LOFT CONVERSIONS

and the

BUILDING REGULATIONS

Simplified Guidance

LOCAL AUTHORITY
BUILDING CONTROL

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The original edition of this document was developed by colleagues at Exeter City Council to whom
Local Authority Building Control Wales are obliged

1 INTRODUCTION

1:1 This guidance booklet considers the extension of a typical 2 storey dwelling into a 3 storey unit, by the addition of a 'Loft Conversion' within the existing roof space. It is not possible, nor is it intended that this booklet should cover every aspect of the design. Primarily, its purpose is to highlight the basic design considerations which need to be addressed. Specific technical detail has largely been omitted due to the criteria being subject to frequent change. If the proposal involves the conversion of a loft space above a bungalow, the fire safety provisions indicated in section 4:00 are not applicable, other than the arrangement of inner rooms**.**

1:2 When considering a loft conversion, contact must be made with the relevant Planning Authority to ascertain whether an application is required under the Town & Country Planning Act, Building Regulation consent will always be required.

1:3 The Party Wall Act, 1996, places certain obligations on you if you are going to carry out work which involves the party wall (that is the separating wall) if you live in a semi detached or terrace property. An advice leaflet on The Party Wall Act is available from the Council.

2 DESIGN CONSIDERATIONS

2:1 The booklet will examine what we consider to be the most important areas of the design, and those, which through experience, have caused problems during both the design and construction stages.

2:2 **Structural Stability** of the dwelling, considering both the existing structure and the proposed alterations, with reference to the supporting Approved Document A, of Schedule 1 to the Building Regulations.

2:3 **Fire Safety** of the proposed conversion with reference to the Approved Document B volume I of Schedule 1 to the Building Regulations.

2:4 **Ventilation** of the rooms and the control of condensation in roofs, with reference to the Approved Document C and F, of Schedule 1 to the Building Regulations.

2:5 **Staircase** provision to the new storey with reference to the Approved Document K, of Schedule 1 to the Building Regulations.

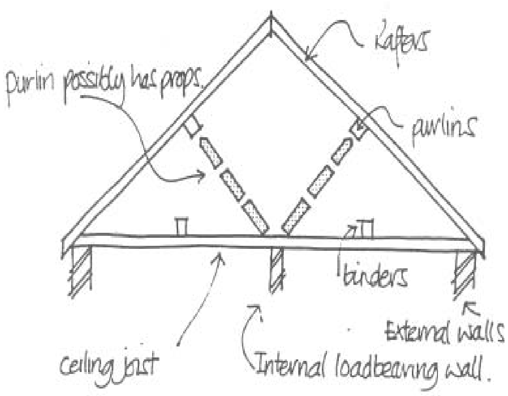
2:6 **Thermal Insulation** of the conversion with reference to the Approved Document L1B, of Schedule 1 to the Building Regulations.

3 STRUCTURAL STABILITY

3:1 In assessing the structural stability requirements, it is essential to consider the existing roof construction, new floor, and the impact the alterations will have on the structure. For the purpose of illustration and discussion, it is intended to concentrate on a typical 'cut' roof scenario involving purlins, rafters and ceiling joists as indicated in **Diagram 1.**

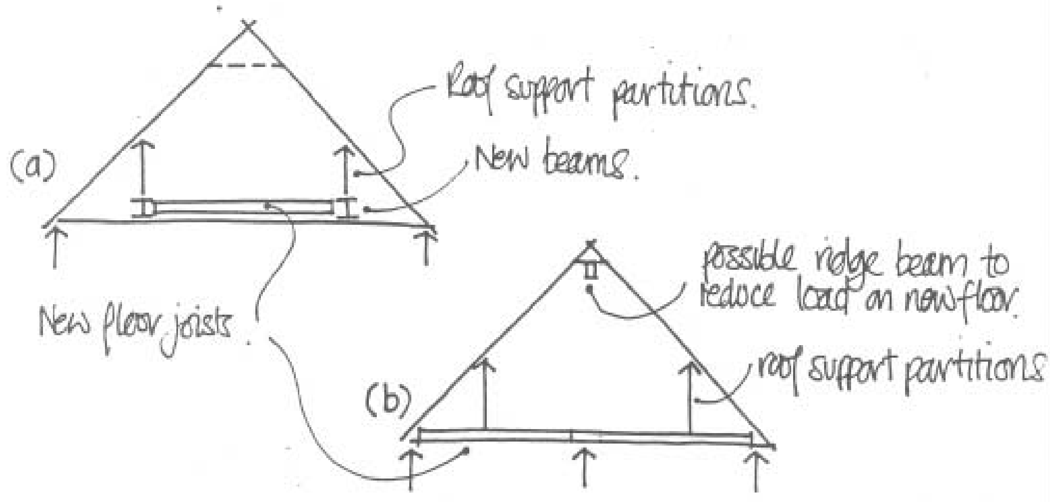
Conversions in Trussed Rafter roofs, (used since the 1960's), will require additional structural considerations, and our advice to homeowners would be to consult a Structural Engineer early in the design process.

Diagram 1



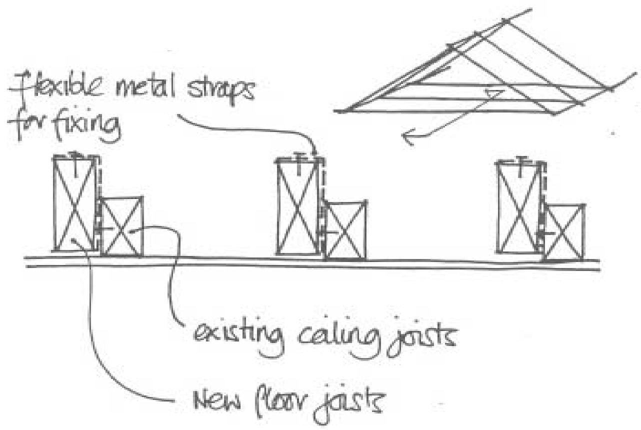
3:2 With regard to the roof, it is clearly advisable to construct the loft conversion with the minimum disruption to the existing structure. The position of the purlins, if present, is a prime factor in determining the extent of the internal area, which can be achieved in the conversion. **Diagram 2** indicates two typical arrangements. The existence of loadbearing walls at first floor level is an advantage in conversion works, in providing support to loadbearing elements transferred from the roof, partitions, and the new floor.

Diagram 2



3:3 In the majority of instances the existing ceiling joist member will be inadequate for the imposed loadings from the new floor construction. A commonly used solution is to provide new floor joists fixed alongside the existing ceiling joists, spanning from available loadbearing supports as indicated in **Diagram 3.** The new floor joist should also be capable of supporting the existing ceiling particularly where binders are to be removed. Where the new floor joists are to carry roof load, as in **Diagram 2(b)**, the floor joists need to be suitably designed.

Diagram 3



3:4 Where the available height within the loft is at a premium, it is of benefit to restrict the depth of the section of the new floor joist to a minimum. This can be achieved by reducing the span of the joist where internal loadbearing walls permit, or using a higher strength classification timber, i.e. C24 in lieu of C16.

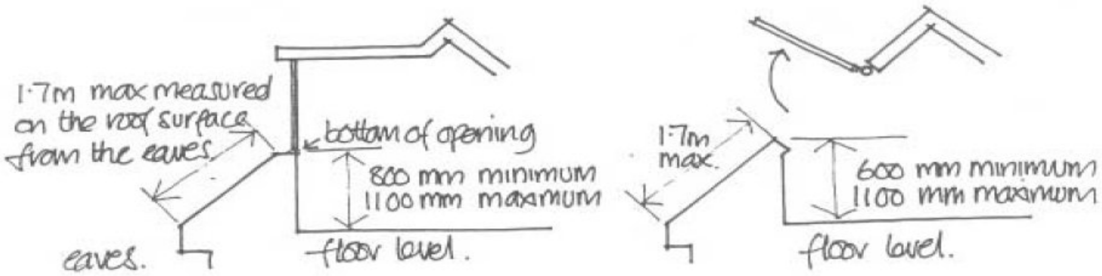
3:4:1 When considering the minimum depth of section permissible for the new floor joists, it is prudent to choose the section which offers the greatest resistance to deflection. Although a lesser section at the limit of it's load / span capability may be more economic and unlikely to fail structurally, serious damage to a previously perfect plasterboard ceiling may occur when fixed along side the existing ceiling joist due to deflection.

4 FIRE SAFETY

4:1 MEANS OF ESCAPE IN CASE OF FIRE

In a typical bungalow having a loft added escape windows need to be provided from the first floor habitable rooms. These windows will have minimum dimensions of 450mm in either direction and have an openable area of at least $0.33M^2$, the sill height should not exceed 1100mm above the floor.(see diagram 4)

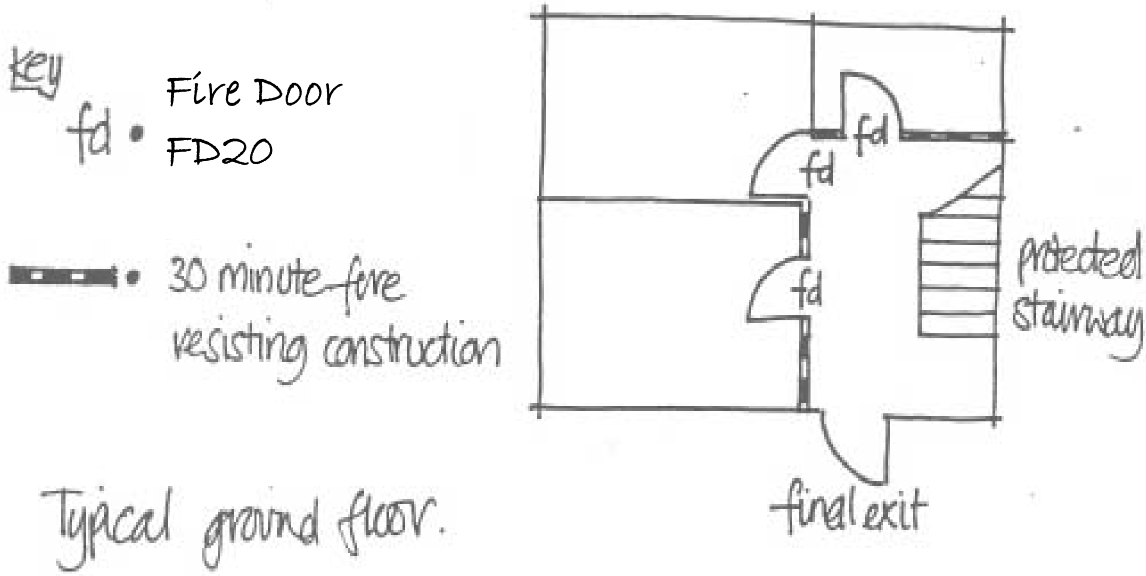
Diagram 4



The addition of a third storey to a dwelling house introduces a greater risk to the occupants of that storey in the event of a fire occurring on either of the lower floors. Accordingly the Building Regulations require additional measures to ensure a safe means of escape is provided within the building.

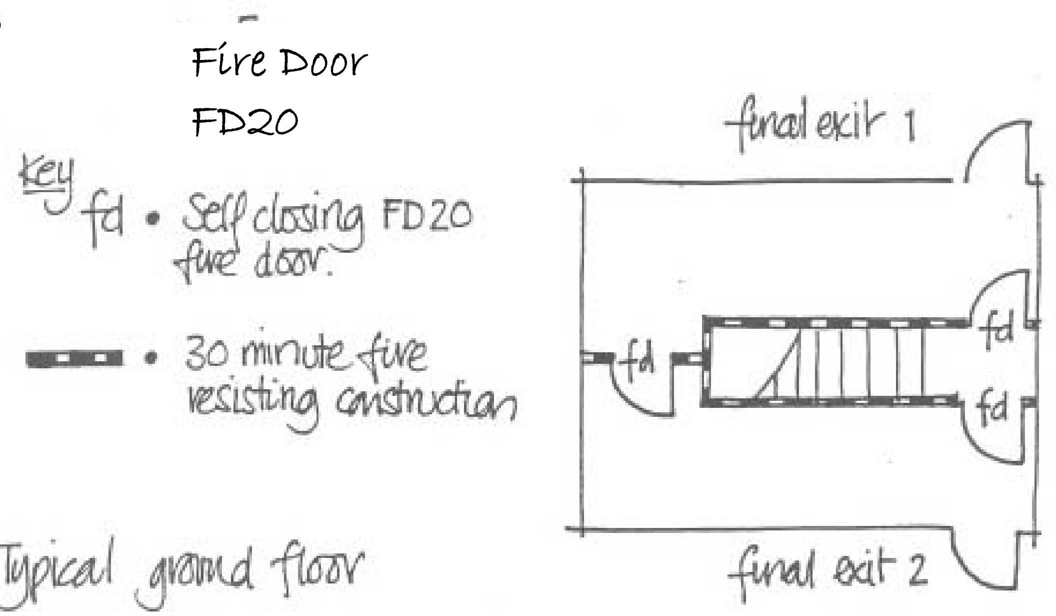
4:1:1 One of the principal requirements for means of escape, is the arrangement relating to the discharge of the existing staircase at ground floor level. Ideally, the staircase should lead directly to the front entrance door within the existing hallway as indicated in **Diagram 5.**

Diagram 5



4:1:2 However, it is not uncommon to find existing layouts where the staircase discharges into a living room area. In this instance, it will be necessary to provide two escape routes at ground level, each leading to final exits and separated from each other by fire-resisting construction and self-closing fire doors as indicated in **Diagram 6**.

Diagram 6



4:1:3 Having established a satisfactory arrangement at ground floor level, it is then necessary to consider how the route from the new third storey to ground floor can be protected to provide safe means of escape for the occupants.

4:1:4 The highest standard of 'passive' safety is achieved by providing a fully protected enclosure, achieving 30 minutes fire resistance, from the third storey to the final exit at ground floor level. This will involve assessing the performance of the walls and partitions to the staircase enclosure in addition to the floor construction, (guidance on upgrading floors to achieve 30 minutes fire resistance is contained in paragraphs 4:30 - 4:32, "Structural Fire Resistance").

In applying this solution, all doors to habitable rooms leading onto the staircase enclosure must also achieve 20 minutes fire resistance. If it is considered undesirable to replace existing doors (e.g. if they are of historical or architectural merit) it maybe possible to retain the doors or upgrade them to an acceptable standard.

Where an ‘open-plan’ arrangement exists at ground level it may be necessary to provide a new partition to enclose the escape route. Alternatively, it may be possible to provide sprinkler protection to the open plan area, in conjunction with a fire resisting partition and door (FD20), in order to separate the ground floor from the upper storeys. This door should be so arranged as to allow the occupants of the loft room to access an escape window at first floor level in the event of a fire in the open plan area. Cooking facilities should be separated from the open plan area with fire resisting construction.

4:1:5 Consideration must be given to the position of access to the new storey from the first floor level. Generally, the new stair will rise from the existing landing level and will be afforded the protection detailed above, however, the situation can arise where, due to space restrictions, access is more suitably gained from an existing bedroom. In this instance, it is essential to create a lobby arrangement to remove the necessity to pass through the bedroom to reach the staircase enclosure.

4:1:6 The existing floors and new floors to achieve a 30 minute fire rating.;

4:1:7 Whether the loft conversion is in a one or two storey house, an interlinked automatic smoke detection and alarm system must be provided on every storey, which must be sited in the circulation space within 7.5m from habitable rooms and more than 300mm from any walls or light fittings.

The power supply for the alarm system must be derived from the mains electricity but must also have a standby power in case of mains failure. In accordance with BS5839 – Part 6 2013, design system as a grade D, category LD3 system.

4:2 SURFACE SPREAD OF FLAME

The Building Regulations control the performance of materials provided for the surface finish of walls and ceilings. The choice of surface finish can significantly affect the spread of a fire and it's rate of growth, even though they are not likely to be the materials first ignited.

4:2:1 It is not the intention of this booklet to delve into the technicalities of this requirement, however, it is sufficient to say that the traditional finish of plaster to the internal walls and ceiling will be adequate. If more unconventional finishes are to be specified, contact should be made with the Building Control Surveyor.

4:3 STRUCTURAL FIRE RESISTANCE

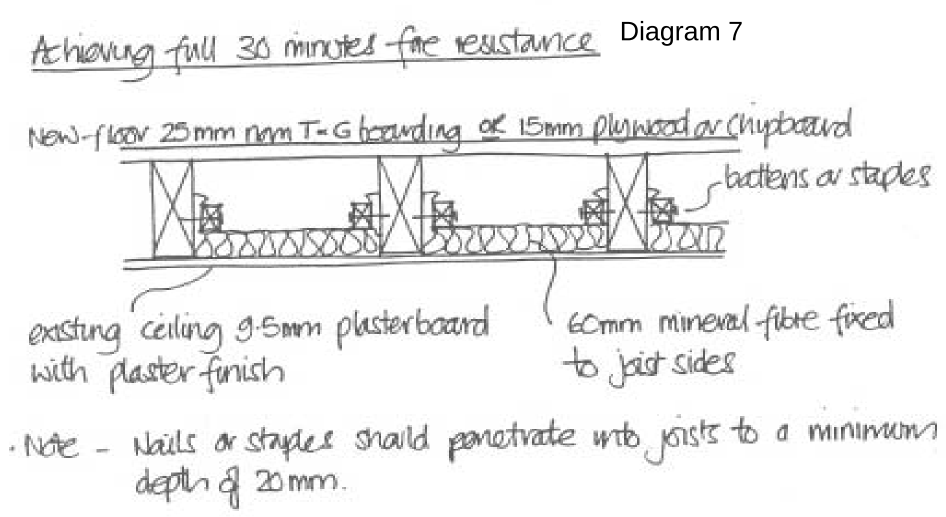
For the purpose of this requirement, there are two items, which require investigation to enable a design solution to be achieved.

4:3:1 The new floor construction to the third storey requires a minimum period of 30 minutes fire resistance, which generally speaking will require the up-grading of the existing construction. In addition the existing first floor should have adequate fire resistance, and should be checked accordingly.

There is of course an abundance of 'solutions' available from a range of fire protection material manufacturers in addition to acceptable methods which appear in the Building Research Establishment, Digest 208, (further details can be obtained from your Building Control surveyor.

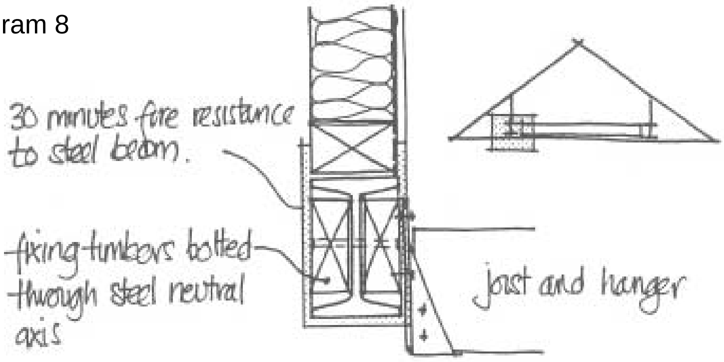
Diagram 7 indicates an acceptable design solution based on information contained within BRE Digest Paper 208. Variations will naturally occur in the nature of the existing ceiling and the proposed flooring finish; where these deviate from the illustrated solution, the Building Control surveyor should be contacted.

Diagram 7



4:3:2 Structural elements in the proposal, (i.e. timber or steel beams supporting the new floor), will also require a minimum period of 30 minutes fire resistance. This can be achieved by providing an imperforate 30 minute ceiling below; individual 3 sided protection as detailed in **Diagram 8**, or intumescent paint to the steel beams.

Diagram 8



4:4 EXTERNAL FIRE SPREAD

There are several considerations which need to be taken into account in respect of loft conversions to satisfy this requirement, which are generally more onerous when opting for a dormer, rather than a roof light.

4:4:1 The roof covering of new dormers should be specified to give adequate protection against the spread of fire over them. For practical purposes, the re-use of the existing roof covering of natural or fibre reinforced cement slate, or, concrete or clay tile, will satisfy the requirement.

Additional consideration should be given where a new flat roof is proposed. Where a flat roof covered with a built-up bitumen felt system is specified, the performance will be satisfactory if the surface finish is bitumen-bonded, stone chippings to a depth of at least 12.5mm.

4:4:2 Space separation between buildings is important to restrict the chance of fire spreading across an open space between buildings. Where such part of the external wall does not achieve the relevant period of fire resistance, in this case 30 minutes. or has a combustible surface material, they are referred to as 'unprotected areas'.

For the purpose of dormer installations within domestic loft conversions, the relationship between 'unprotected areas' and the boundary line of the property becomes critical when the distance is less than 1m. This might occur when the dormer cheek, (the side wall of a dormer), or the window, faces the boundary.

A wall is treated as facing a boundary if it is parallel with it, or makes an angle with it of 80° or less, as indicated in **Diagram 9**

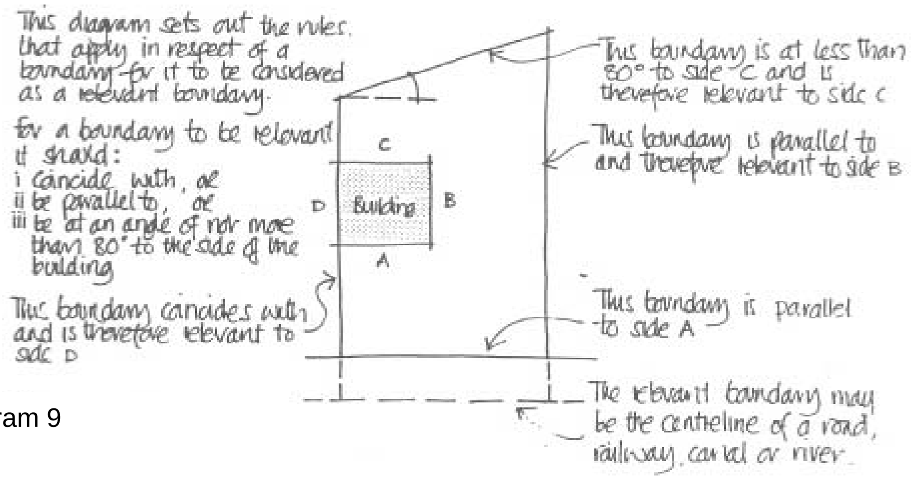
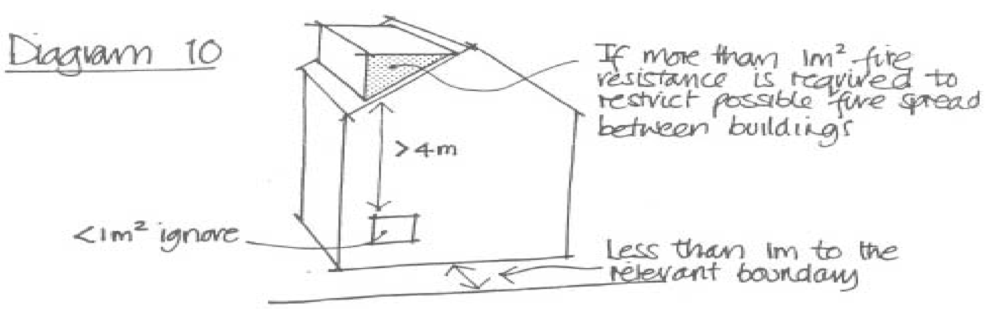


Diagram 9

4:4:3 Small areas of unprotected area can be discounted within 1 metre of the boundary, provided that they are not more than 1 sq. metre in total area, and separated from each over by a distance of at least 4metres, as indicated in **Diagram** 10.



4:4:4 If an external wall has the appropriate fire resistance, (30 minutes in this instance), but has a combustible material more than l mm thick as it's external surface, then that wall is counted as an unprotected area amounting to half the actual area of the combustible surface material. For example, if a dormer cheek of $2m^2$, within 1 metre of the boundary, is clad with timber boarding, the unprotected area is expressed as 2 x 50% = lm^2. This would therefore be satisfactory, see 4.4.3.

4:4:5 With regard to the construction of the external wall, or dormer cheek, the element must achieve the relevant period of fire resistance (30 minutes), particularly when within 1 metre of the boundary, when it will require fire resistance from both sides. This is most important where the dormer cheek is framed in timber studwork, and will require the addition of a fire resistant board within the cheek construction.

For example, if a dormer cheek within 1 metre of the boundary is clad externally with slates, concrete or clay tiles as previously mentioned in 4:4.1, it will also require the use of a 30 minute fire resistant board internally in order to protect the studwork structure.

5 VENTILATION

5:1 ROOM VENTILATION

The formation of a habitable room requires the provision of both 'rapid ventilation', (an opening window), and 'background ventilation'. In addition, if the conversion involves a shower or bath facility, then 'mechanical ventilation' will also be required.

The following simplified guidance indicates suitable provisions for meeting the requirements, however, other methods are available, i.e.; Passive Stack Ventilation (further details are available from your Building Control surveyor.)

5:1:1 Habitable rooms, such as Bedrooms and Living Rooms, require rapid ventilation to an area equivalent to 1/20th of the floor area, i.e.; Floor area $20m^2$ = Rapid vent opening $1m^2$, and background ventilation of $5,000mm^2$.

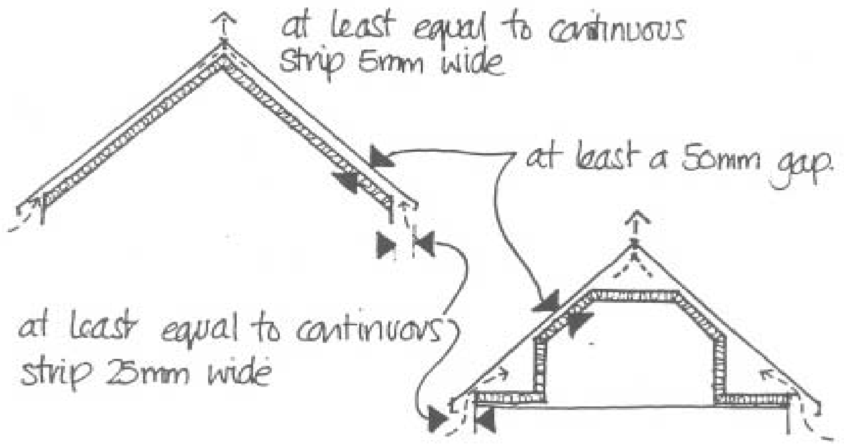
5:1:2 If a bathroom is proposed, then mechanical ventilation to the external air is required to achieve an extract rate of at least 15 litres per second, with a 15 minute overrun facility if the bathroom does not contain an opening window.

If a window is available, mechanical extract is still required, an opening window (no minimum size) and background ventilation of 2,500mm^2, must be provided.

5:2 ROOF VENTILATION

As illustrated in **Diagram 11,** the roof void above the new room will require ventilating on two opposite sides to promote cross ventilation and prevent the build-up of excessive condensation.

Diagram 11



5:2:1 Where the new ceiling follows the pitch of the existing roof, two important design features need to be included;

(a) The provision of ventilation both at the eaves level and ridge to promote a flow of air above the insulation,

and

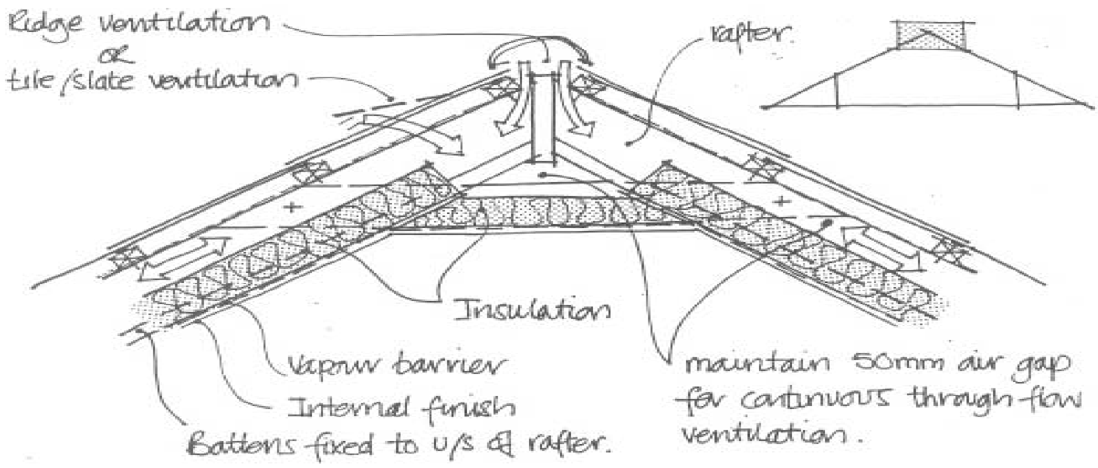
(b) A minimum air space of 50mm between the insulation and the roof covering.

It should be noted that in older properties where no roofing felt exists, the building control surveyor may waive the ventilation requirement in view of the considerable air movement that occurs in unfelted slate or tile roofs.

5:2:2 The second criteria. the 50mm air gap, often causes problems due to the thickness of insulation required to achieve the requisite level of thermal performance, and the depth of the existing rafter member.

Diagram 12 indicates a typical method of overcoming the problem using a high performance insulant and battens fixed to the underside of the rafters.

Diagram 12



STAIRCASE ACCESS

6:1 INTRODUCTION

When a new storey is proposed within a residential unit, a permanent access must be provided, which ideally will take the form of a traditional staircase similar to that which provides access from ground to first floor. In certain instances, access can be arranged via a fixed ladder or alternating tread stair, subject to restrictions, which will be discussed later.

6:2 TRADITIONAL STAIRCASE

If a traditional flight is proposed, the parameters for the rise, going and pitch of the flight are as follows; Max Rise 220mm - Min Going 220mrn - Max Pitch 42°.

The normal relationship between the dimensions of the rise and going is that twice the rise plus the going (2R + G) should be between 550rnm and 700mm.

6:2:1 HEADROOM

Where space permits, a clear 2 m of headroom should be provided above the pitch line of the flight as indicated in **Diagram 13**. However, sometimes there is not enough space to achieve this height. The headroom will be satisfactory if the height measured at the centre of the stair width is l.9 m reducing to 1.8 m at the side of the stair as shown in **Diagram 14**

Diagram 13

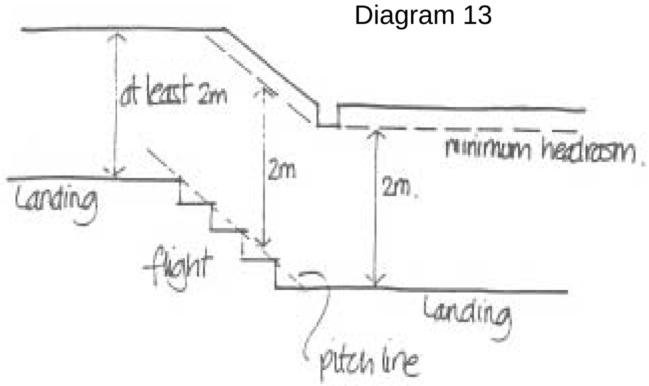
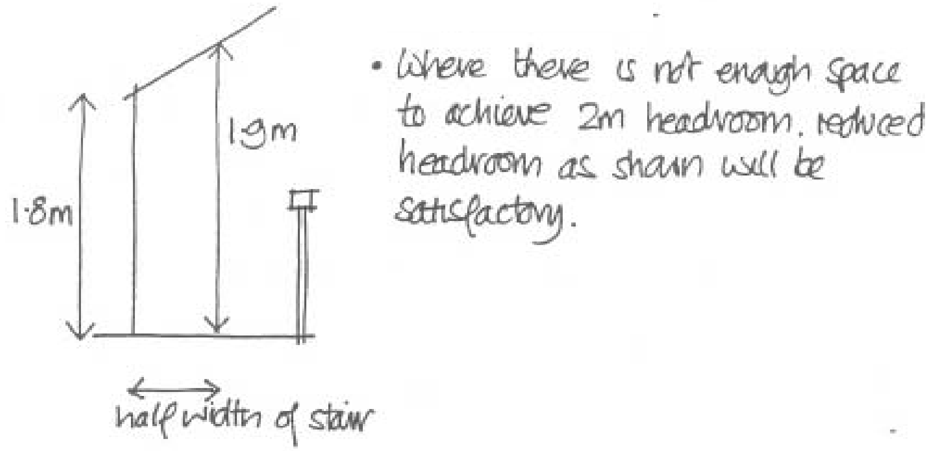


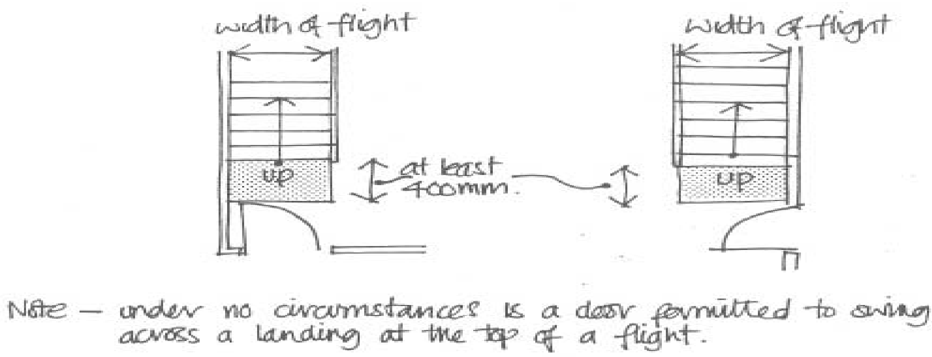
Diagram 14



6:2:2 WIDTH. The width of the flight should ensure the safe passage for people, particularly when evacuating the building in the event of fire, although not specifically controlled by the Building Regulations. The width should ideally be 800mm where two habitable rooms are involved in the conversion. However, a reduced dimension of 600mm would normally be acceptable if access is only being given to a single habitable room. It should be noted that a bedroom and en-suite bathroom is accepted as a single room provided that there is an additional W.C. in the dwelling.

6:2:3 LANDINGS. A landing should be provided at the bottom and top of the flight, with the width and length of the landing being at least the width of the flight. A door may swing across a landing at the bottom of a flight if it leaves a clear space of at least 400mm across the full width of the flight as indicated in **Diagram 15**.

Diagram 15



6:3 ALTERNATING TREAD STAIRCASE. This type of stair has a pattern of alternate handed steps with part of the tread cut away, and relies on user familiarity for safe usage.

This type of staircase should only be used in a straight flight to a single habitable room within the conversion if there is not enough space to accommodate a staircase described in 6:20. Again, W.C. / Bathroom accommodation can be included within the single room criteria, provided that there is an additional W.C. in the dwelling.

Steps should be uniform with parallel nosings, slip resistant treads, and handrails should be provided on both sides of the flight; (See **Diagram 16**).

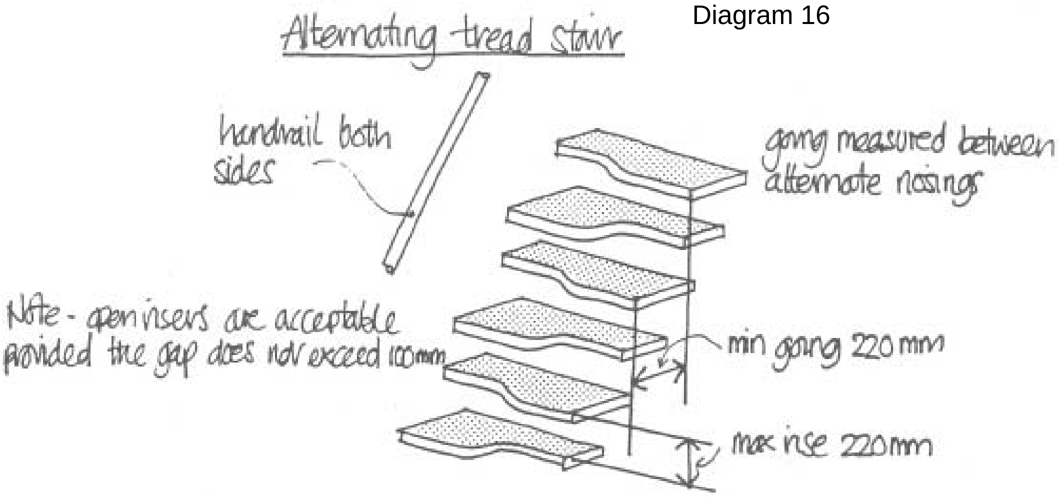


Diagram 16

6:4 FIXED LADDER

A fixed ladder may also be used to provide access to a single room in a conversion if a traditional flight cannot be accommodated due to insufficient space, without alteration, within the dwelling. The ladder cannot be retractable, and must have handrails on both sides.

6:5 SPIRAL AND HELICAL STAIRS

Spiral staircases are also acceptable provided that they achieve the rise and going constraints given in paragraph 6:20. As with alternating tread staircases, spiral staircases which offer a reduced going, may be acceptable when space is limited provided that they only serve a single habitable room. However, in practice, spiral staircases seldom seem to achieve the space saving properties often claimed.

6:6 HANDRAILS

A single handrail is required to a flight under 1m in width, unless 2 are specifically needed as mentioned earlier, positioned at a height between 900mm and l000mm from the pitch line of the flight. The pitch line is one drawn through all the nosings of the treads contained in the flight as shown in **Diagram 13**.

6:7 GUARDINGS

All flights and landings require guarding if a drop of more than 600mm is involved. If balusters are to be specified, they should be constructed so that a l00mm sphere cannot pass through any opening in the guarding to prevent children from being held fast. Guardings should be positioned at a minimum height of 900mm, and should not be climbable. In practice vertical balusters are the generally accepted method of compliance.

7 THERMAL INSULATION

7:1 INTRODUCTION

Provision must be made for insulating the roof, including the pitched section and the new internal walls within the conversion to prevent heat loss.

7:2 ROOF INSULATION.

As mentioned in paragraph 5.2.2, the use of a high performance insulant to the pitched roof section allows greater flexibility in providing effective cross-ventilation, and also increased height within the room.

7:2:1 For flat roofs, a 'warm roof' construction as indicated in **Diagram 17** can be used. See "Problem solving", paragraph 9.6, **Diagram 19.**

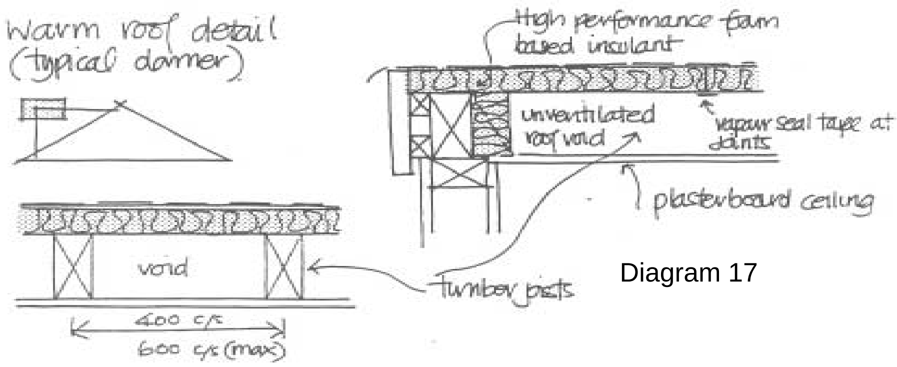


Diagram 17

7:3 INTERNAL WALL INSULATION.

This requirement is usually satisfied by the provision of Fibreglass or other similar insulation, generally held in place within timber studwork by a polythene vapour barrier faced internally with plasterboard.

8 ELECTRICAL SAFETY

Any new fixed electrical installations for domestic premises will be required to be designed and installed in accordance with the Building Regulations, Approved Document P & British Standards 7671. (Further details can be obtained from your Local Building Control Authority).

NOTE:

If you are employing the services of an electrician registered to a self certifying body, then Building Regulation Approval is not required.

9 TYPICAL PROBLEMS AND SOLUTIONS

9:1 PROBLEM:

Sill height of the roof window exceeds the 1100mm indicated in the Approved Document guidance.

SOLUTION:

A fixed step may be constructed below the window opening to bring the sill height within the 1100mm maximum.

9:2 PROBLEM:

Insufficient headroom exists over the landing at the top of the loft staircase.

SOLUTION:

The obvious answer to this problem is to construct a small dormer window, but a far more economical solution which will gain in the region of 200mm headroom, is to install a roof window over the landing area. This will also provide natural light to the staircase, but will need to be fixed shut if the central pivot type is used.

9:3 PROBLEM:

The existing fascia board is fixed directly against the wall providing no soffit for eaves ventilation.

SOLUTION: Provide an adequate number of slate or tile ventilators, allowing an interchange of air to the triangular roof void formed by the rafters, ceiling joists and vertical stud wall. Note, that the roofing felt must be penetrated below each vent, or alternatively provide over eaves ventilation and ventilated ridge tiles.

9:4 PROBLEM:

A I00mm diameter drainage vent pipe is obstructed by the structure.

SOLUTION:

It may be possible to use an air admittance valve to solve this problem making it possible to terminate the vent pipe within the roof space therefore avoiding the constriction of space. However, in some instances these valves are not permitted and in such cases it is possible for the vent pipe diameter to be reduced to 50mm in order to negotiate the restricted area. The term vent pipe applies to the dry section of the pipe only.

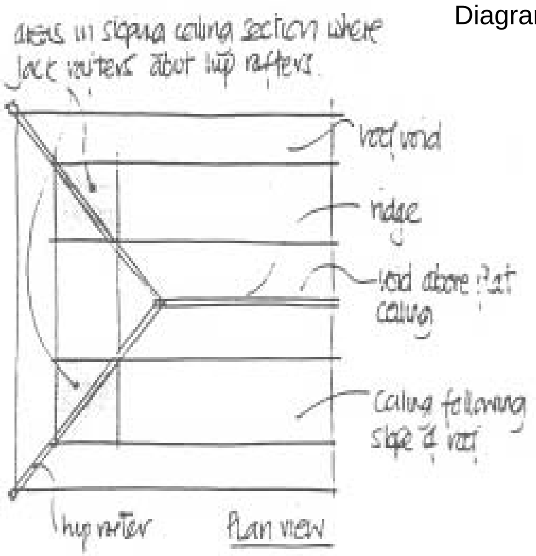
9:5 PROBLEM:

Cross ventilation to roof void where jack rafters abut the hip rafters. **Diagram 18** indicates the particular area of concern.

SOLUTION:

If the area of roof involved is very small it may not be considered necessary for health and safety reasons to provide ventilation in this area of the roof: providing the remainder of the roof is adequately ventilated. However, subject to the advice of a qualified person, some through ventilation can be achieved by drilling holes in the neutral axis of the hip rafter. You must discuss this with your Building Control Surveyor before undertaking this.

Diagram 18



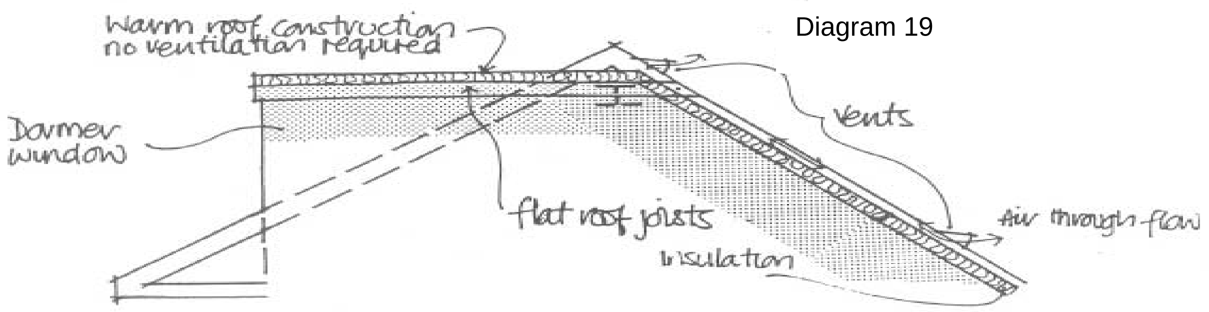
9:6 PROBLEM:

The junction between a flat roof dormer window and the ridge of the house is in some cases difficult to-ventilate in accordance with the regulations.

SOLUTION:

Provide a 'warm-roof, construction to the dormer window roof which will dispense with the requirement to ventilate the joist voids over this section of roof.

The existing section of pitched roof can be ventilated by means of slate or tile roof vents at the ridge and eaves, see **Diagram 19.**



N.B. A warm roof construction is achieved by placing a layer of rigid insulation across the top of the roof joists creating a warm roof void which will not be subject to condensation and therefore requires no ventilation. You should take the advice of your Building Control Surveyor as to what grade of insulation is adequate.

9:7 PROBLEM:

A steel or timber beam is often required at the ridge level but the point of bearing coincides with the chimney flue.

SOLUTION:

This situation often occurs in large dormer window designs where a ridge beam is normally a structural requirement. Reference to the checklist item on chimney flues will reveal that combustible material and metal fixings should be separated from a brick or blockwork chimney and this requirement generally precludes an easy solution to the problem of beam support.

An answer to this difficulty can be found if the property possesses a central loadbearing masonry wall on which a suitable vertical metal or timber post can bear. This post can then accept the load from the ridge beam provided it is separated from the flue in accordance with the Approved Document guidance, and forms part of a studwork wall suitably nogged and fixed at both rafter and new floor level. This will ensure lateral stability is maintained within the structure.

We suggest that a structural engineer be consulted for any calculations that may be required. N.B. It should be noted that a beam supporting the roof structure only, (i.e.:- at ridge level), does not require fire proofing to the half hour standard.

10 CHECKLIST

10:1 CHIMNEY FLUES

Check for existence of chimney flues within the roof space. The position of such flues may prove critical to the design as it is not acceptable to penetrate the masonry construction with floor support beams or ridge beams etc., because of the obvious fire risk.

Combustible material should be separated from a brick or blockwork chimney by at least (a) 200mm from a flue, or (b) 40mm from the outer surface of the chimney, in addition, metal fixings, i.e.:- joist hangers, in contact with combustible materials should be at least 50mrn from a flue. See also the 'Problem Solving section, and **Diagram 20.**

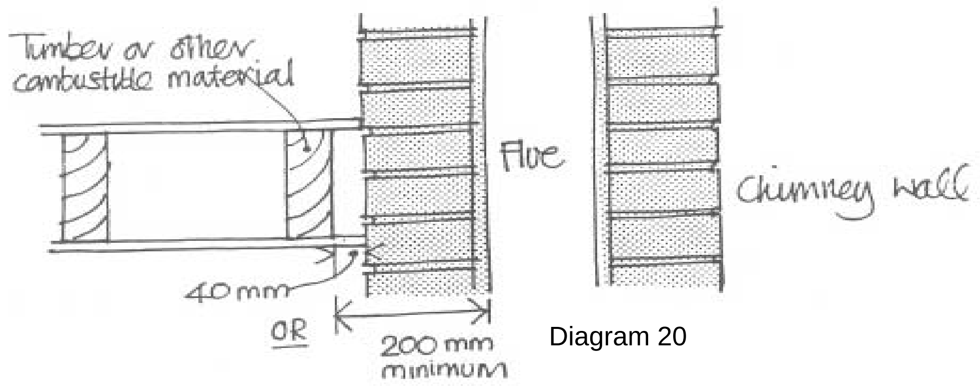


Diagram 20

10:2 HEADROOM TO STAIRCASE

Check that sufficient headroom exists over the area designated for the new stair (see **Diagram 14**), and refer to 'Problem Solving' for a possible solution if headroom is limited.

10:3 THROUGH ROOMS

Check whether any load-bearing walls at ground floor level have been removed to create a 'through-room' situation. Where this is the case it will be necessary to ascertain the type of lintel/beam used to form the opening in a loadbearing wall in order to establish its ability to cope with any extra loading imposed by the loft conversion. The Local Authority will normally request calculations.

10:4 SOIL & VENT PIPES

Check that any new or **existing** soil and vent pipe will terminate at least 900mm above any opening into the building, which is within 3.0m of the pipe.

10:5 BAY WINDOWS

Check existing lintels over bay windows to ensure that they are capable of supporting any extra loading imposed from floor joists etc. Calculations will normally be required by the Building Control Surveyor if any doubt exists, and replacement with an approved lintel requested if proved unsatisfactory.

10:6 SLIDING HINGES

Where an escape window is required in a two storey building, ensure that this window is not fitted with the 'slide-across' type of hinge. Although this facilitates easy cleaning, it may also reduce the effective opening size of the window below the minimum of at least $0.33m^2$ (clear area) and at least 450mm high and 450mm wide, as indicated in the Approved Document guidance.

10:7 ALIGNMENT OF WALLS

Check for alignment of load-bearing walls, as it is often the case that walls are offset between floor levels resulting in existing floor joists taking considerable loads from the wall above bearing upon them.

In this situation it will be necessary to ascertain the ability of the existing joists to support any additional loading imposed upon them by the loft conversion.

Calculations will normally be requested by the Local Authority to prove the adequacy of the structure.

10:8 PARTY WALLS

Check the construction of party walls at roof level. Cavity walls or 225mm solid walls usually present few problems, but 100mm thick single skin walls are problematical when beams or floor joists have to bear upon them. Design solutions, which avoid penetration of such walls, should be adopted. Fireproofing at roof level and at beam bearings should also be addressed.

10:9 PLASTIC / NYLON HINGES

It is not acceptable to use plastic or nylon type hinges and door furniture in conjunction with fire doors.

10:10 MINERAL FIBRE / FIBREGLASS QUILTS

Check that the quilt specified or used on site for achieving a full 30 minute fire resistance to the new floor is mineral fibre and not combustible fibreglass; the former being non-combustible and therefore fire retardant, the latter being highly inflammable in some product forms, see **Diagram 7.**

10:11 RIGID BOARD INSULATION

Check that the rigid board insulation supplied for use in the rafter voids is a high performance foam based insulant and not the cheaper white polystyrene normally used for cavity wall insulation. The former is twice as efficient thermally and allows increased height within the room. If in doubt, contact your Building Control Surveyor for advice before installation. Thermal efficiency requirements change regularly, please ask for the up to date 'U Value' requirement.

10:12 FD20 SPECIFICATION FIRE DOOR

A FD20 fire-resisting door rated to BS 476: Part 22, can be identified by 'core plugs' set into the lipping of the door. If the plug has a red core within a white background, an intumescent strip will be required in either the door or frame to achieve the rating. However, if the door is identified by a blue core within a white background, then the additional provision of intumescent is not required to satisfy a FD20 performance. Other forms of identification are also being introduced, if in doubt ask your Building Control Surveyor. Two hinges would normally be provided for this rating.