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Internal Lighting

Overview

All lighting in this section *complies with the Code for Sustainable Homes November 2010 criteria.
For lighting that complies with the Code for Sustainable Homes November 2009 criteria, Click Here

To comply with CfSH 2010 criteria internal lighting is now included in the SAP calculation. To achieve a SAP rating internal lighting must meet Part L1A 2010 specification. In summary, this comprises of:

- a bulb providing light in excess of 400 lumens
- to provide light at an efficiency of more than 45 lumens per watt
- light fittings using less than 5W (typically LED lights) are excluded from the count to encourage their use

Part L1A 2010 Compliance Requirements

Part L1A was revised in 2010 increasing the efficiency requirements for fixed internal lighting to a minimum of 45 lumens per watt with bulbs producing a minimum light of 400 lumens:

Table 40: Recommended minimum standards for fixed internal and external lighting

Lighting	New and replacement systems	Supplementary information
Fixed internal lighting	a. In the areas affected by the building work, provide low energy ***light fittings*** (fixed lights or lighting units) that number not less than three per four of all the ***light fittings*** in the main dwelling spaces of those areas (excluding infrequently accessed spaces used for storage, such as cupboards and wardrobes). b. Low energy ***light fittings*** should	***Light fittings*** *may be either:* • *dedicated fittings which will have separate control gear and will take only low energy lamps (e.g. pin based fluorescent or compact fluorescent lamps); or* • *standard fittings supplied with low energy lamps with integrated control gear (e.g. bayonet or Edison screw base*

Light Fittings and Codes Explained

When you are looking for a light bulb, it is generally broken down into a code. This code comprises of several different parts, explained as follows:

Candle BC 10w

Candle is the shape of the bulb, in this case a candle shape

BC is the type of fitting or connection, in this case a BC or Bayonet Cap

10w is the wattage

Light Fittings/Connections

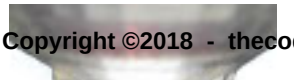
L1/G10 - L1 is a dedicated low energy fitting. Whilst very similar to GU10, the noticeable difference is the recess hole in the middle bottom of the cap. The L1 lamp holder has a pin which fits into this hole, preventing the use of non L1 compliant bulbs (G10 bulbs). The L1 cap is normally used with CFL (compact flourescent light) bulbs.

BC - stands for bayonet cap. This is the traditional fitting that has been around for many years and is widely used throughout the world.

SBC - stands for small bayonet cap. Exactly the same as the normal bayonet cap but smaller.

ES - stands for Edison screw. Also known as screw fittings and is also a very common fitting for older lights.

SES - stands for small Edison screw. Exactly the same as the normal Edison screw fitting only smaller.



GU5.3 - 2 pins 5.3mm apart. Usually used on 12 volt downlighter systems.

Types of light bulb

Whilst there are many different shapes of light bulb available (including golf ball, candle, tube, downlight etc), there are 3 main ways in which light is generated:

CFL - stands for compact flourescant light. These lights currently provide the best balance of efficiency and light (lumens).

LED - stands for light emitting diode. LEDs are the most energy efficient bulbs available however at the moment there are only limited choices

Halogen - The cheapest and most widely available lights today. Whilst slightly more efficient than incandescent bulbs, they still use approximately 70% of the energy of old incandescent bulbs and generate a lot of heat. Halogen bulbs

Incandescent - Traditional lights that emit bright light but use a lot of energy and generally have a shorter life span than the other types of bulb. These types of light have now been banned across Europe due to their low energy efficiency.

Bulb Brightness

Light is measured in lumens. The higher the number the brighter the light. Here is a table showing the different levels from different bulbs:

Bulb Type	Lumens	Efficiency (lumens per watt)
Incandescent (60 watt)		
Halogen (50 watt)		
CFL (15 watt)		
LED (7 watt)		

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