

FLUORESCENT LIGHTING FITTING

BACKGROUND ART

This invention relates to an improvement in lighting fittings and fixtures and in particular to fittings that support straight tubular fluorescent lighting tubes. Such fittings generally consist of a metal casing in the form of a channel which has open ends which are closed by an end cap generally spot welded to each end of the casing. The end cap includes a tube holder which has suitable electrical connectors into which the pins protruding from the end of the fluorescent tubes can be entered to support the tubes and to complete the electrical path to the tubes.

The usual steps in the manufacture of fluorescent lighting fittings is to first form the casing from metal stock, such as by a bending brake and then spot weld the end caps to the casing after which the assembled unit is painted. Such an assembled unit occupies a comparatively large storage space and it is apparent that considerable savings both in manufacturing costs and in storage can be obtained if the construction is such that the end caps are such that they can be simply attached to the casing without the need for spot welding. This would result in less stocks being required to be kept since the assembly of the completed fitting will not require the use of specialised tools and the casings can be formed immediately prior to their being required for sale or dispatch from the factory.

It is therefore an object of this invention to provide an improved construction of fluorescent lighting fittings wherein the above disadvantages are minimised.

SUMMARY OF THE INVENTION

Accordingly the present invention consists in a fitting to support a straight fluorescent lighting tube, said fitting comprising a channel shaped casing (10) closed at each end by closure means which also supports the fluorescent lighting tube, characterised in that the closure means comprises the combination of initially separate components of an end cap

(12), a tube holder housing (25) and a tube holder housing cover (30), and in that the end cap (12) includes detent means (14) adapted to engage with a socket (15) in the said casing (10), the said end cap (12) also having means (17) to engage with lugs (14) projecting from the said casing (10) to fix the combined end cap (12), tube holder housing (25) and tube holder housing cover (30) to the said casing (10).

Preferably the housing cover, the tube holder housing and the housing cover are formed from a plastics material.

BRIEF DESCRIPTION OF THE DRAWINGS

A preferred form of the invention will now be described with the aid of the accompanying drawings wherein:

Fig. 1 is an exploded isometric view of the component parts of one end of a fluorescent lighting fitting according to this invention;

Fig. 2 is an isometric view of a cover for the tube holder housing according to this invention;

Fig. 3 is an isometric view of a tube holder housing according to this invention;

Fig. 4 is an isometric view of an end cap according to this invention; and

Fig. 5 is a view similar to that of Fig. 1 but with the component parts assembled.

Referring to the drawings, and in particular Fig. 1, the lighting fitting includes a casing (10) which can be folded from metal stock as is known in the art. The fitting includes an end cap (12) which is formed of a suitable plastics material. The end cap includes an end wall (13) which has a detent (14) (see Fig. 4) which in use will project inwardly towards the casing (10) with the detent (14) having a tooth (14a) which when assembled to the casing (10) will enter into and be retained within a socket (15) formed in the floor (10a) of the casing(10).

The walls (10b) of the casing (10) are formed to extend from the floor (10a)

in a known manner and terminate at their upper end in parallel walls (10b). A lug (11) is formed at or adjacent the end of each wall (10b). The end cap (12) has a buttress (16) which is provided with socket holes (17) which are of a size that when the end cap has been offered to the casing (10), the tooth (14a) of the detent (14) will engage within the socket (15) and the lugs (11) will project through the socket holes (17) in the buttress (16). This will provide a locking action and will maintain the end cap (12) in place on the end of the casing (10). It will be understood that during the assembly procedure the detent (14) will flex sufficiently to allow the end cap (12) to lock onto the casing (10).

As can be seen particularly in Fig. 5 the buttress (16) of the end cap (12) includes side skirts (18) which when the end cap (12) is assembled to the casing (10), will depend over the outside of the walls (10b) of the casing (10). The end cap (12) also includes side walls (20) and lugs (21) which, when the end cap (12) is assembled to the casing (10) will assist in the correct location of the end cap (12) on the casing (10).

The tube holder housing (25) shown more particularly in Fig. 3 is preferably also moulded from a plastic material and includes legs (26) which terminate in teeth (26a) so that the legs (26) can be aligned with sockets (27) formed in the buttress (16) and when the teeth (26a) pass through the sockets (27), the teeth (26a) will engage under the buttress (16) and thus retain the tube holder housing (25) on the buttress (16).

The tube holder housing cover (30) shown more particularly in Fig. 2 is also preferably moulded from a plastics material and includes sockets (32) which will engage with spigots (28) projecting from the tube holder housing (25). The housing cover (30) also includes a wall (33) and an arched structure (34) which will engage within the interior of the tube holder housing (25) so that the housing cover (30) can be permanently attached within the tube holder housing (25). The spigots (28) will have entered within the sockets (32) and so will assist in locating the housing cover (30) within the tube holder housing (25). The housing cover (30) may also have a platform (35) which when the housing cover (30) is assembled to the casing (10) will assist in locating the housing cover (30) on the casing (10).

The present invention enables considerable saving to be made in the cost of

manufacturing and storage of the fluorescent tube fittings. For instance the casing (10) may be formed on a bending brake and painted immediately prior to it being required. Because the end cap (12) is formed of a plastics material and because it has the fastening means associated with it, the assembly of the end cap (12), the tube holder housing (25) and the housing cover (30) can be obtained merely by snapping the various parts together. The end cap is then suitably located at the end of the housing (10) and is manually pressed into position so that the fastening means will lock into place on the casing (10) without the requirement of any further locating or fastening means.

A preferred form of the invention has been described in the accompanying drawings but it is to be understood that modifications and improvements to the preferred form of the invention may occur to those skilled in the art and who come to understand the concepts and principles behind the invention. Any such modifications, improvements and variations are intended to be included within the scope of the invention as set out in the appended claims.



CLAIMS

1. A fitting to support a straight fluorescent lighting tube, said fitting comprising a channel shaped casing (10) closed at each end by closure means which also supports the fluorescent lighting tube, characterised in that the closure means comprises the combination of initially separate components of an end cap (12), a tube holder housing (25) and a tube holder housing cover (30), and in that the end cap (12) includes detent means (14) adapted to engage with a socket (15) in the said casing (10), the said end cap (12) also having means (17) to engage with lugs (14) projecting from the said casing (10) to fix the combined end cap (12), tube holder housing (25) and tube holder housing cover (30) to the said casing (10).
2. A fluorescent lighting fitting as claimed in claim 1, characterised in that the end cap (12) has a detent (14) adapted to engage in a socket (15) formed in the floor (10a) of the casing (10), said end cap also having a buttress (16) provided with sockets (17) capable of engaging over lugs (11) projecting from the casing (10) to retain the end cap (12) on the casing (10).
3. A fluorescent lighting fitting as claimed in claim 1, characterised in that the tube holder housing (25) has legs (26) which terminate in teeth (26a) and wherein the end cap (12) has a buttress (16) which is provided with sockets (27) to receive the legs (26) of the tube holder housing (25).
4. The fluorescent lighting fitting as claimed in claim 1, characterised in that the housing cover (30) has sockets (32) adapted to be engaged by spigots (28) projecting from the tube holder housing, the said housing cover (30) also having an arched wall (34) to enter within the tube holder housing (25) to locate the housing cover (30) within the tube holder housing (25).