



FIRE DOORS IN DWELLINGS

Purpose

BCA technical guidance notes are for the benefit of its members and the construction industry, to provide information, promote good practice and encourage consistency of interpretation for the benefit of our clients. They are advisory in nature, and in all cases the responsibility for determining compliance with the Building Regulations remains with the building control body concerned.

This guidance note is based upon information available at the time of issue and may be subject to change. The Approved Documents should be consulted for full details in any particular case.

Introduction

This Technical Circular gives guidance on the use of fire doors (**FD20**) within dwellings to comply with Building Regulations Requirement B1.

The guidance applies solely to locations within a dwelling, i.e. either within a single family dwelling house or a within an individual flat where the Approved Document B 2006 guidance refers to the use of a door to provide an FD20 standard of fire protection.

The guidance also only applies to the installation of new fire doors. In instances where it is proposed to upgrade existing doorsets reference should be made to BCA Technical Guidance Note 4 which covers the upgrading of existing door leaves and framesets.

Key Issues

Approved Document B 2006 refers to the use of FD20 fire doors where they form part of the enclosure to:

- a protected stairway in a single family dwelling house, or
- a protected entrance hall or protected landing in a flat.

This guidance contained in this Technical Circular does not apply to a door between a house and a garage, flat entrance doors, fire doors located in the common parts of buildings containing flats, i.e. does not apply to cross corridor doors or doors to communal stair enclosures or to existing doors which are to be upgraded.

This guidance covers the following areas of policy with regard to fire doors within dwellings:

- intumescent seals
- cold smoke seals
- protection to cupboards

Guidance

Intumescent Seals

In the past, timber fire doors were widely available that met the FD20 period of fire resistance when subjected to an appropriate fire test method. It was common for a door to be rated FD30 when installed with intumescent seals and rated FD20 when installed without intumescent seals.

However, certifiers of fire doors (such as BWF and BM TRADA) have, over time, ceased to certify fire doors to a FD20 standard. The minimum rating of a fire door is now predominantly FD30, with intumescent seals being necessary to achieve this rating. This change came about in recognition that very tight edge gaps were necessary to achieve a FD20 fire rating when doors were subjected to fire resistance testing without intumescent strips. Certifiers of fire doors were concerned that these edge gap tolerances would prove impractical and that the edge gap dimension was unlikely to be maintained over the service life of the door. FD20 doors are therefore no longer available under independent certification schemes such as BWF – CERTIFIRE and BM TRADA – Q mark.

Construction industry practice, however, has not significantly changed over the years. It is still common for an FD30 fire rated door leaf to be installed in a site made frame without the installation of intumescent seals. Whilst this practice may not be directly supported by an appropriate fire test or independent certification, this method of installation has been widely accepted by building control (without objection from DCLG) as providing a sufficient level of protection to escape routes within dwellings.

Policy – Intumescent seals

For doors opening on to a protected escape route situated within a single family dwellinghouse or within an individual flat, FD30 door leaves that have been tested as part of a set incorporating intumescent edge protection are acceptable when installed with or without intumescent edge protection. Edge gaps to the Jamb and head of the door should be a maximum 4mm. The gap at the bottom of the door should be restricted to maximum of 22mm from an unfinished floor and a maximum of 10mm from a finished floor.

Cold Smoke Seals

Building Regulations do not require cold smoke seals to be fitted to fire doors opening on to a protected escape route situated within a single family dwellinghouse or within an individual flat.

Where cold smoke seals are fitted, the smoke alarm in the circulation space (protected entrance hall or protected stair) may be activated slightly later in the development of the fire. However, there will be the same amount of smoke in the protected route when the detector is activated and contamination after this point will be slower due to the presence of the smoke seal. Therefore, conditions on the escape route should be improved and allow occupants to escape more safely.

Policy – Cold smoke seals

Cold smoke seals are not required to be provided to fire doors opening on to a protected escape route situated within a single family dwellinghouse or within an individual flat, where they are fitted, they do not need to be removed.

Decoration of door seals

Cold smoke seals should not be painted as this could impair their operation in a fire and can also affect the closing action of the fire door. Any painted seals should be removed and replaced.

Intumescent seals (without a smoke seal) are tested without a paint finish. However, most intumescent seal manufacturers accept painting of intumescent seals, with standard decorative paints. If in doubt seek the manufacturer's advice.

Protection to cupboards

A question often arises as to whether doors to cupboards opening on to a protected escape route situated within a single family dwellinghouse or within an individual flat need to be fire resisting.

Under Approved Document B 2006 guidance, where a protected hall or stairway is provided it should be enclosed in fire-resisting construction (walls and doors). The aim of the Part B requirement is to separate the escape routes from potential sources of fire. The Part B 2006 guidance in relation to protected escape routes that are situated within individual flats clearly shows cupboard accommodation opening on to a protected entrance hall provided with a FD20 fire door.

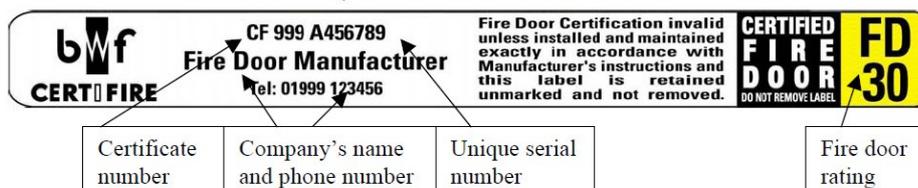
The Part B 2006 guidance in respect of single family dwellinghouses is not as clear in this regard. However, as the principle is to separate potential sources of fire from the escape route, it would be reasonable to apply this same criteria to cupboard accommodation entered from a protected stair in a single family dwellinghouse.

Policy – Protection to cupboards

Cupboards opening on to a protected escape route situated within a single family dwellinghouse or within an individual flats should be fitted with a fire door (e.g. min FD20 rating). The door need not be self-closing.

Marking of Fire Doors

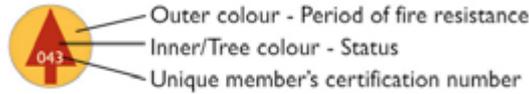
Fire doors certified under the BWF Certifire fire door and doorset scheme can be identified by a tamper evident label on the top edge of the door leaf. The certificate confirms the manufacturer, the certificate number a serial number and the fire rating for the door.



Fire doors certified under the BM Trada Q-Mark scheme have a circular plastic plug in the side of the hinge jamb. The plug has a colour coded background with a tree symbol inside. The plug for 30 minute doors is coloured yellow.



Timber Fire Door Certification Scheme



Outer colour - Period of fire resistance (mins)	30	60	90	120

Inner/Tree colour - when fixed to door	
	Approved door. (FD30 & FD60 only) Intumescent not yet fitted.
	Approved factory fitted glazing.
	Approved door. Intumescent in door factory fitted.
	Certified factory hung doorset.
	Certified installed doorset.

Inner/Tree colour - when fixed to frame	
	Approved frame to match door. All intumescent to door and frame fitted.

For scheme and members' details visit www.bmtrada.com or telephone 01494 569800