

Insulation of pipes and ducts

39 As part of the provision or extension of a heating or hot water service, reasonable provision would be demonstrated by insulating pipes ducts and vessels to standards that are not worse than those set out in the Domestic Heating Compliance Guide.

The TIMSA Guide¹⁷ explains the derivation of the performance standards and how they can be interpreted in practice.

Mechanical ventilation

40 Where the work involves the provision of a mechanical ventilation system or part thereof, reasonable provision would be to install systems no worse than those described in GPG 268¹⁸ which also have specific fan powers and heat recovery efficiency not worse than those in Table 3.

Table 3 Limits on design flexibility for mechanical ventilation systems

System type	Performance
Specific Fan Power (SFP) for continuous supply only and continuous extract only	0.8 litre/s.W
SFP for balanced systems	2.0 litre/s.W
Heat recover efficiency	66%

41 Mechanical ventilation systems must satisfy the requirements in Part F.

Mechanical cooling

42 Where the work involves the provision of a fixed household air conditioner, reasonable provision would be to provide a unit having an energy efficiency classification equal to or better than class C in Schedule 3 of the labelling scheme adopted under The Energy Information (Household Air Conditioners) (No. 2) Regulations 2005¹⁹.

Fixed internal lighting

43 Reasonable provision should be made for **dwelling** occupiers to obtain the benefits of efficient electric lighting 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.

44 A way of showing compliance would be to provide lighting 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 having a luminous efficacy greater than 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. Lighting fittings for GLS tungsten lamps with bayonet cap or Edison screw bases, or tungsten halogen lamps would not.

45 Reasonable provision would be to provide in the areas affected by the building work, fixed energy efficient light fittings that number not less than the greater of:

- a. one per 25m² of **dwelling** floor area (excluding garages) or part thereof; or
- b. one per four fixed lighting fittings.

*This 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.*

Installing mains frequency fluorescent lighting in garages may cause dangers through stroboscopic interaction with vehicle engine parts or machine tools. Fluorescent lamps with high frequency electronic ballasts substantially reduce this risk.

46 A light fitting may contain one or more lamps.

47 Lighting fittings in less used areas like cupboards and other storage areas would not count towards the total. GIL 20²⁰ gives guidance on identifying suitable locations for energy efficient luminaires. 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 the landing when creating a new bedroom through a loft conversion.

Fixed external lighting

*Fixed external lighting means lighting fixed to an external surface of the **dwelling** supplied from the occupier's electrical system. It excludes the lighting in common areas in blocks of flats and other access-way lighting provided communally.*

48 When providing fixed external lighting, reasonable provision should be made to enable effective control and/or the use of efficient lamps such that:

- a. EITHER: Lamp capacity does not exceed 150 Watts 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 lighting fittings have sockets that can only be used with lamps having an efficacy greater than 40 lumens per circuit-Watt.

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

¹⁷ HVAC Guidance for Achieving Compliance with Part L of the Building Regulations, TIMSA, 2006.

¹⁸ GPG268 Energy efficient ventilation in dwellings – a guide for specifiers, EST, 2006.

¹⁹ Statutory Instrument SI 2005/1726, the Energy Information (Household Air Conditioners) (No. 2) Regulations 2005.

²⁰ GIL20, Low energy domestic lighting, EST, 2006.