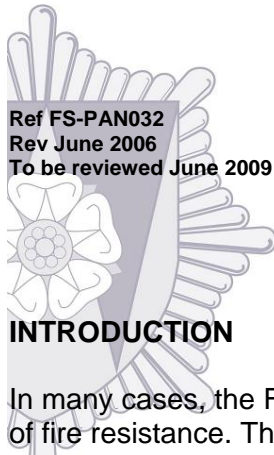


Advice Leaflet 32 Fire Resistance – General Standards



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INTRODUCTION

In many cases, the Fire Authority asks for an element of structure to have a minimum period of fire resistance. This fire resistance is usually for a period of 30 minutes to protect means of escape routes. Sometimes, a period of 60 minutes will be required when separating areas of high fire risk from other areas and when separating basements from the remainder of the building.

NOTE: The periods of fire resistance quoted in this advice note are for elements of structure tested in accordance with the relevant part of British Standard 476.

OTHER AUTHORITIES YOU MAY NEED TO CONSULT

It is likely that the upgrading of elements of structure will require approval by the local authority building control department or by an approved inspector.

Other bodies may also need to be consulted such as:

- Health and Safety Executive
- Environmental Health Department (local authority)
- Insurers of property

WHAT IS FIRE RESISTING?

Fire resisting can be defined as:

A structure or door which is able to resist the passage of fire, heat and smoke for a minimum period of 30 minutes and meets with the relevant parts of British Standard 476.

APPLYING FIRE RESISTANCE

When a requirement or recommendation is made by an authority for an existing element of structure to be made fire resisting, the materials should be applied to the risk side, e. g, if it is recommended or required that a kitchen be separated from the adjoining accommodation, the fire resisting materials should be applied on the kitchen side of the wall. Likewise, if a cupboard under the stairs is to be made fire resisting, the interior of the cupboard should be lined with fire resisting materials.

Where pipe-work or other services pass through a fire resisting structure, it is essential to ensure that all gaps are sealed with fire resisting material such as plaster or an intumescent material, to prevent the passage of fire, smoke and other products of combustion to adjoining rooms or structures.

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WALLS AND DOORS

Walls that are required to be fire resisting must extend from the true floor to the underside of the structural floor above and be imperforate. Suitable materials for this would be brick, block-work or studwork partitioning with a 12.5mm thickness of Portland Cement Plaster or Gypsum Plaster on each face of the studwork. Joints should be taped, filled and timber backed. Any door in a fire resisting wall should comprise of a fire resisting doorset, i. e, door and frame conforming with BS 476: Part 22 and 31.1 if a smoke seal door is also required.

It is essential that any gap between the frame and the structural wall be filled to make it fire resisting for the relevant time period.

Further advice on upgrading walls can be found in West Yorkshire Fire & Rescue Service (WYFRS) Advice Leaflet 46 "Walls - Upgrading The Fire Resistance Of Existing Walls".

FLOORS AND CEILINGS

Floors and ceilings can be upgraded by applying fire-resisting material below the ceiling, below the floor or above the floor.

Whichever method, or combination of methods, are adopted it is essential to use a method or system which has been tested in accordance with the relevant part of BS 476.

Further advice on upgrading floors can be found in the WYFRS Advice Leaflet 34 "Floors - Upgrading The Fire Resistance Of Existing Floors"

GLAZING

Glazed elements in a fire-resisting wall or door should be of cast wired or other proprietary fire resisting glass. It should be installed in accordance with the manufacturer's instructions. These will specify the use of intumescent beads, minimum thickness of timber, the lengths of screws etc.

Further advice on fire resisting glazing can be found in WYFRS Advice Leaflet 46 "Walls - Upgrading The Fire Resistance Of Existing Walls".

GENERAL

The above methods are given as examples of effective ways of achieving an acceptable level of fire resistance. There are many other ways of achieving a similar standard of fire resistance, which can be obtained from the documents listed in the Bibliography below.

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BIBLIOGRAPHY

Detailed guidance on how to achieve adequate standards of fire resistance may be obtained from the following bibliography.

Listed alongside each document is the organisation from which it may be obtained.

TITLE	AVAILABLE FROM
Building Regulations 2000 Approved Document B	SO
BS 476: Part 20: 1987 AMD 1 Fire tests on building materials and structures. Part 20: Method for determination of the fire resistance of elements of construction (general principles) (AMD 6487) dated 30 April 1990	BSI
BS 476: Part 21: Methods for Determination of the Fire Resistance of Load Bearing Elements of Construction	BSI
BS 476: Part 22: Methods for Determination of the Fire Resistance of Non-Load Bearing Elements of Construction	BSI
BS 5588: Part 1: Code of Practice for Residential Buildings	BSI
BS 5588: Part 5: Code of Practice for Firefighting Staircases and Lifts	BSI
BS 5588: Part 11: 1997 Fire precautions in the design, construction and use of buildings. Part 11: Code of practice for shops, offices, industrial storage and other similar buildings	BSI
PD 6512: Part 3: Guide to the Performance of Glass	BSI
Building Research Establishment Digest 208: Increasing the Fire Resistance of Existing Timber Floors	BRE
Building Research Establishment Information Paper IP 8/82 Increasing the Fire Resistance of Existing Timber Doors	BRE
Timber Research and Development Association Wood Information Sheet 1-32: Fire Resisting Doorsets by Upgrading	TRADA
The Fire Precautions (Non-Certified Factory, Office, Shop and Railway Premises) (Revocation) Regulations 1989	SO
Fire Safety Risk Assessment – a series of guides to accompany the Regulatory Reform (Fire Safety) Order 2005	TSO

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The publications can be obtained from the following addresses:

SO	<p>The Stationery Office Ltd PO BOX 29 Norwich NR3 1GN</p> <p>or</p> <p>Blackwells Blenheim Terrace Leeds LS2 9HJ</p>	<p>Tel: 0870 600 5522 Fax: 0870 600 5533 e-mail: customer.services@tso.co.uk web: www.tso.co.uk/bookshop/bookstore.asp</p> <p>Tel: 0113 245 2623 Fax: 0113 242 5641 e-mail: osleeds@blackwellsbookshops.co.uk Opening hours: Mon–Sat: 09.00 – 17.30</p>
BSI	<p>British Standards Institution (Sales) 389 Chiswick High Road LONDON W44 AR</p>	<p>Tel: 0208 996 7003 e-mail: cservices@bsi-global.com web: bsonline.techindex.co.uk</p>
BRE	<p>Building Research Establishment Garston Watford WD25 9XX</p>	<p>Tel: 01923 894040 e-mail: enquiries@bre.co.uk web: www.bre.co.uk/</p>
TRADA	<p>TRADA Technology Ltd Stocking Lane Hughendon Valley High Wycombe Bucks HP14 4ND</p>	<p>Tel: 01494 569600 Fax: 01494 565487 e-mail: information@trada.co.uk web: www.trada.co.uk</p>

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FURTHER ADVICE

Further advice on achieving fire-resisting standards may be obtained from:
The Timber Research and Development Association address given in the Bibliography

The local authority building control office at the address given below

BRADFORD	City of Bradford MC Building Control Services 3rd Floor Jacob's Well Nelson Street Bradford BD1 5RW	Tel: 01274 433807 Fax: 01274 435081
CALDERDALE	Calderdale Metropolitan Council Calderdale Building Control Services Westgate House Westgate Halifax HX1 1PS	Tel: 01422 392223 Fax: 01422 392203 e-mail: building.control@calderdale.gov.uk
KIRKLEES	Kirklees Metropolitan Council Building Control Kirklees MC Civic Centre 3 High Street Huddersfield HD1 2NA	Tel: 01484 221519 e-mail: building.control@kirklees.gov.uk
LEEDS	Leeds City Council Development enquiry centre Leonardo Building, 2 Rossington Street Leeds, LS2 8HD	Tel: 0113 247 8000 e-mail: PLAN.Building.Control@leeds.gov.uk
WAKEFIELD	City of Wakefield Metropolitan Council Building Control Services Newton Bar, Leeds Road, Wakefield WF1 2TX	Tel: 01924 306580 e-mail: buildingcontrol@wakefield.gov.uk