

Fire resistance of recessed electrical accessories in timber and metal stud walls

(April 2024) (Second issue – supersedes February 2024)

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Applicable sites

Warranty Sites Registered with NHBC.

Applicable regions

This Technical Guidance Note applies to England, Wales, Scotland and Northern Ireland.

Background

The holes formed when fitting recessed electrical accessories (such as sockets, switches, AV/media panels etc) in plasterboard lined timber or metal stud walls can reduce the fire resistance of the wall; this can be particularly problematic when recessed electrical accessories are fitted back-to-back within the same stud void, or where stud voids are interlinked (e.g. discontinuous metal studs).

Key technical issues

Where the fire-resistant linings to timber and metal stud walls are penetrated by recessed electrical accessories (such as sockets, switches AV/media panels etc), the wall construction should still achieve the required period of fire resistance.

For internal and external walls within houses and flats, this may be achieved without the use of additional passive fire protection products where supported by suitable substantiating evidence. Alternatively, and for compartment/separating walls, the fire resistance of the wall can be reinstated with the use of intumescent pattress box linings or covers, boxings, or sacrificial service linings service linings. In Scotland, separating walls should not contain pipes, wires or other services.

When installing recessed electrical accessories (e.g. sockets, switches etc), which penetrate or potentially have a detrimental effect on the fire resistance of timber or metal stud walls, one of the following should be met:

- Suitable and relevant fire test evidence and/or extended field of application assessments that support the installation of recessed electrical accessories without the need for additional protection, or
- Suitable and relevant fire test evidence and/or extended field of application assessments that support the use of passive fire protection products (e.g. intumescent 'putty pads') in the particular type of wall being considered, or
- Products and systems with a satisfactory assessment by an appropriate independent technical approvals authority accepted by NHBC covering the particular type of wall and accessory being considered, or
- Proprietary wall systems with satisfactory assessment by an appropriate independent technical approvals authority accepted by NHBC which includes the use of specific wall type and ancillary products which has been demonstrated to be satisfactory through testing and assessment, and are to be used within the limitations of the certification.

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The following supporting evidence may be used:

- Fire resistance tests used to support the installation of recessed electrical accessories without the need for additional protection should be to BS EN 1365-1 or BS 476-21 for loadbearing walls, or BS EN 1364-1 or BS 476-22 for non-load bearing walls.
- The tested products, materials and systems should be the same as those being proposed on the project, within the limitations of the field of direct application.
- Passive fire protection products (such as intumescent ‘putty pads’ and covers) should be tested to either BS EN 1366-3, or as part of a wall system to the standards outlined in the previous item. The tested products, materials and systems should be the same as those being proposed on the project, within the limitations of the field of direct application.
- An extended field of application assessment may be considered appropriate or acceptable in some circumstances, where they are produced to the relevant British or European Standards (such as BS EN 15725) and/or to the PFPF Guide to Undertaking Technical Assessments of Fire Performance of Construction Products Based on Fire Test Evidence covering the products, materials and systems being proposed on applications slightly different to that undertaken during the fire test.

Further guidance on electrical installations and their potential impact on the fire performance can be found in the Electrical Safety First Best-Practice Guide 5 Issue 3.

Transition Arrangements

For every NHBC registered home whose foundations are begun on or after 1st September 2024, recessed electrical accessories in fire-resisting timber and metal stud walls should either have suitable fire test evidence, an extended field of application assessment or satisfactory assessment by an independent technical approvals authority accepted by NHBC. In all cases, the fire test evidence, extended field of application assessment or independent technical approval should cover the products, materials and systems being proposed.



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