FUTURE HOMES STANDARD 2025

SILCOCK DAWSON & PARTNERS

UPCOMING CHANGES TO APPROVED DOCUMENTS PART L, F AND OVERHEATING

As Part of the Governments route to the Future Homes Standard in 2025 the Department for Housing, Communities and Local Government recently published new draft Approved Documents Part L, F and an additional Approved Document for Overheating in Homes. The consultation for the Approved Documents is due to run until April 2021, with the final publication due in December 2021. The new regulations will come into force in June 2022, but transitional arrangements will apply for period of one year, and will only be applicable to each house or building, not site wide.

Under the Future Homes Standard Local Authorities will retain powers to set local energy efficiency standards for new homes.

PROPOSED CHANGES FOR DWELLINGS

Part L1

The proposal is designed to improve the energy efficiency of dwellings to achieve a 31% reduction in emissions from a new dwelling built to current standards.

The assessment methodology remains similar and SAP will continue to be used but in a revised form. The metrics to assess compliance will be: Each of the metrics below that currently exist in Part L 2013 will see an uplift in performance requirements:

- CO_2 Emissions (DER/TER)
- Fabric Energy Efficiency Standard (DFEES/TFEES)
- Minimum Fabric and Building Services Standards
- Primary Energy (DPER/TPER)

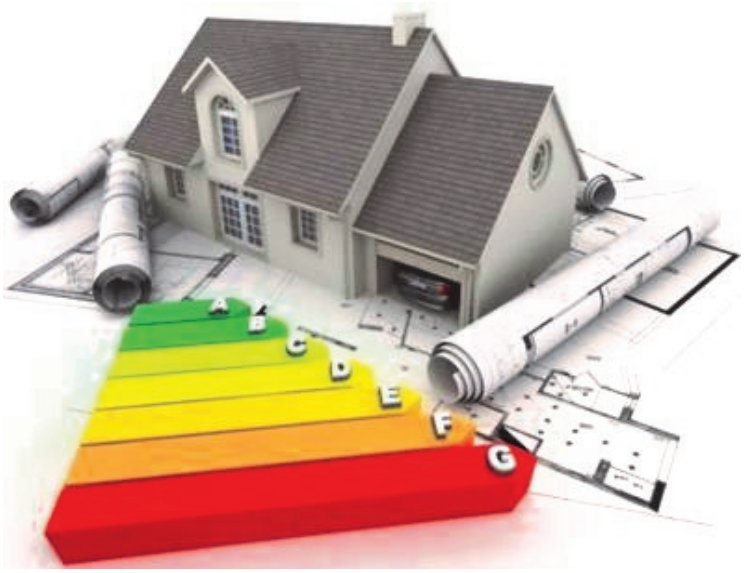
Primary Energy is a new metric which takes into account the efficiency of the heating system, power station efficiency, and the energy used to produce the fuel and deliver it to the property and will become more relevant as the electricity grid continues to decarbonise.

The Notional Dwelling specification will still be based on a gas fired boiler, but it will include PV panels. The area of PV will be linked to the ground floor area so there will be a smaller contribution for apartments than houses. Waste Water Heat Recovery (WWHR) devices are also included within the Notional Dwellings.

The hope is that heat pumps will be more widely adopted, and cost modeling by the Ministry of Housing, Communities and Local Government (MHCLG) indicates that compliance can be achieved at lower cost if heat pumps are installed rather than gas boilers, PV panels and WWHR as the Notional Dwelling.

It will be requirement that all dwellings are pressure tested; sample testing will end.

A further consultation is proposed for district and community heating systems realizing that we have a large number of CHP's installed under previous policies.







Changes to Approved Documents Part L, F and Overheating

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Part F1

Guidance for Passive Stack Ventilation systems has been removed due to low level of uptake of this type of system, however, they will still be permitted.

The size of trickle vents will be increasing in naturally ventilated buildings to ensure good indoor air quality.

Continuous ventilation rates for MEV and MVHR systems will be increasing by just under 50%, minimum boost rates remain the same, but there is an additional requirement that all wet rooms must exceed 4 air changes per hour.

Maximum noise levels from the ventilation installation are stated, at 30 dB LaeqT for noise sensitive rooms (bedrooms/living rooms) and 45 dB LaeqT, in less sensitive rooms (kitchens/bathrooms). However, there will be no need to undertake noise testing.

Details are now included for the provision of ventilation within existing buildings.

Overheating (New Residential Buildings)

This will be a new Approved Document (AD) that focuses on homes and other buildings where people live, such as care homes and student halls of residence.

The AD sets out two methods or routes to demonstrate compliance, simplified or dynamic modeling.

The Simplified Method will split the country into two regions, London and outside London. The focus is on reducing solar gains, and limits window sizes to 13% (houses) and 15% (flats) of the apartment floor area in London. A window area of 21% is applied to buildings in other regions. In most circumstances this will exceed the purge vent requirements of Part F.

Within London all openings between NE and NW will be required to include a method to reduce solar gain. This can be external shutters, glazing with a G value of 0.4, or overhangs on South facing façades.

Virtually all windows will have to open to achieve the high ventilation rates required to remove excess heat.

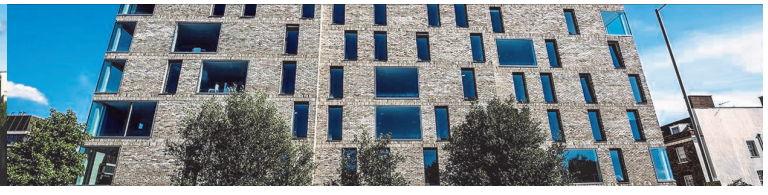


The Dynamic Thermal Analysis Method follows the principles of CIBSE TM59, which is the method currently used for planning purposes when a overheating risk assessment is requested. The proposal is slightly more stringent by adding restrictions to the window opening profiles and places additional restrictions on the use of opening windows overnight. It also states that internal blinds or curtains and tree cover should not be included within the building model.

Additional guidance is also given to ensure the strategy is usable such as:

- Guidance on noise levels, both internal and external, particularly to overcome noise disturbance overnight when the windows are open.
- Openings at ground floor level need to provide security against physical attack or opportunistic burglary.
- Any fixed louvre or mesh shall be designed to ensure fingers cannot be trapped.
- Protection from falling, in addition to compliance with AD Part K, window handles should not need to go further than 600mm from the internal surface. This is very restrictive considering a modern wall may be over 500mm thick, and likely to lead to windows opening inwards.





Changes to Approved Documents Part L, F and Overheating

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PROPOSED CHANGES FOR NON-DOMESTIC BUILDINGS

Part L2

The governments preferred option for overall CO_2 reduction across the building mix is 27%. This varies over different building types at around:

- 35% for offices and retail warehouses
- 28% schools
- 20% distribution warehouses
- 10% hospitals
- 4% hotels

Hospitals and hotels are lower because of their high hot water demand, and the use of gas fired water heaters within the Notional Building for the generation of hot water.

The Building emission rate assessment will be the secondary assessment matrix and new lead assessment of Building Primary Energy Rate introduced.

The improvement will primarily be through improved U values, and the use of low carbon heat sources such as heat pumps.

To discourage the use of electric heaters, where these are proposed the Notional Building will use a hybrid heat pump / electric heater to improve the notional building. PV panels will also be included within the Notional Building, unless all 100% of the heat is supplied by heat pumps.

Lighting efficacies are also due to improve to 95 luminaires Lumens / circuit Watt for normal lighting and 80LL/cW for display lighting. The Notional Building will continue to use daylight compensation controls.

A CIBSE TM54 type assessment (prediction of actual energy consumption) is also being consulted on, with the aim of bridging the gap between Part L and actual emissions. This can be quite time consuming in complex buildings, so there is an argument that this may just lead to another tick box type assessment carried out at the lowest cost option and not achieve the desired effect.

Part F2

Changes are significant as a consequence of Covid 19, and ventilation rates are generally increased.

There will be requirement to maintain suitable noise levels, from mechanical systems and to take into account noise from outside when windows are open for purge ventilation.

Increased ventilation rate of 15l/s/p for spaces where large numbers of people gather or where the activities include singing or dancing / exercise. For example this would include, gyms, public houses, nightclubs, shopping centres and assembly halls.

Ventilation rates for offices remains at 10l/s/p, unless this is lower than 1.0 l/s/m^2 which would then apply.

Office ventilation systems should have the ability to increase the ventilation rate by 50% for long periods (months)

Systems that use recirculation devices should have the ability to operate in full fresh air mode.

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