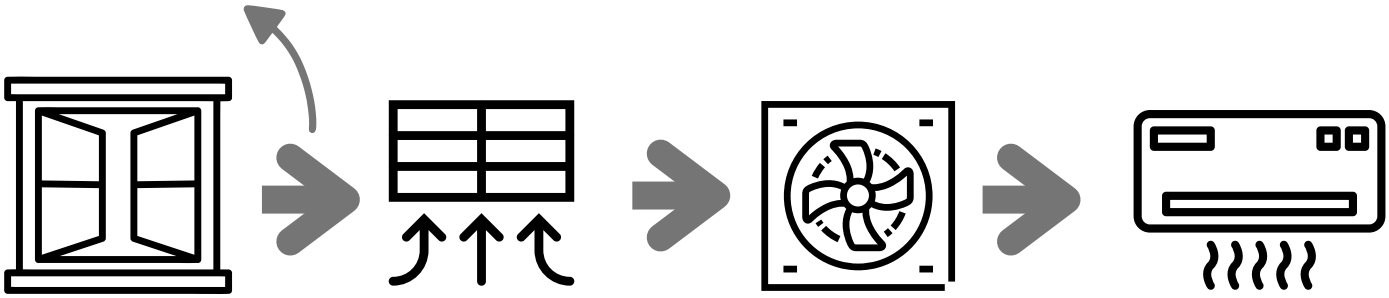
PART O - WHAT CAN WE BUILD NOW?

Limit unwanted gains in the summer

Internal blinds CANNOT be included to meet Part O compliance

Solar shading to relevant buildings must be non combustible

Windows closed for overheating purposes



Openable windows with night time cooling

Ventilated louvres

Enhanced mechanical ventilation

Mechanical cooling

If a protected hallway or stair is provided, cross ventilation from other rooms is best avoided

Provide adequate means to remove heat from indoor environment

Part O – Influenced by acoustics

40dB (averaged between 11pm and 7am)

55dB (more than 10 times between 11pm and 7am)

Part O – Evidence

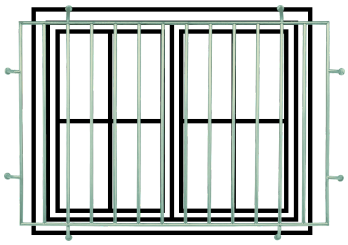
Both the builder and the building control body inspector should complete this section.

3.1	**Builder's declaration**		
Has the residential building been constructed and completed according to the specifications set out in Parts 1 and 2 of this checklist?		Yes	No
Builder's name			
Builder's organisation			
Builder's signature			
Date of signature			
3.2	**Building control body inspector's declaration**		
Is the residential building's construction consistent with the details provided in Parts 1 and 2 of this checklist?		Yes	No
Inspector's name			
Inspector's signature			
Registration number (if applicable)			
Date of inspection			

Part O – Influenced by security

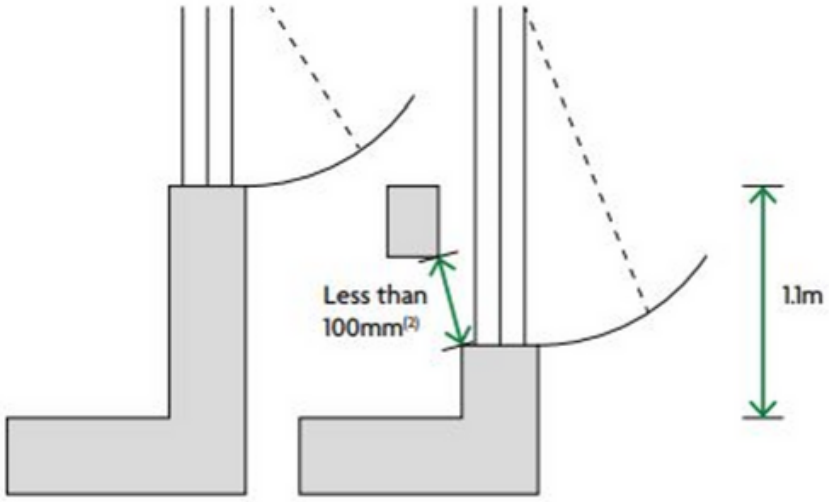
- **Secure openings must be provided during sleeping hours for**
- **Ground floor bedrooms**
- **Easily accessible bedrooms**

Fixed or lockable louvred shutters



Fixed or lockable window grilles or railings

Part O – Influenced by Part K

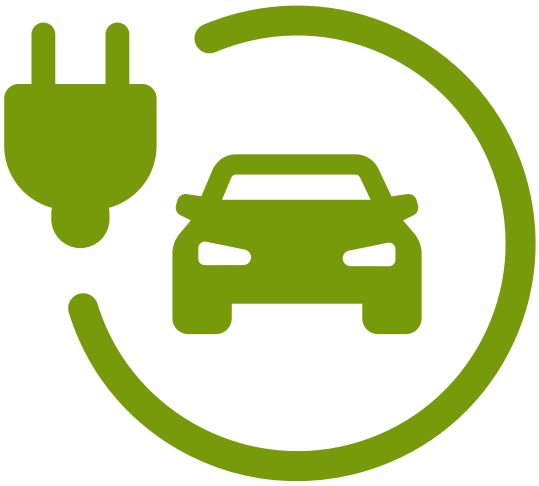


Part O has a higher requirement for protection from falling than Part K

Must consider means of escape which needs a clear opening of 450mm

Outward opening windows (handles), not more than 650mm from inside wall when open to maximum angle

PART S – INFLUENCED BY PART B

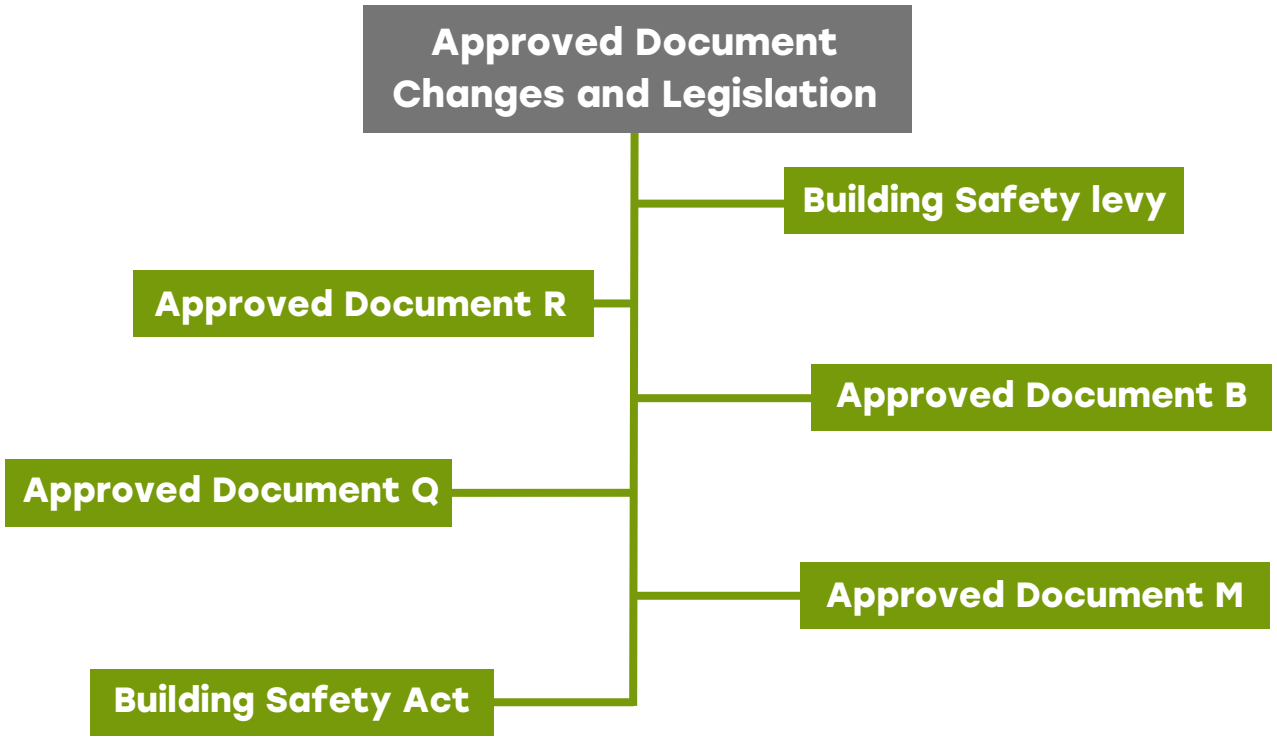


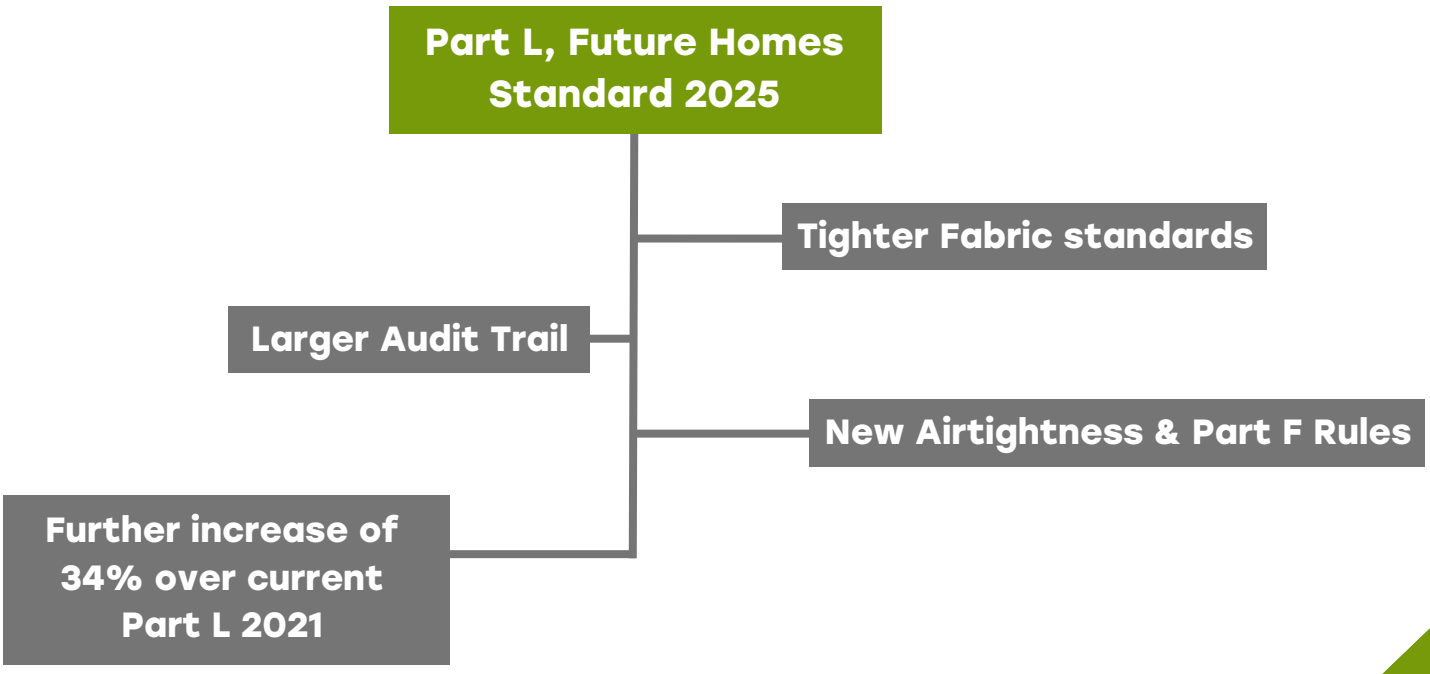
Electric charging points can have an impact on Part B

Every new home with on-site car parking is to have an electric car charging point

Consider on site electric demand and possible substation requirements

What's to come in the future?





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