

How would you rate your downlighters?

There is a growing misconception that a 90-minute fire rated downlighter with inbuilt protection is automatically suitable for a 30-minute fire rated application. However, this may not be the case because of the different types of construction used in fire rated structures.

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A 90-minute fire resisting floor is only required in tall buildings with a top floor between 18m and 30m above ground. The physical cold strength requirements of the construction will generally dictate that the structural members are larger in cross section than those used for 30 or 60 minutes. Also, the linings on a 90-minute floor are invariably of a three layer gypsum board construction.

Any weakness in the protection provided by the ceiling lining can easily be compromised by the introduction of a downlighter.

When this happens on a single layer lining the effect is immediate, whereas a reduction in performance of one of the layers in a multi-layer boarded ceiling can be masked by other boards.

Until such times that a standard fire rating test is introduced for downlighters, it is important to ensure that the downlighter being used has also had a separate 30-minute or 60-minute fire test and also, that it has been tested in the type of structure being used ie traditional joists, composite I beam and pre-formed metal web joists.

There continues to be confusion in some areas, as to whether or not recessed down lighters should be protected to preserve the fire and acoustic rating of the ceiling lining that has been perforated in order to install them.

The simple answer is yes – all recessed down lighter installations must be protected.

The articles that have been

appearing in this publication over the past couple of years, together with the introduction of Part P and the application of Part E, has given this issue a broader focus.

We are also seeing guidance and regulations being more specific about recessed down lighters and their application.

The first of these was 'Ensuring Best Practice for Passive Fire Protection in Buildings', published in 2003, which states in Section 12, Ceilings: 'The fire resisting ceiling selected should have documented test evidence to show that it meets the appropriate level of fire resistance for the relevant application and should be designed, specified and constructed to fully satisfy the manufacturers instructions. Lighting fittings, and other penetrations through the ceiling, must also have the same demonstrated standard of fire resistance, and be appropriate for the type of ceiling.'

Furthermore, Approved Document Part P: Regulation 4 (2) states that "on completion of the work, the building should be no worse in terms of the level of compliance with the other applicable Parts of Schedule 1 to the Building Regulations."

For example, one or more perforations of a ceiling lining beneath a floor – made to accommodate recessed lighting or similar fittings – may have an adverse effect on that floors performance in terms of its resistance to fire and sound penetration.

Due regard should therefore be paid to the guidance in

“ANY WEAKNESS IN THE PROTECTION PROVIDED BY THE CEILING LINING CAN EASILY BE COMPROMISED BY THE INTRODUCTION OF A DOWNLIGHTER”

Approved Documents B (Fire safety) and E (Resistance to the passage of sound) on the performance of compartment floors. Meanwhile, downlighters must also meet the new build requirements of Robust Details Limited Appendix F, 'Acoustic performance of timber separating floors incorporating downlighters'

Electro-technik's low voltage SNAPLITE range has inbuilt protection and already meets this higher specification requirement, as standard, without the need for covers. This range has been tested in representative ceiling/ floor structures to BS 476 Parts 21 or 22, in separate 30, 60 and 90- minute fire tests.

The range has also been satisfactorily acoustically assessed to Appendix F Robust Details Handbook (January 05), for Timber, Concrete and Steel Floors; has a high IP rating; a low air leakage rating; can operate under insulation and is capable of being in contact with materials in the void without creating a fire hazard or overheating problems. Snaplite can be installed quickly and from below the ceiling.

- For more details, please telephone 01527 595 349 or visit www.snaplite.co.uk

