

The new building regulations came into force for applications made on or after 15 June 2022. These requirements do not apply to applications made prior to 15th June 2022, providing substantial building work has begun before 15th June 2023 on all aspects of the application.



Important dates

Date	14th June 2022	15th June 2022	15th June 2023	2025
Part L, F AND O (transition periods apply to plot-by-plot basis)	Applications made on or before this date will have until the 14/06/2023 to commence individual plots to build to previous standards.	Applications deposited on or after this date will have the new regulations applied.	Any new dwelling / plot started on or after this date must build to the new Part L, F & O regardless of when the application was made.	Projected, next update to the Regulations standards will increase again with similar transition periods.

Date	14th June 2022	15th June 2022	15th June 2023
Part S (Site wide transition periods)	Applications made before or on this date have 1 year to commence a single plot so you can build the whole site without EV points.	Applications deposited on or after this date must now provide EV charging points etc. In line with Part S.	If work hasn't commenced on a single plot on applications made on or before 14/06/22 then the new Part S must be followed and provide EV points to all plots.

Note: Planning may ask for higher or additional performance than any of these requirements.

Part L – Conservation of Fuel and power

U-value changes as of June 22

Thermal Element	Old U-value	Current notional dwelling (U values used as targets for new dwellings)	Current actual threshold (Backstop requiring compensation elsewhere)
Floors	0.22 W/m ² K	0.13 W/m ² K	0.18 W/m ² K
Walls	0.28 W/m ² K	0.18 W/m ² K	0.26 W/m ² K
Roof	0.16 W/m ² K	0.11 W/m ² K	0.16 W/m ² K
Glazing	1.6 W/m ² K	1.0 W/m ² K	1.6 W/m ² K

Partial Example of Notional Dwelling:

Floor 0.13W/m ² k	150mm PIR insulation in the floor.
Walls 0.18 W/m ² K	100mm Brick - 150mm/ 200mm Cavity width with 100mm block. Cavity width thickness dependant on Cavity batts, PIR insulation, blown insulation and blocks specified.
Roof 0.13 W/m ² K	About 400mm of loft roll in pitch roof ceilings or 100mm PIR between rafters and 80-100mm underneath.
Heating system	Either a gas boiler with solar panels or a low carbon heating system ie. air source / ground source heat pump.
Wastewater heat recovery	All showers connected to WWHR, including showers over baths.
Air permeability 5 m ³ /(h·m ²) at 50 Pa	Vented by natural and intermittent extract fans.
All dwellings are now required to be air tested.	

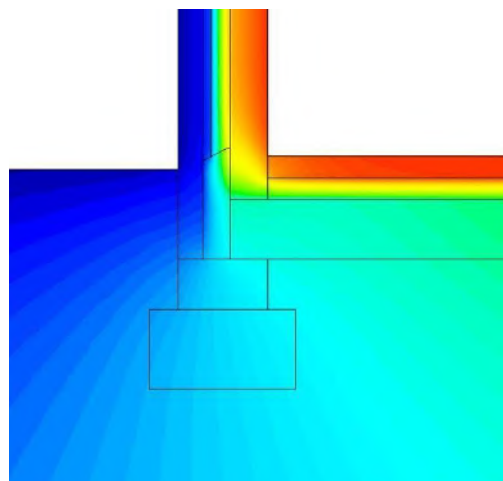
You require an as design Sap before you start works to specify levels of insulations required / heating system. It's easier to comply with heat pumps etc rather than gas boilers and solar panels, but you'll likely have a worse EPC due to running cost. You should also consider planning considerations for any of these systems.

Continuity of insulation and thermal junctions

New build dwellings will need to clearly show drawings of all thermal junctions and continuity of insulations. This will help reduce heat loss and lower the risk of condensation and mould. This will also link back to the new SAP 10 program.

Things to consider:

- **Floors and foundations:** Insulation should be installed tight to the structure, without air gaps between insulation panels and at edges.
- **Windows and doors:** Should be installed in such a way that the thermal integrity of the insulated plane is maintained.
- **Walls:** Insulation should be fitted without any air gaps and tight to the structure, cavity closers, lintels and cavity trays. Mortar snots should be removed to ensure a tight fit with the structure and cavities kept clear of all debris. Where fire-stopping socks are required, these should fully fill the areas where they are fitted, including at the heads of cavities.
- **Roofs:** Insulation should be installed tight to the structure, without air gaps, and should extend to join the wall insulation. For roofs insulated at ceiling level, the long- term protection of the insulation layer should be considered: boarded areas should be provided above the insulation to give access for maintenance.



■ **Rigid insulation boards:** Should only be used on flat surfaces. Boards should be fitted to the structure to avoid any gaps between board edges and between the board facings. The use of boards with lapped or tongue and groove edges should be considered. Any unavoidable gaps between boards should be infilled using compressible tape (e.g. for boards within roof rafters) or low expansion foam (e.g. for boards within wall cavities).

■ **Penetrating elements:** Steel beams, incoming services, meter boxes and sub-floor vents etc. Designs should clearly indicate means to limit disruption to the insulation. For recessed meter boxes on the cold side of the construction, insulation should be installed behind the enclosure. For incoming services, insulation should fit tightly around ducts, pipes, etc.

These junctions can either be designed and assessed or taken from junction databases such as Building Regs 4 Plans or LABC Construction details library.

BREL: Part L & SAP 10

Your SAP assessor will need to provide us (building control) with a Building Regulation (England) Part L Compliance Report (BREL) at design stage showing the insulation being used, thermal junction information and other details. This will be used to check the thermal build and determine if substitute products are being used.

Example first page of a BREL report. All materials specified must be installed with no substitutions allowed unless the report is recreated by the energy assessor.

We can use this to check the products used match the designed products. We will ask for you to recalculate thermal elements if, you swap brands or material types of different thermal values. changes.

Photographic evidence

Photographs for each plots thermal junctions **MUST** be taken. These can be taken by anyone dealing with the project on site, but ideally a responsible person. Note: **these photos are required for sign off but will not be for building control to do.** This will link back to the as built BREL and as built SAP.

Photographs will need to be unique to each property.

One photograph per detail should be recorded. Additional images, such as a closeup detail, can be provided only when necessary (see below). Photographs should be taken at appropriate construction stages when each detail is completed and always prior to closing-up the works.

Building Regulations England Part L (BREL) Compliance Report			
Approved Document L1 2021 Edition, England assessed by Stroma SAP 10.2 SAP 10 program, 10.2			
Date: Mon 19 Dec 2022 16:58:27			
Project Information			
Assessed By	Aaron Perry	Building Type	House, Detached
OCDEA Registration	STRO035688	Assessment Date	2022-12-19
Dwelling Details			
Assessment Type	As designed	Total Floor Area	737 m ²
Site Reference	245 Singlewell Road	Plot Reference	DA.2S.DA11-0
Address	245 Singlewell Road, GRAVESEND, DA11 7RN		
Client Details			
Name	Not Provided		
Company	Not Provided		
Address	Not Provided, Not Provided, WF10 8QU		
This report covers items included within the SAP calculations. It is not a complete report of regulations compliance.			
1a Target emission rate and dwelling emission rate			
Fuel for main heating system	Electricity		
Target carbon dioxide emission rate	7.81 kgCO ₂ /m ²		
Dwelling carbon dioxide emission rate	3.17 kgCO ₂ /m ² OK		
1b Target primary energy rate and dwelling primary energy			
Target primary energy	42.57 kWh _{pe} /m ²		
Dwelling primary energy	32.78 kWh _{pe} /m ² OK		
1c Target fabric energy efficiency and dwelling fabric energy efficiency			
Target fabric energy efficiency	44.7 kWh/m ²		
Dwelling fabric energy efficiency	44.1 kWh/m ² OK		
2a Fabric U-values			
Element	Maximum permitted average U-Value (W/m ² K)	Dwelling average U-Value (W/m ² K)	Element with highest individual U-Value
External walls	0.26	0.22	Ext To Garage (0.66) OK
Party walls	0.2	N/A	N/A N/A
Curtain walls	1.6	N/A	N/A N/A
Floors	0.18	0.1	Floor Abv Garage (0.19) OK
Roofs	0.16	0.09	Domer Roof (0.11) OK
Windows, doors, and roof windows	1.6	1.2	1 (1.2) OK
Rooflights	2.2	N/A	N/A N/A
2b Envelope elements (better than typically expected values are flagged with a subsequent (!))			
Name	Net area (m ²)	U-Value (W/m ² K)	
Exposed wall: External Walls Clad	136.5815	0.22	
Exposed wall: Ext To Garage	18.893	0.212	
Exposed wall: Ext To Garage	18.892	0.66	
Exposed wall: Slab Walls	152.54	0.131 (!)	
Exposed wall: Domer Walls	7.5575	0.15	
Exposed wall: External Walls Render	157.8566	0.25	
Ground floor: Ground Floor	334.603	0.09 (!)	
Upper floor: Floor Abv Garage	22.126	0.19	
Exposed roof: Sheltered Ceiling	172.018	0.104 (!)	
Exposed roof: Pitched Roof	70.515	0.09 (!)	
Exposed roof: Domer Roof	2.31	0.11	
Exposed roof: Flat Roof	124.768	0.06 (!)	
2c Openings (better than typically expected values are flagged with a subsequent (!))			
Name	Area (m ²)	Orientation	Frame factor
1, Doors	3.12	East	0.7
2, Doors	2.25	East	0.7
3, Windows (!)	3.24	East	0.7
4, Windows (!)	5.40	East	0.7
5, Windows (!)	1.44	East	0.7

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Example BREL photo

- Would be named Plot 1 P2/B
- Clearly shows cavity wall prior to insulation blown in with minimal mortar snots and of a structural penetration with cavity closer and insulation in lintels as per plans.
- Shows GPS data, time stamp and optional name of who took the photo.
- Optional Map data for ease of identification.
- Good quality photo, not blurry or too far away.
- Photo can also be used to check required drawing.



Example from BREL - confirm with your SAP assessor the suitability of App or camera used and details required.

Photos required for each plot

- | | | |
|----|---|---|
| 1. | Foundations/substructure and ground floor, to show thermal continuity and quality of insulation in the following places. | a. At ground floor perimeter edge insulation.
b. At external door threshold.
c. Below damp-proof course on external walls. |
| 2. | External walls: For each main wall type, to show thermal continuity and quality of insulation for the following. | a. Ground floor to wall junction.
b. Structural penetrating elements.
NOTE: For blown fill, photos should show clean cavities and clean brick ties with very limited mortar droppings. |
| 3. | Roof: For each main roof type, to show thermal continuity and quality of insulation at the following. | a. Joist/rafter level.
b. Eaves and gable edges. |
| 4. | Openings: For each opening type (one image per wall or roof type is sufficient), to show thermal continuity and quality of insulation with photographs of the following. | a. Window positioning in relation to cavity closer or insulation line.
b. External door set positioning in relation to cavity closer or insulation line. |
| 5. | Airtightness: Additional photographs for all details 1–4 to show airtightness details (only if not included or visible in continuity of insulation image). | |
| 6. | Building services: For all plant associated with space heating, hot water, ventilation and low or zero carbon technology equipment within or on the building, show the following. | a. Plant/equipment identification label(s), including make/model and serial number.
b. Primary pipework continuity of insulation.
c. Mechanical ventilation ductwork continuity of insulation (for duct sections outside the thermal envelope). |

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. For example, Plot 1 eaves detail would be P1/3b.

Part F - Ventilation

Part L 2021 now asks for all dwellings to be air tested and these ventilation requirements help reflect these changes.

All extractor fans should be tested, and mechanical systems. Appendix C of Part F gives a new commissioning detail.

Mechanical ventilation systems must be commissioned to provide adequate ventilation and a commissioning notice **must** be given to us. Air flow rates for mechanical ventilation in new dwellings **must** be measured and a notice of the measured air flow rates must be given to us.

The person responsible for commissioning should complete air flow measurement test and commissioning sheets including, as a minimum, all information in Part 3 of the example sheet given in Appendix C.

NOTE: Dwellings can still use natural background

ventilation by trickle vents and intermittent extractor fans however dwellings designed lower than $5\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50Pa or the air test is at $3\text{m}^3/(\text{h}\cdot\text{m}^2)$ at 50Pa, then a continuous mechanical system is required. If there are clear discrepancies between the design and as built tests mechanical systems may also be required if not already in place or expert advice will be required.

Trickle vents must now be between 8000mm^2 - $10,000\text{mm}^2$ equivalent area per habitable space. (The little no. stamped on the trickle vents will tell you how much EA they give you.) Open plan kitchen area's need at least 3 trickle vents. In simple terms most dwelling's trickle vents will now need double the existing amount or be double in size. You'll need at least 4 or 5 ventilators per dwelling and dwellings opposite noisy sites like main roads need noise attenuating background ventilation.

Minimum equivalent area of background ventilators for natural ventilation

Room	Minimum equivalent area of background ventilators for dwellings with multiple floors	Minimum equivalent area of background ventilators for single storey dwellings
Habitable rooms	8000mm^2	$10,000\text{mm}^2$
Kitchen	8000mm^2	$10,000\text{mm}^2$
Utility room	No minimum	No minimum
Bathroom	4000mm^2	4000mm^2
Sanitary accommodation	No minimum	No minimum