

## User Fact File

## UK BUILDING REGULATIONS

### - Energy Performance of Buildings

UK Building Regulations are under the control of the Department for Communities and Local Government. From 2006 the regulations cover the conservation of fuel and power in new dwellings and, in certain circumstances, existing dwellings.

### 1 Conservation of fuel and power in new dwellings

Under the regulations the entire new dwelling is required to achieve a 'predicted' CO<sup>2</sup> Dwelling Emission Rate (DER) which must not be greater than a Target Emission Rate (TER), the calculation of which is prescribed and takes account of heating, ventilation, lighting etc.

The TER is measured in kg/m<sup>2</sup> of floor area/year.

Although a designer of a new dwelling can 'trade off' one part of the equation against another, the requirements for lighting are **not** tradeable. In all cases the TER has to be calculated using a 'fixed' assumption of 30% low energy lighting.

The minimum requirements for lighting are:

#### 1.1 – Fixed internal lighting

A way of showing compliance would be to provide light fittings (including lamp, control gear and an appropriate housing, reflector, shade or diffuser or other device for controlling the output light) that only take lamps that have a minimum luminous efficacy of 40 lumens per circuit-Watt. (Circuit-Watts means the power consumed in lighting circuits by lamps and their associated control gear and power factor correction equipment.)

**Fluorescent and compact fluorescent lighting fittings would meet this standard. Light fittings for GLS tungsten lamps with bayonet cap or Edison screw bases, or tungsten halogen lamps would not.**

Reasonable provision would be to install fixed energy efficient light fittings that number not less than:

- One per 25m<sup>2</sup> of dwelling floor area (excluding garages) or part thereof; or
- One per four fixed light fittings.

A light fitting may include one or more lamps.

**Note:** BRE GIL 20 (Low-energy domestic lighting) provides guidance on suitable locations.

#### 1.2 – Fixed external lighting

Fixed external lighting means lighting fixed to an outside surface of the dwelling supplied from the occupier's electrical system.

Reasonable provision would be to enable effective control and/or the use of efficient lamps such that:

- a EITHER: Lamp capacity does not exceed 150W per light fitting and the lighting automatically switches off
  - i When there is enough daylight; and
  - ii When it is not required at night, OR

- b The light fittings have sockets that can only be used with lamps having an efficacy greater than 40 lumens per circuit-Watt.

**Compact fluorescent lamps would meet the standard in (b). GLS tungsten lamps with bayonet cap or Edison screw bases or tungsten halogen lamps would not.**

## **2 Conservation of fuel and power in existing dwellings**

### **2.1 – Fixed internal lighting**

Reasonable provision is to be made for dwelling occupiers to gain the benefits of efficient light whenever:

- a A dwelling is extended, OR
- b A new dwelling is created from a material change of use, OR
- c An existing lighting system is being replaced as part of re-wiring works.

The re-wiring works must comply with Part P of the Building Regulations.

A way of showing compliance would be to provide a reasonable number of light fittings, of the kind described in 1.1 above, that number not less than:

- a one per 25m<sup>2</sup> of dwelling floor area (excluding garages) or part thereof, OR
- b one per four fixed light fittings.

The assessment should be based on the extension, the newly created dwelling or the area served by the lighting system as appropriate to the particular case.

A light fitting may contain one or more lamps. In some cases it may be more appropriate to install the energy efficient light fitting in a location that is not part of the building work, e.g. to replace the fitting on a landing when creating a new bedroom through a loft conversion.

**Note:** BRE GIL 20 (Low energy domestic lighting) provides guidance on suitable locations.

### **3 Fixed external lighting**

See 1.2 above.

**The full Regulations, which comprise the law, and Approved Documents are available free of charge from [www.communities.gov.uk](http://www.communities.gov.uk)**