



Coimisiún na Scrúduithe Stáit
State Examinations Commission

Scéimeanna Marcála

Scrúduithe Ardteistiméireachta, 2003

Staidéar Foirgníochta

Ardleibhéal

Marking Scheme

Leaving Certificate Examination, 2003

Construction Studies

Higher Level



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State Examinations Commission

Scrúdú Ardteistiméireachta, 2003



Staidéar Foirgníochta
Teoiric – Ardleibhéal

Construction Studies
Theory – Higher Level

Scéim Mharcála
Marking Scheme

Ceist 1

Performance Criteria	Maximum Mark
(a)	
<i>Any 8x6marks each out of first 12, (5marks for drawing and 1mark for drafting and annotation.)</i>	
Walls and cavity	6
Insulation against inner leaf	6
D.P.C. over lintels	6
Lintels	6
Door: frame and rebate	6
Door: top rail, lock rail, bottom rail	6
Plaster: inner and outer	6
Panels: glass and solid	6
Threshold	6
Floor D.P.M and insulation	6
Hardcore and cavity fill	6
Step and D.P.C.	6
(b)	
<i>6 marks for each of 2 applicable design details</i>	
Correct position of D.P.C. at lintels	6
Threshold/Patent System	6
Section through jamb and vertical D.P.C.	6
Or others	
TOTAL	60

Ceist 2

Performance Criteria	Maximum Mark
(a)	
<i>(Correct positioning of 8 appliances/fittings x2 marks)</i>	
Drawing of well proportioned layout	10
Doors	2
Sink	2
Storage	2
Electric Cooker	2
Windows	2
Work Surface	2
Fridge	2
Dining Table	2
(b)	
Note Describing Design Consideration No. 1	4
Sketch of Design Consideration No. 1	4
Note Describing Design Consideration No. 2	4
Sketch of Design Consideration No. 2	4
(c)	
Design Consideration No. 1	6
Design Consideration No. 2	6
Design Consideration No. 3	6
TOTAL	60

Ceist 3

Performance Criteria	Maximum Mark
(a)	
Selected Area No. 1	2
Reason No. 1	4
Reason No. 2	4
Selected Area No. 2	2
Reason No. 1	4
Reason No. 2	4
Selected Area No. 3	2
Reason No. 1	4
Reason No. 2	4
(b)	
Note Describing Repair No. 1	5
Sketch of Repair No. 1	5
Note Describing Repair No. 2	5
Sketch of Repair No. 2	5
Note Describing Repair No. 3	5
Sketch of Repair No. 3	5
TOTAL	60

Ceist 4

Performance Criteria	Maximum Mark
(a)	
Dry Rot	
Condition No. 1	5
Condition No. 2	5
Wet Rot	
Condition No. 1	5
Condition No. 2	5
(b)	
Select Location	5
Note, Method 1	5
Sketch, Method 1	5
Note, Method 2	5
Sketch, Method 2	5
(c)	
Design Detail Sketch	5
Note on the Design	5
Appropriateness of the note to the selected location	5
TOTAL	60

Ceist 5

Performance Criteria	Maximum Mark
(a)	
<i>8 lines of calculation, 3marks each</i>	
Correct Tabulation	3
External and Internal Surface Resistance	3
Brickwork Resistance	3
Cavity Resistance	3
Block Work Resistance	3
Internal Plaster	3
Total Resistance	3
U Value	3
(b)	
<i>(i) 3 lines of calculations x 3marks</i>	
Urea Formaldehyde Foam Resistance	3
Total Resistance	3
U Value	3
<i>(ii) 5 lines of calculations x 3marks</i>	
50mm Rigid Urethane	3
12.5mm Plasterboard	3
Calculation	3
Total Resistance	3
U Value	3
(c)	
Evaluate Method 1	3
Evaluate Method 2	3
Reason 1	3
Reason 2	3
TOTAL	60

Ceist 6

Performance Criteria	Maximum Mark
(a)	
<i>Any 8x5marks each</i>	
Apron Flashing Sketch	5
Apron Flashing Note	5
Soaker Flashing Sketch	5
Soaker Flashing Note	5
Back Gutter Sketch	5
Back Gutter Note	5
Cover Flashing Sketch	5
Cover Flashing Note	5
Tray Flashing Sketch	5
Tray Flashing Note	5
(b)	
Situation	10
Note	5
Sketch	5
TOTAL	60

Ceist 7

Performance Criteria	Maximum Mark
(a)	
<i>3marks each for each shown on sketch, to maximum of 36marks</i>	
Boiler Regulating (thermostatic) Valve Radiators Radiator Valves Water Storage Tank Flow Pipe to Central Heating Return Pipe from Radiators Gate and Drain Valve Primary Flow Primary Return Cold Feed (tank to primary circuit) Vent Pipe Indirect Cylinder Header or Expansion tank	3 3 3 3 3 3 3 3 3 3 3 3 3 3 3
(b)	
Design Detail No. 1 Sketch Note	4 4 4
Design Detail No. 2 Sketch Note	4 4 4
Design Detail No. 3 Sketch Note	4 4 4
TOTAL	60

Ceist 8

Performance Criteria	Maximum Mark
(a)	
<i>Any 9x4marks, or any other relevant detail</i>	
String	4
Newel	4
Tread	4
Riser	4
Handrail	4
Balusters	4
Wedges	4
Glue Block	4
Joists	4
Trimmer Joists	4
Strutting	4
Plasterboard	4
(b)	
Note Describing Design Detail No. 1	3
Sketch of Design Detail No. 1	3
Note Describing Design Detail No. 2	3
Sketch of Design Detail No. 2	3
(c)	
Note Describing Method No. 1	3
Sketch of Method No. 1	3
Note Describing Method No. 2	3
Sketch of Method No. 2	3
TOTAL	60

Ceist 9

Performance Criteria	Maximum Mark
(a)	
Note Describing Method No. 1	5
Sketch of Method No. 1	5
Note Describing Method No. 2	5
Sketch of Method No. 2	5
(b)	
Advantage No. 1	5
Advantage No. 2	5
Disadvantage No. 1	5
Disadvantage No. 2	5
(c)	
Formula	5
Calculation	5
Illuminance	5
Conclusion	5
TOTAL	60

Ceist 10

Performance Criteria	Maximum Mark
(a)	
(i) <i>In support of the erection of apartment block</i> <i>(Marks based on the relevance and cogency of the arguments)</i>	
Point No.1	5
Point No.2	5
Point No.3	5
Point No.4	5
(ii) <i>In support of the retention of existing house</i> <i>(Marks based on the relevance and cogency of the arguments)</i>	
Point No.1	5
Point No.2	5
Point No.3	5
Point No.4	5
(b)	
Reason No. 1	7
Reason No. 2	7
Reason No. 3	6
TOTAL	60

Ceist 10 (Alternative)

Performance Criteria	Maximum Mark
<i>Any 6 points or other relevant points clearly stated and supported by discussion, 6 points 10marks each.</i> <i>(5 marks for statement and 5 marks for development of point)</i>	
Point No. 1	10
Point No. 2	10
Point No. 3	10
Point No. 4	10
Point No. 5	10
Point No. 6	10
TOTAL	60



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Scrúdú Ardteistiméireachta, 2003



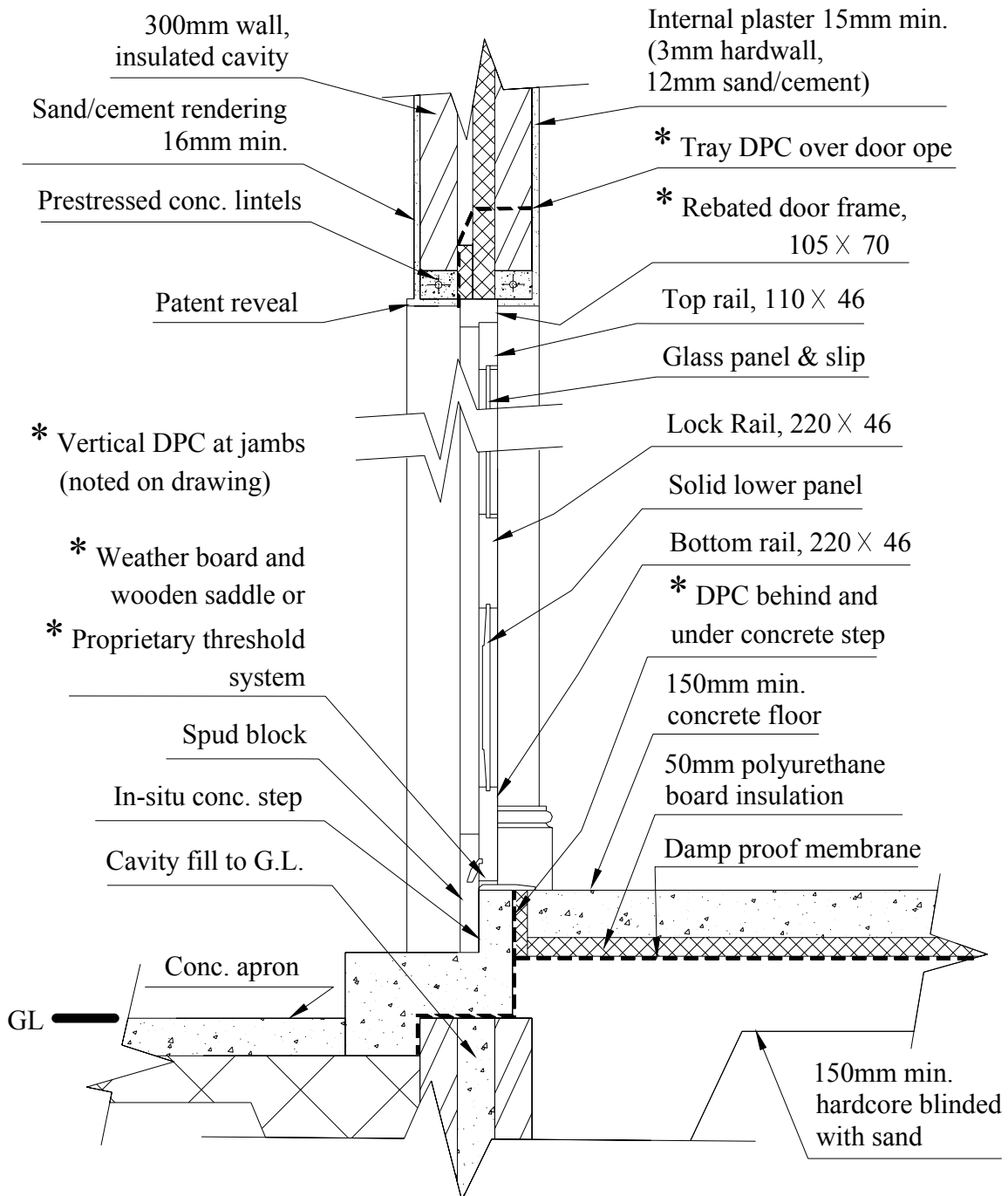
Staidéar Foirgníochta
Teoiric – Ardleibhéal

Construction Studies
Theory – Higher Level

Freagraí
Solutions

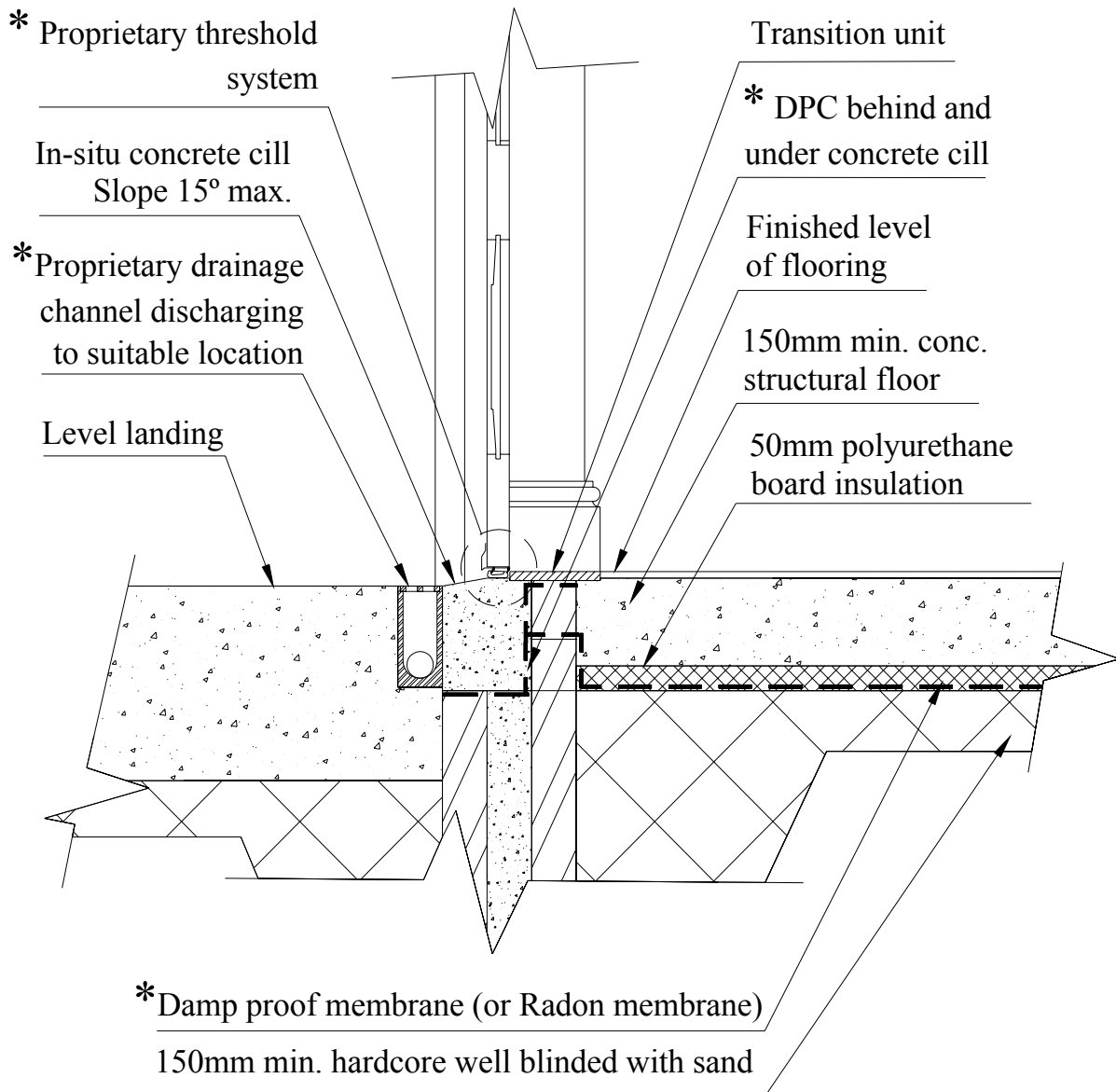
Ceist 1

(a)



* Design details that ensure that moisture does not penetrate to the inner surfaces surrounding the door

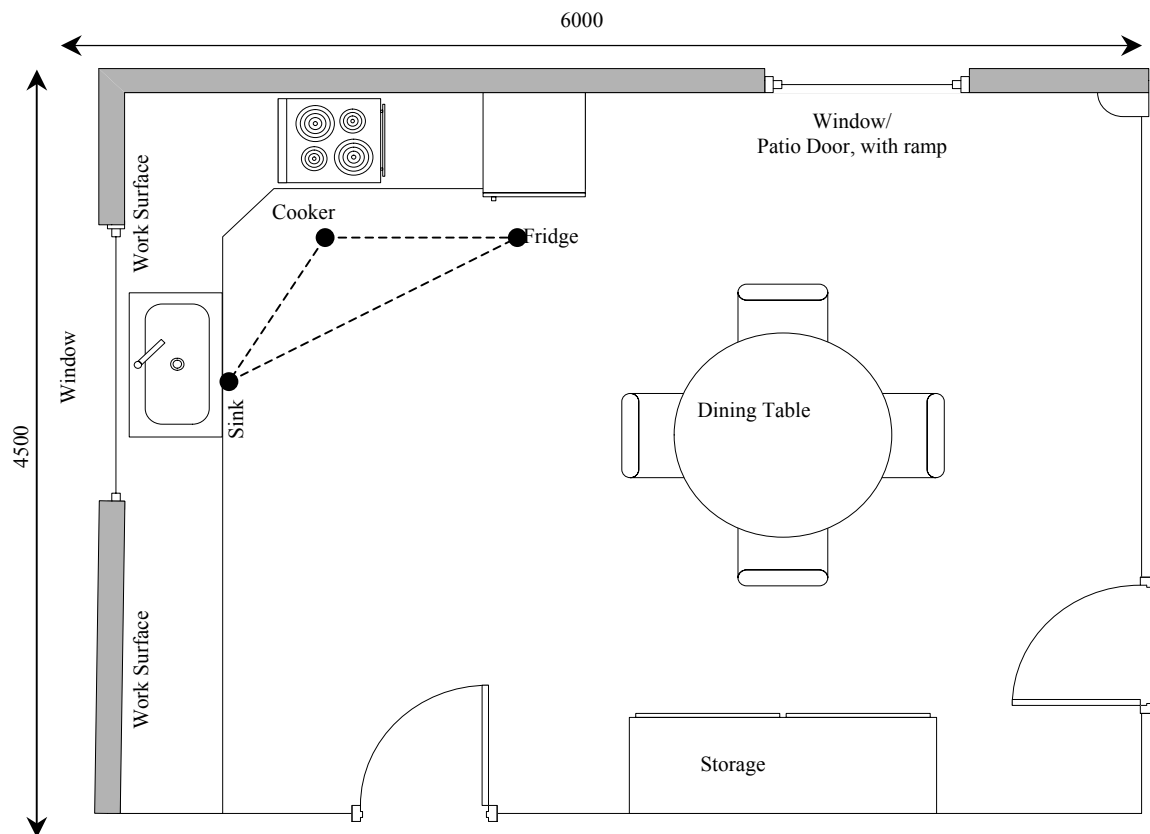
*Detail in accordance with the amended Building Regulations
and Technical Guidance Document M 2000*



* Design details that ensure that moisture does not penetrate to the inner surfaces surrounding the door

Ceist 2.

(a) One Possible Layout



(b)

1. Adequate unobstructed space to move freely between all areas of kitchen, to turn the wheelchair
2. Adequate access through doors to allow user push chair through doorway (800min)
3. Unobstructed spaces at doorways to allow ease of entry and exit.
4. All frequently used appliances such as toaster, food mixer, microwave etc. to be accessible easily and safely from a wheelchair.
5. Appliances to have safety features incorporated, e.g. Swivel stand for kettle to obviate lifting
6. Dishwasher, washing machine, drier to be built under work surfaces.
7. Light switches lowered to allow use from seated position.
8. Power points raised to allow use from chair.
9. Grab rails to be attached at side of high-level storage units and over work surfaces.
10. Varying heights for work areas, worktop and sink at reduced height (800 high).
11. Knee space to be provided under hob, sink and selected preparation areas.
12. Some open shelving to facilitate easy storage.
13. Carousel to facilitate easy access.
14. Circular table for easy of circulation.
15. Reduced cill height for selected windows to allow view from chair.
16. Non-slip floor surface to assist person wishing to stand, floor on one plane - no steps.

Any other relevant points

(c)

1. Sink, cooker, fridge all grouped close together to reduce movement by user, forming a work triangle and lines between all three should not exceed 6m and not crossed by though circulation of other people. Space to move freely.
2. Doors to kitchen not less than 800 and easy access to other areas of house, ramps to outside.
3. Extractor fan switches and curtain and blinds should be easily accessed by the user.
4. Work surfaces each side of electric cooker.
Distance between cooker and sink should not exceed 1800 to minimize movement
5. Sink ought to be under the window for ventilation and light. Cooker to external wall for ease of ventilation and extraction.
6. Light switches, power points, heating, ventilation, curtains, radio and TV controls should be accessible from a seated position.
7. The window or patio doors for light to dining area and for ease of communication to outside.

Any other relevant points.

Ceist 3

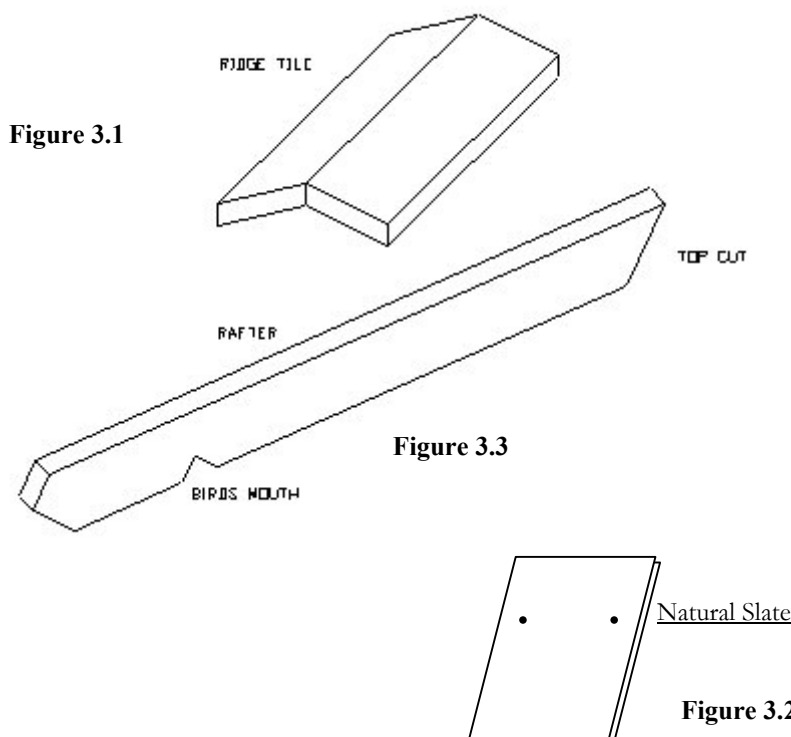
(a)

A detailed survey will have to be carried out to determine the condition of the various building components to determine how much can be saved, treated and recycled and to determine what will need to be replaced. As much of the original materials as possible should be reused.

1. Some of the original natural slates may have become loose. Slating laths will have deteriorated and may need to be replaced. The rafters after one hundred years may have to be replaced along with perhaps the rest of the roof timbers. Slating felt should be put on the new roof. The chimneys probably will have to be re-pointed or depending on condition re-built. Degrading of the lead flashing on the chimneys and roof will have occurred and the lead will also have to be replaced with new lead.
2. The softwood fascia will probably need to be replaced with timber of similar size and moulding. It will have been subjected to weathering over the years and has an important function in supporting the gutter.
3. The cast iron gutters will most likely be cracked and leaking, as will the down-pipes. Cast iron becomes brittle with heat and age and because of their weight it would be better to replace them with a similar profile. Gutter and down-pipe brackets would most likely have to be replaced.
4. The windows may need replacing, especially the sashes and the glass as will the hanging cord. Some of the box window frames may be sound and or may only need sill replacement. Conserve as much as possible of the original.
5. The walls after all this time will need to be repaired, plaster removed, joints picked out and pointed. Any loose stones made good or replaced and the entire walls washed down and re-plastered to match previous finish.

Only where any of the above cannot be repaired, should they be replaced. As much as possible of the above should be retained.

(b)



(i) Original natural slate and rafters

The original ridge tiles, Figure 3.1, to be removed/taken off, bedding mortar carefully removed and stacked safely for re-use.

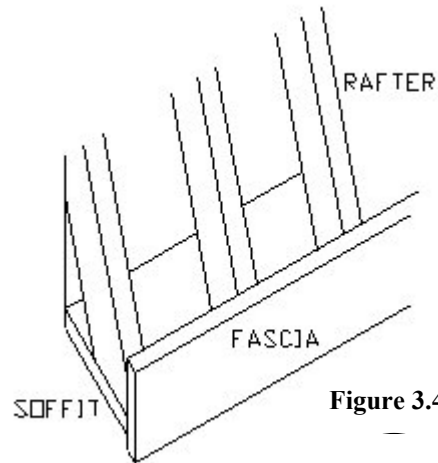
The large heavy natural slates, Figure 3.2 should be carefully taken off without breaking or chipping and stacked in a safe position for using again.

The rafter, Figure 3.3, will possibly have to be replaced, as may all the roof timbers. New good quality timber should be used and treated with preservatives where it comes in contact with walls/masonry.

Rafters should be the same size as the originals and birds mouth and cuts to be identical to the existing.

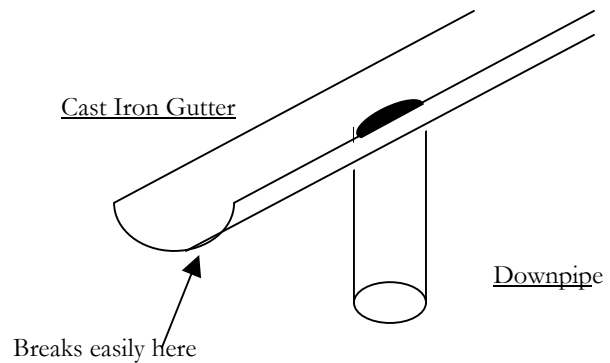
ii. Softwood fascia and soffit

Make the new fascia and soffit, Figure 3.4, to the exact size and profile as the existing, using best quality softwoods and treat with preservative and primer paint.



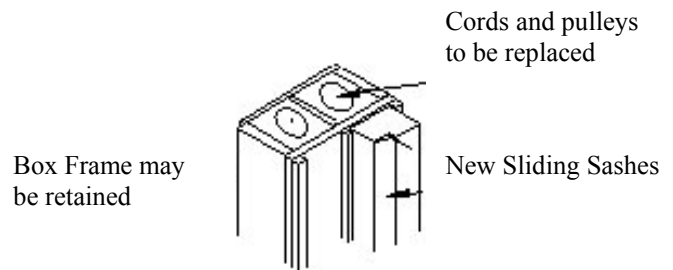
iii. Original cast-iron rainwater gutters

Extreme care will have to be exercised in taking down the cast iron down-pipes and gutters as they will be very brittle after all this time. Bolts at the joints can be replaced and also the brackets for both gutter and down-pipe. If they are cracked or broken it would be advisable to replace with identical brackets and paint, all to the original colours, Figure 3.5.



iv. Traditional softwood sliding sash windows

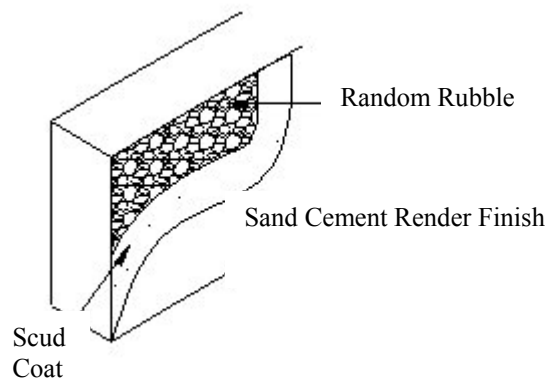
These windows and boxed frames may have to be replaced. The frame, depending on condition, may be in good condition or made good with repairs, Figure 3.6. The cord and pulleys can be easily replaced with new ones. New sashes can be made to exactly match and fit the old ones. Best quality red deal can be used, hardwood painted can also be used.



v. Random rubble stone walls with weathered sand/cement render

This task requires skilled masons and plasters familiar with renovation and restoration work to successfully do the job.

The old plaster will have to be picked off, the walls washed down with a fungicidal additive and stonework made good. If stone is loose or faulty, it will have to rebuild with new stone. A scudding coat of 2:1 sand/cement is applied a then a plaster finish to match adjacent work applying 2 coats sand/cement finish, carefully finished to level and finish of surrounding plasterwork. When dried out, walls painted in harmony with surrounding walls.



Ceist 4

(a)

The conditions necessary for the occurrence of Dry Rot (*Merulius Lacrymans*) are:

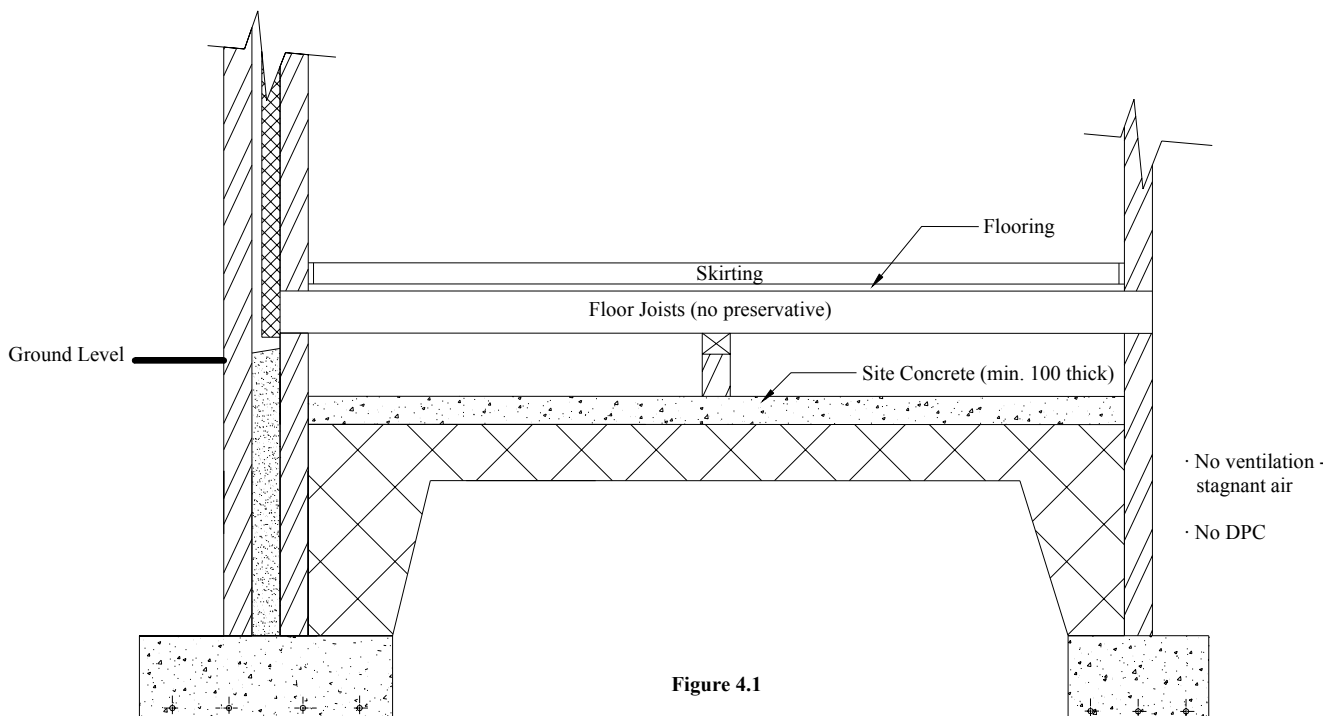
- Dampness
- High Moisture Content
- Stagnant air/inadequate ventilation
- Fungus
- Untreated timber

The conditions necessary for the occurrence of Wet Rot (*Coniophora Cerebella*) are:

- Constant contact with water/dampness
- High Moisture Content
- Air exposure
- Untreated timber

(b)

One of the most frequent places where dry rot occurs is in timber ground floors. Figure 4.1 shows a timber floor positioned just above ground level without D.P.C. or D.P.M. to prevent dampness getting into the wood. There is no ventilation to the wood which creates suitable conditions for dry rot to occur.



Sometimes when vents are present they are wrongly placed, become ineffective by being blocked up or do not provide through ventilation. Poor attention to the positioning of damp-proof courses can lead to moisture coming in contact with timber and starting Dry Rot, which, once established, spreads.

To eliminate Dry Rot:

1. Cut out and burn all infected wood together with 1500mm beyond the infection. Remove all fungus from the area.
2. Sterilize the under-floor concrete with a toxic liquid such as a 4% sodium fluoride solution.
3. Burn all infected areas of brickwork with a blowtorch.
4. Renew necessary timbers with preservative treated wood.
5. Where possible treat nearby woodwork with a suitable preservative.
6. Cure the cause of the outbreak.
7. Sterilize tools and transport equipment afterwards.

(c)

The sketch below, Figure 4.2 shows the details necessary to prevent dry rot occurring

1. Free and adequate circulation of air all around the timber ensuring no stagnant air anywhere.
2. Proper positioning and care in placing of D.P.C. to make certain that dampness will not get to the timber.
3. Moisture content of timber to be well below 20% and all treated with preservative.

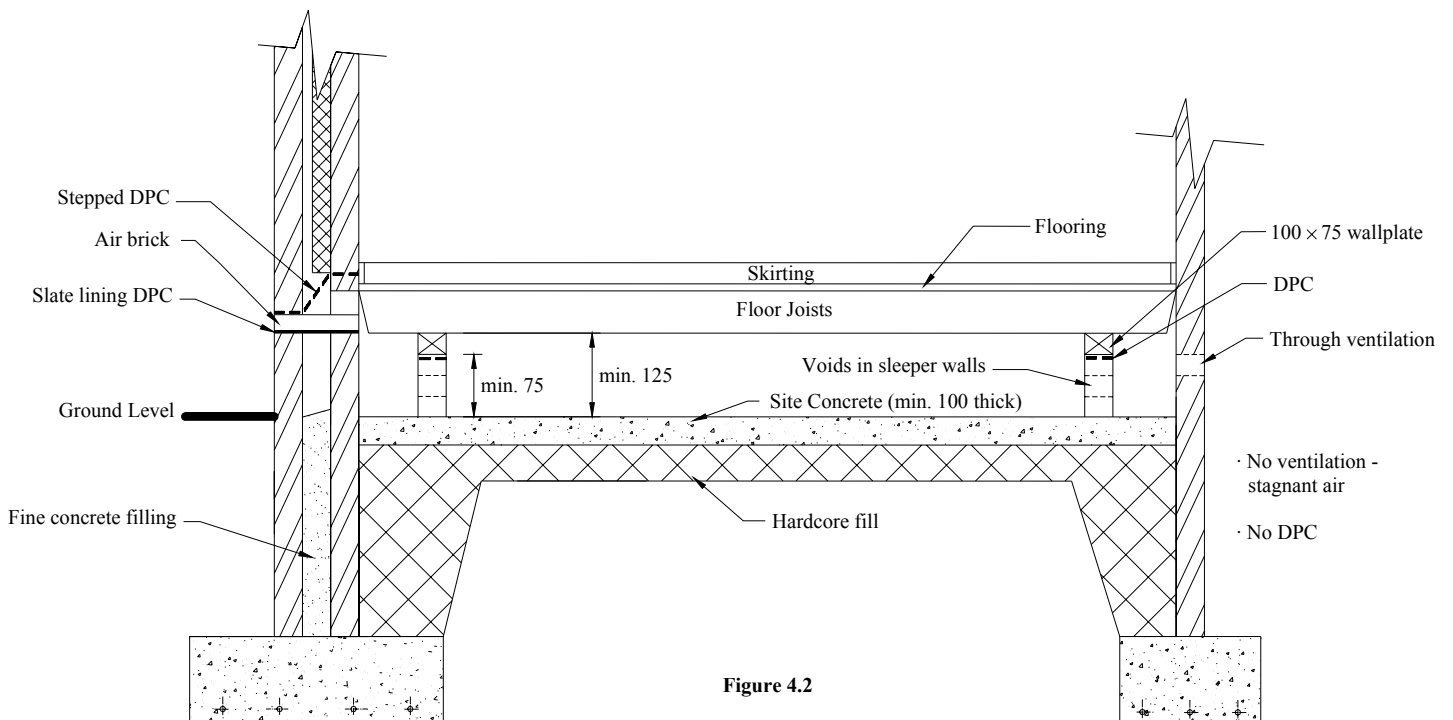


Figure 4.2

Other locations where Dry Rot may occur are equally valid.

Ceist 5

(a)

COMPONENT	Conductivity (k)	Resistivity (r = 1/k)	THICKNESS (T)	Resistance (R = T * r)
External Surface				0.0480
Brickwork	1.320	0.7575	0.010	0.0757
Cavity				0.1700
Block work	1.440	0.6944	0.100	0.0694
Internal Plaster	0.430	2.3255	0.016	0.0372
Internal Surface				0.1220
			Total Resistance (R_T)	0.5223
			U Value:	1.9146 W/M²°C

(b)

(i)

COMPONENT	Conductivity (k)	Resistivity (r = 1/k)	THICKNESS (T)	Resistance (R = T * r)
Urea Formaldehyde Foam	0.040	25.000	0.075	1.8750

$$\begin{aligned} \text{Total Resistance} &= \text{Existing Wall Res.} + \text{Urea Formaldehyde Foam Res.} - \text{Cavity Res.} \\ &= 0.5223 + 1.875 - 0.170 \\ &= 2.2273 \end{aligned}$$

$$\begin{aligned} \text{U Value} &= 1 / 2.2273 \\ &= 0.4489 \text{ W/m}^2\text{°C} \end{aligned}$$

(ii)

COMPONENT	Conductivity (k)	Resistivity (r = 1/k)	THICKNESS (T)	Resistance (R = T * r)
50mm Rigid Urethane	0.0230	43.4782	0.0500	2.1739
12.5mm Plasterboard	0.160	6.2500	0.0125	0.0781

$$\begin{aligned} \text{Total Resistance} &= \text{Existing Wall Res.} + \text{Rigid Urethane Res.} + \text{Plasterboard Res.} \\ &= 0.5223 + 2.1739 + 0.0781 \\ &= 2.7743 \end{aligned}$$

$$\begin{aligned} \text{U Value} &= 1 / 2.7743 \\ &= 0.36045 \text{ W/m}^2\text{°C} \end{aligned}$$

(c)

Method 1: Filling the cavity with Urea Formaldehyde Foam

This method is less effective in reducing heat loss. It is the easier method to increase the insulation properties and can be used provided the wall structure is sound and the a competent firm is employed to pump the Urea Formaldehyde into the cavity through holes drilled through the outer leaf of the external walls

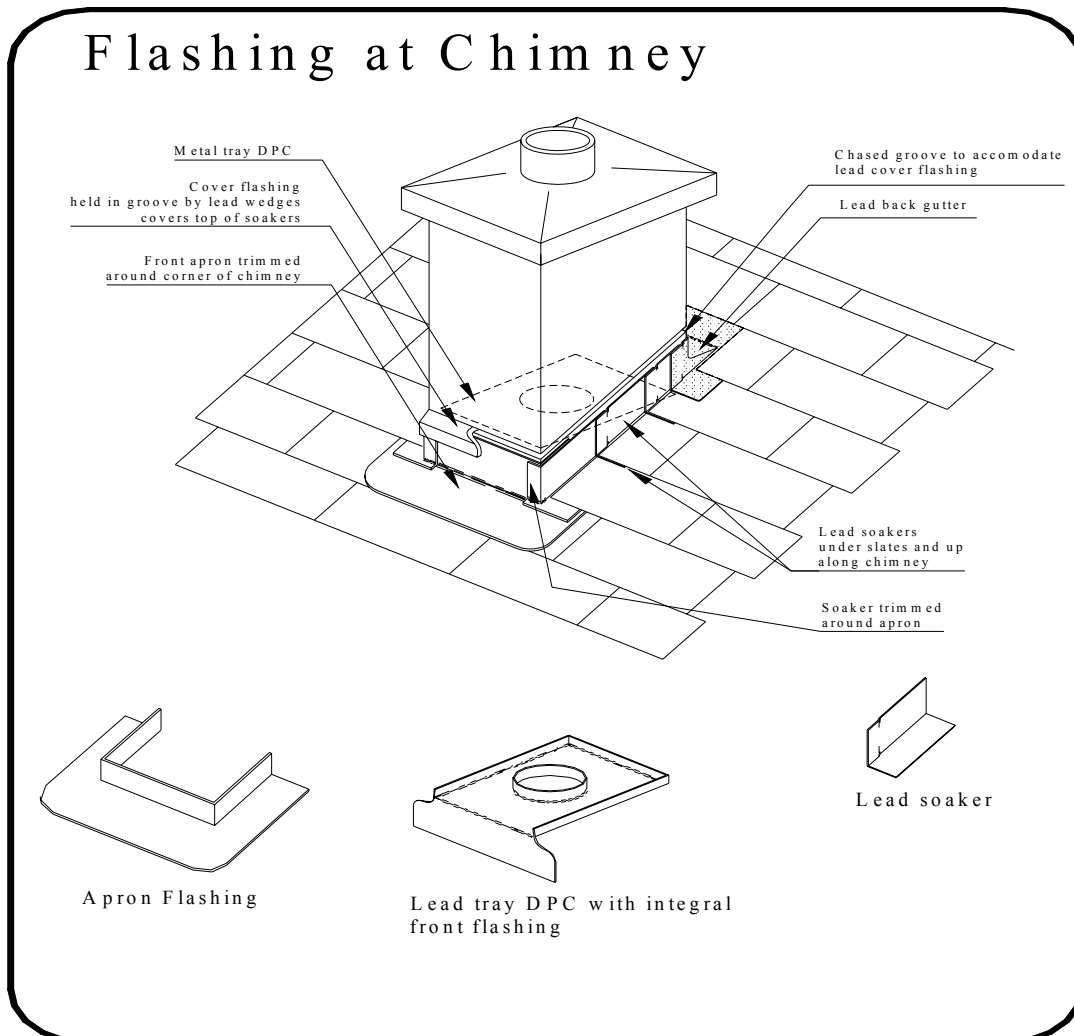
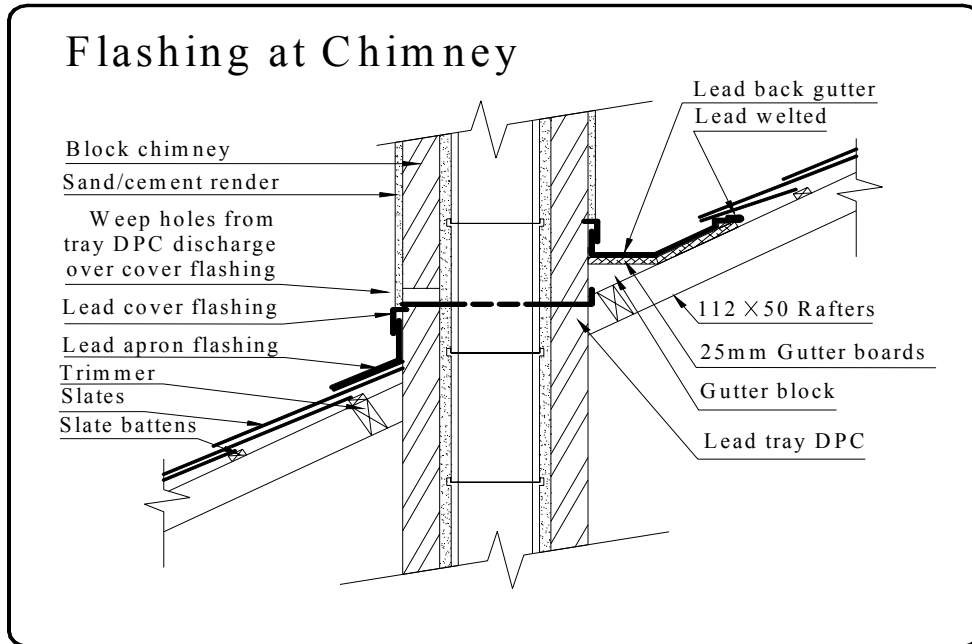
Method 2: Fixing Insulated Plasterboard sheeting to the inside wall surfaces

This method gives a higher insulation figure, U Value of $0.36045 \text{ W/m}^2\text{°C}$. The insulation board with the plasterboard is fixed on the internal side of the external walls. It reduces the room size by 62.5mm and necessitates re-fixing of pipework, radiators, electrical fixtures, curtains etc. and redecoration of the affected walls.

I would recommend Method 2, fixing the insulated plasterboard to the inside of the external walls:

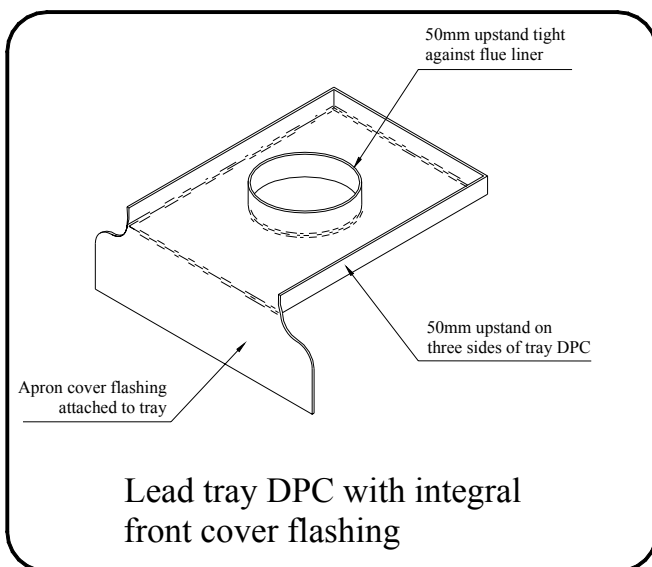
1. It will be easier to keep the house warm
 2. It will reduce heating costs
 3. One does not have to get a specialist firm to pump in the Urea Formaldehyde Foam.
 4. One will have no worries about the cavity insulation fill assisting water to cross from outer leaf to inner leaf, the cavity is maintained.
-

Ceist 6
(a)



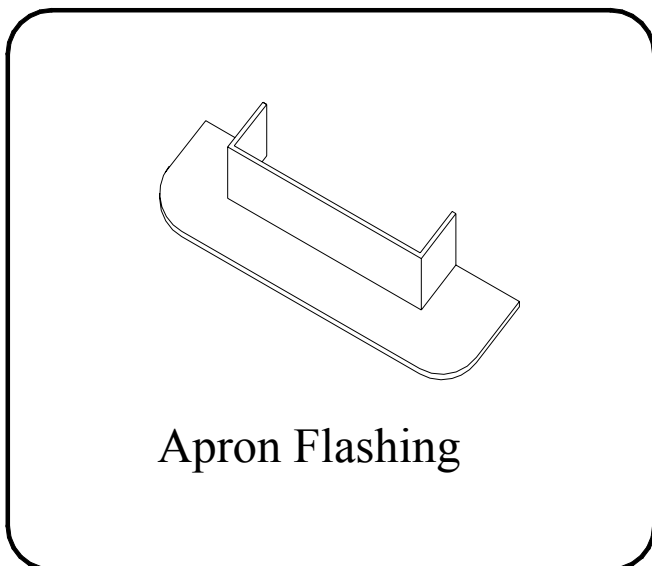
Weathering of chimney

- Water runs down the vertical surfaces of the chimney and the sloping roof surfaces.
- Flashings are used to prevent the passage of water through the abutment between the roof and the chimney.
- The flashings consist of:
 - i. Tray DPC
 - ii. Apron Flashing
 - iii. Soakers
 - iv. Back Gutter
 - v. Cover Flashings
- The apron flashing may be integral with the tray DPC
- Lead, copper, zinc, aluminium or other sheet metal or non-metal flashing materials are used to form the flashings.



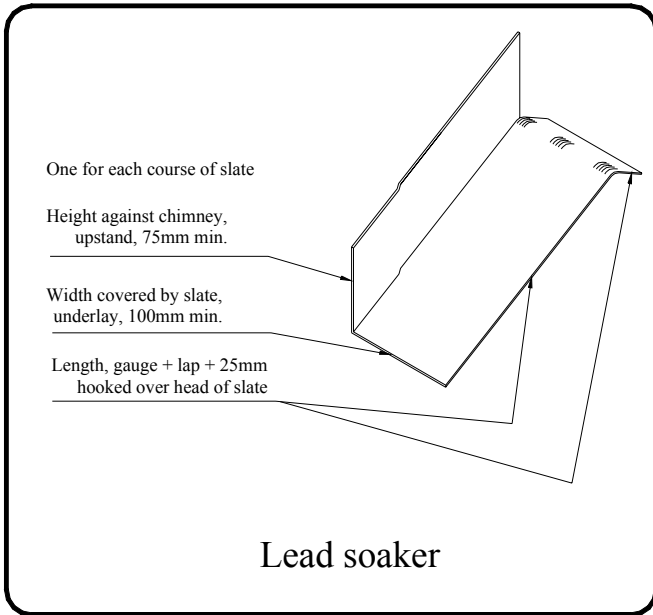
Tray DPC

- Built into masonry as chimney is constructed.
- Upstand prevents dampness being transferred into building.
- Weep holes left in front over apron flashing to allow water to be discharged.
- Front apron flashing may be integral with tray
- Upstand at centre tight around flue.



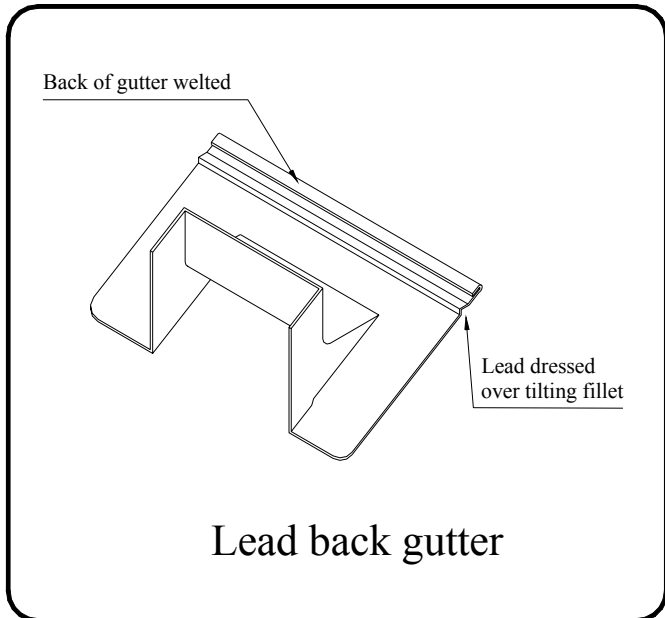
Front apron flashing

- Dressed over the slate in front of the chimney.
- Turned up along the vertical face of the masonry
- Prevents the entry of water between the slates and the chimney.
- Dressed around the corner of the chimney and at least 100mm over the slates at the side.
- Runs at least 100mm down roof surface.



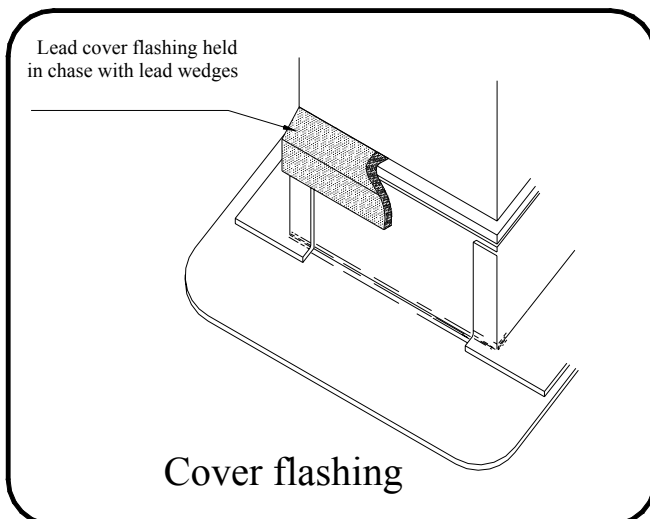
Soakers

- Prevent water passing between the slates and the sides of the chimney.
- One for each course of slate.
- Rake at the pitch of the roof.
- Each soaker is hooked over the head of the slate on which it lies.
- The underlay of the soaker, the part that lies under the next slate, is a minimum of 100mm wide.
- The length is equal to the gauge of the slate plus the lap plus an extra 25mm for hooking over the head of the slate.



Back Gutter

- Laid on wooden boarding on gutter blocks.
- Dressed over tilting fillet.
- Dressed around back corners of chimney.
- Welt at back to prevent water being blown up under slate.

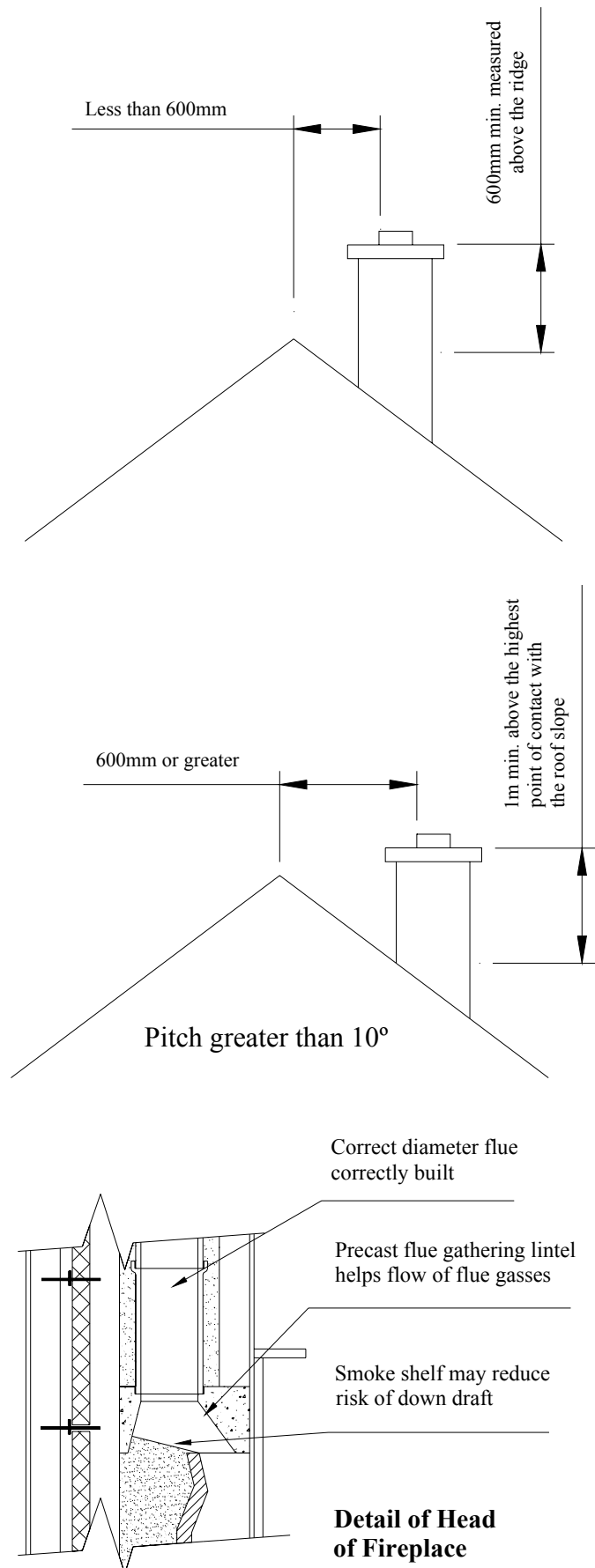


Cover Flashing

Guides water from the face of the chimney over the upstand of the soakers. Top turned into chased groove in masonry and wedged with lead wedges. Masonry rendered to top of flashing. Inserted over apron flashing, soakers and upstand of back gutter.

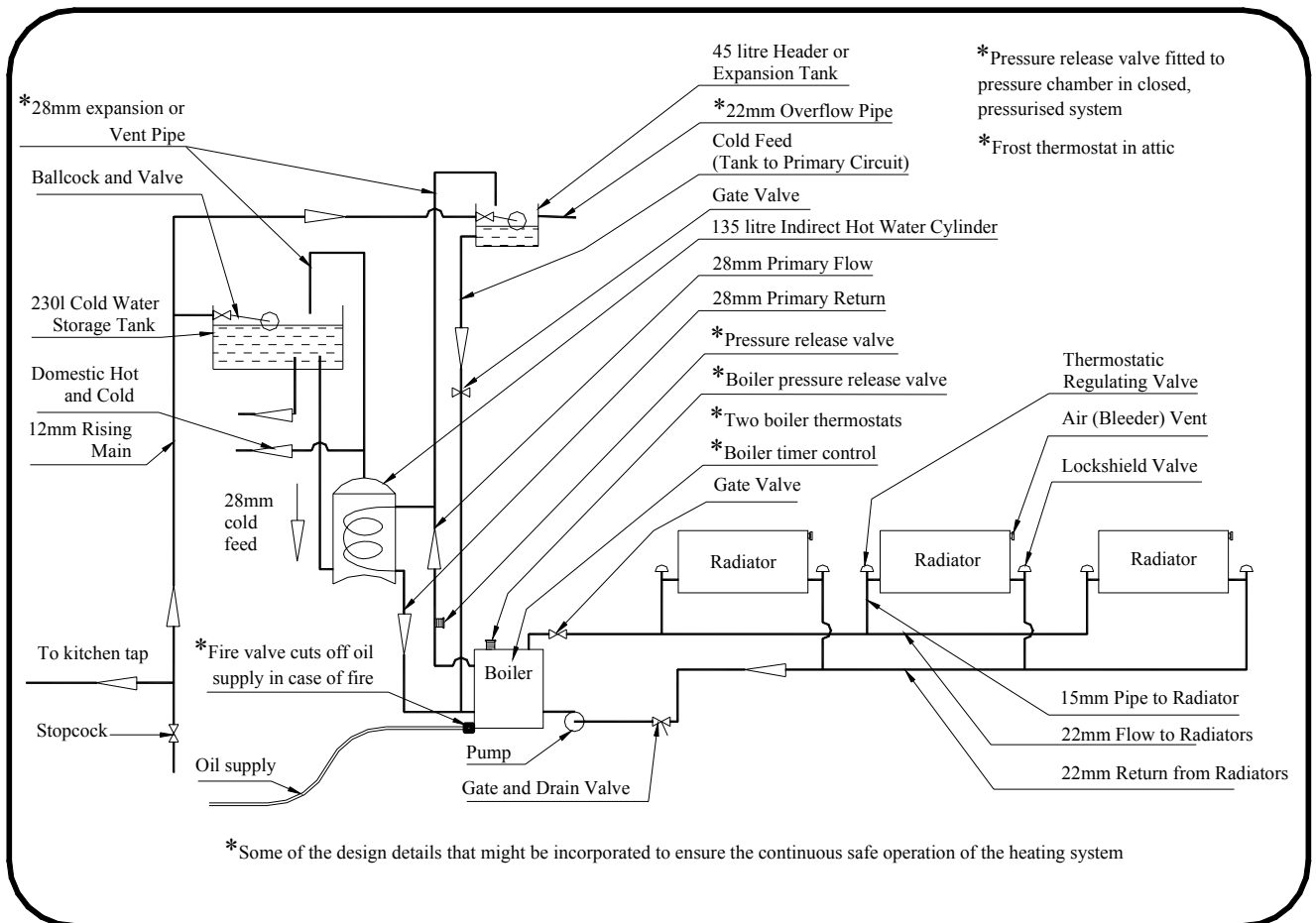
(b)

- Steady downdraught occurs when top of chimney is too low.
- Chimney minimum of 1m above flat roof.
- Chimney minimum of 4.5m above the top of the fireplace
- Advisable that all chimneys extend above ridge level.
- If chimney is at or within 600mm of the ridge minimum height of 600mm measured above the ridge line.
- Otherwise minimum height of 1m above the highest point of contact with the roof slope.
- Intermittent downdraught occurs where chimney is near higher building or trees.
- Or where chimney is located on a sheltered hillside.
- Build at a level where downdraught is overcome otherwise fit a draught-inducing cowl
- Good fireplace design will help eliminate downdraught.
- Top of fireplace not more than 550mm above level of grate
- Throat of 300 x 100mm assists draught.
- Smoke shelf may reduce downdraught.
- Gathering or precast fireplace lintel aids the flow of flue gasses.
- Correct size flue liners, 200mm nominal diameter for open fires.
- Offset no less than 52.5° to horizontal and as short as possible.



CEIST 7

(a)



(b)

Continuous safe operation of heating system

Frost

- Proper lagging of pipes, tanks especially in attic
- Heating unit with frost thermostat in attic
- Boiler insulated
- Boiler house insulated
- Unobstructed flue/outlet fitted to manufactures instructions e.g. remote from windows/corners

Temperature

- Thermostat fitted to boiler to allow automatic cut off when temperature is reached
- Thermostat fitted to pipework/radiators to allow automatic cut off when temperature is reached
- Suitably protected air vent to boiler house to facilitate combustion

Time

- Timer fitted to control on-off periods

Pressure

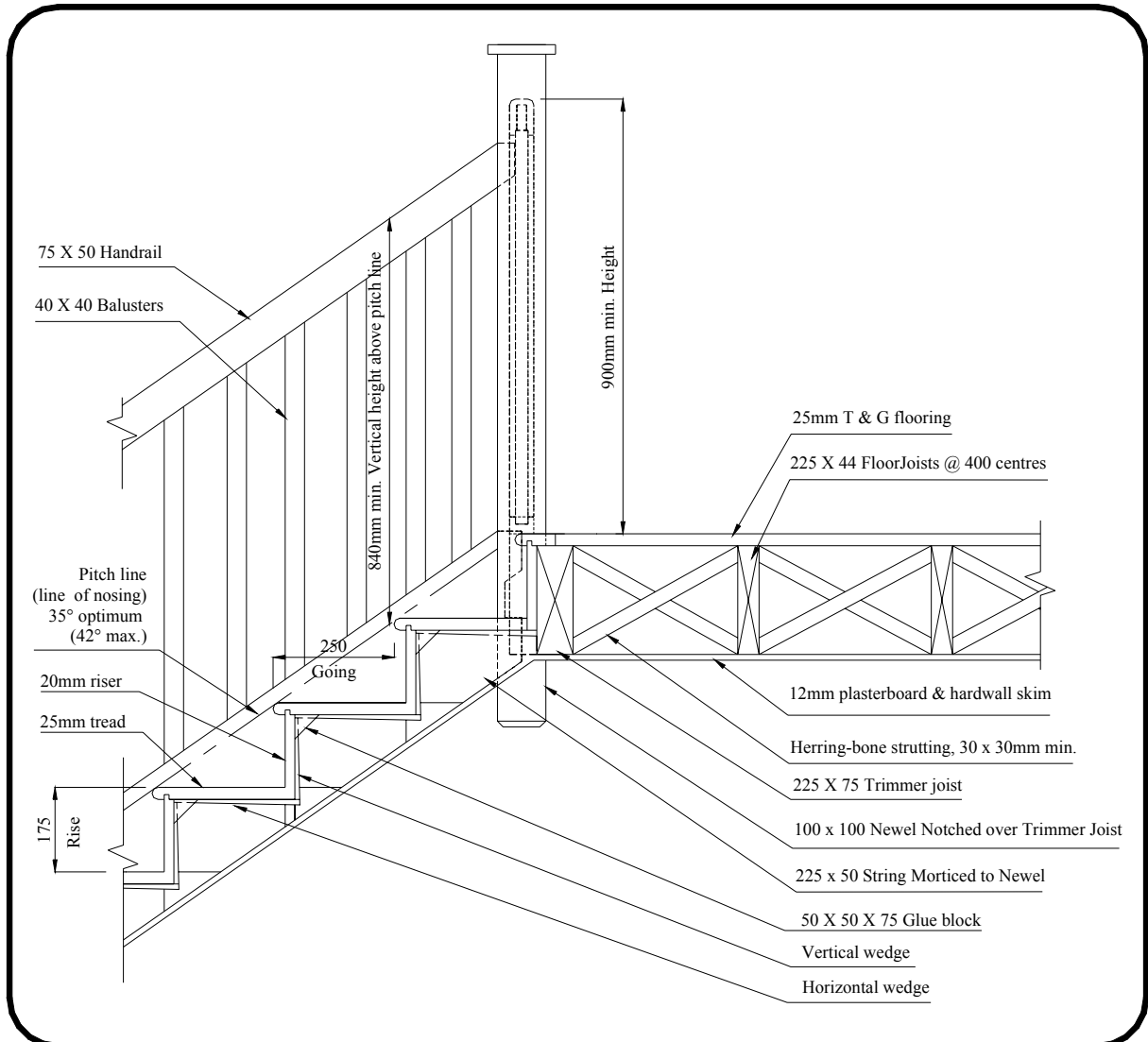
- Unobstructed and insulated expansion pipes
- Pressure release valve fitted to boiler to allow automatic pressure release
- Pressure release valve fitted to pipework to allow automatic pressure release
- Pressure release valve fitted to pressure chamber in closed/sealed/pressurised system

Fire

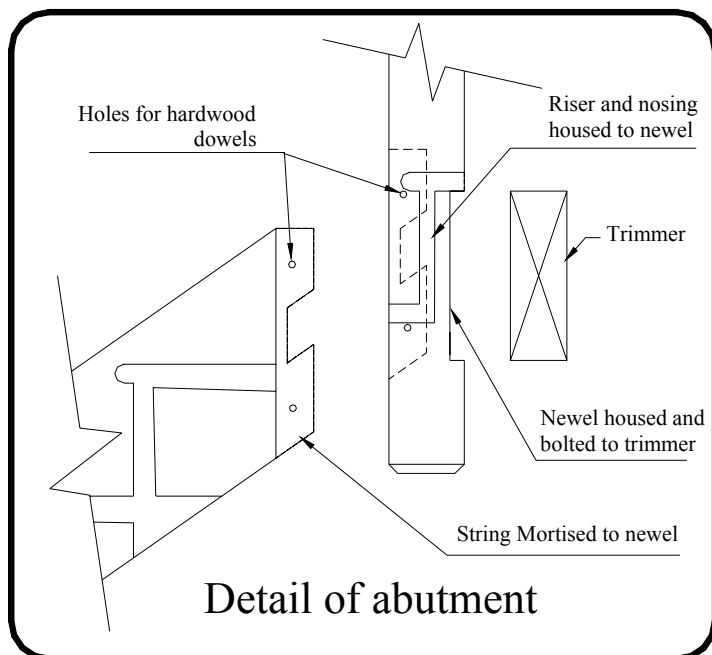
- Fire valve correctly fitted to oil feed to allow automatic cut off in event of fire
- Oil storage tank located independent of dwelling & properly supported

Ceist 8

(a)



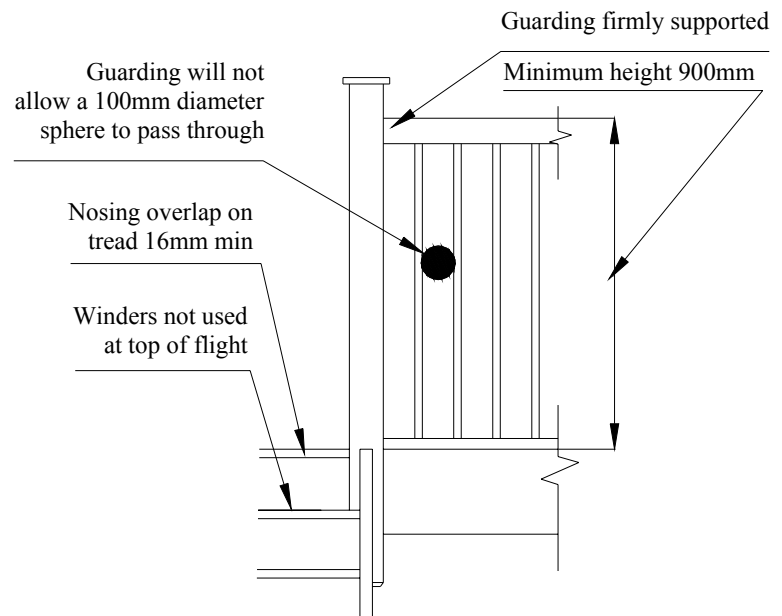
(b)



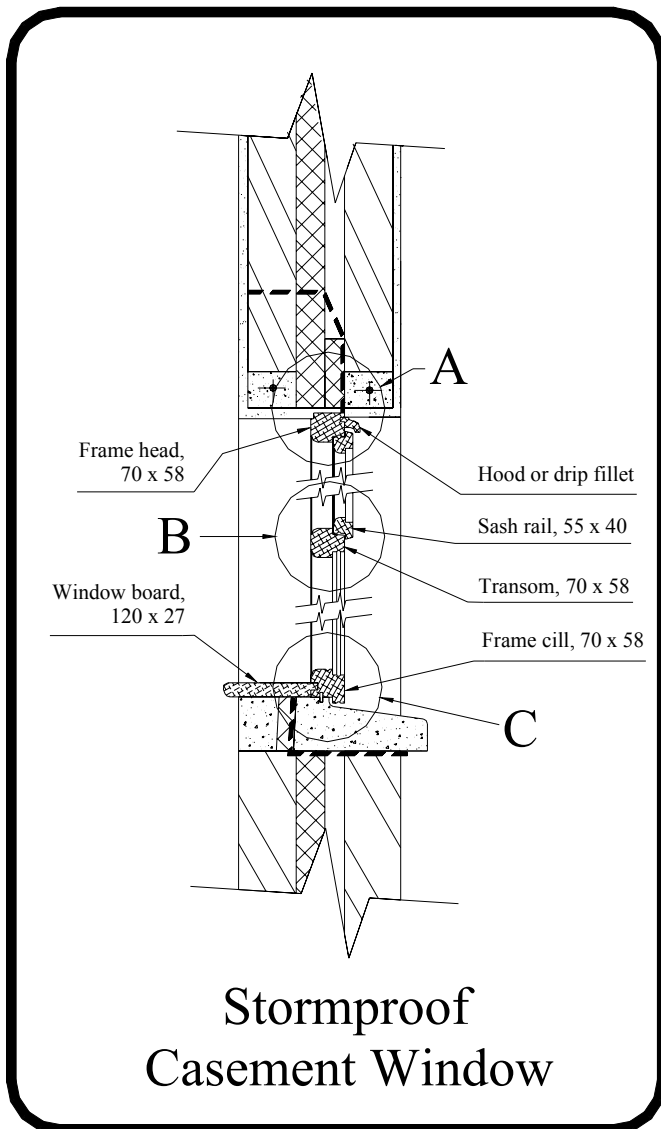
- String mortised to newel.
- Mortice and tenon joint pinned by dowel driven into hole through newel and tenon.
- Newel housed over trimmer and bolted to it.
- Riser, nosing and top tread housed 12mm into newel.
- Handrail mortised to newel in same way as string.

(c)

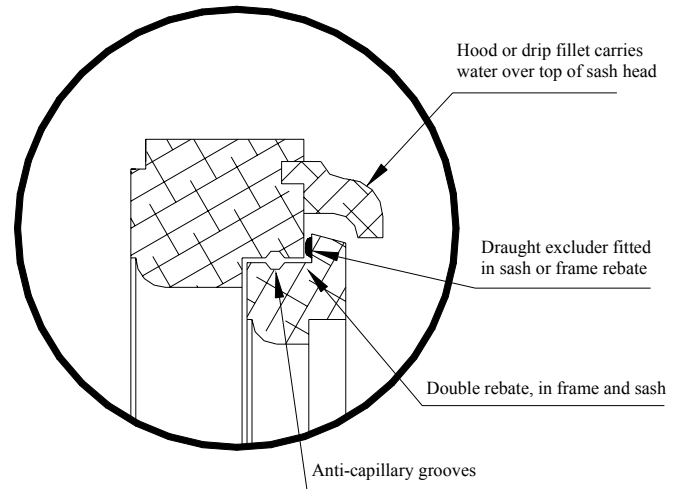
- Firm guarding provided.
- Minimum height of guard rail 900mm.
- Guard rail mortised to newel.
- Newel of suitable section and bolted firmly to trimmer.
- Guarding will not allow a 100mm diameter sphere to pass through.
- Nosing overlaps on tread 16mm min.
- Guarding cannot be climbed easily by children. Horizontal rails not used.
- Nosing overlaps on tread 16mm min.
- Winders - if unavoidable should be placed at bottom of flight.



Ceist 9



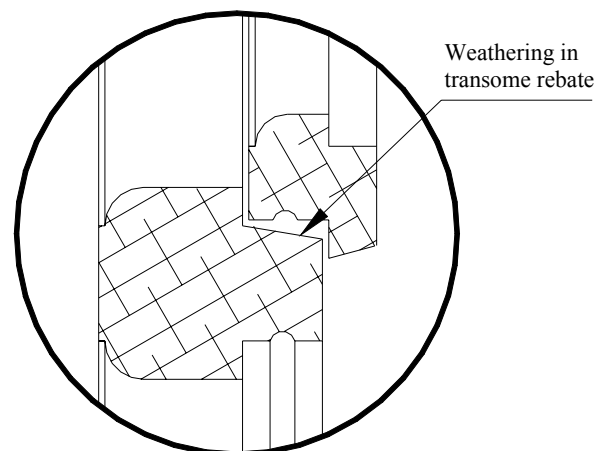
(a)



Detail at A

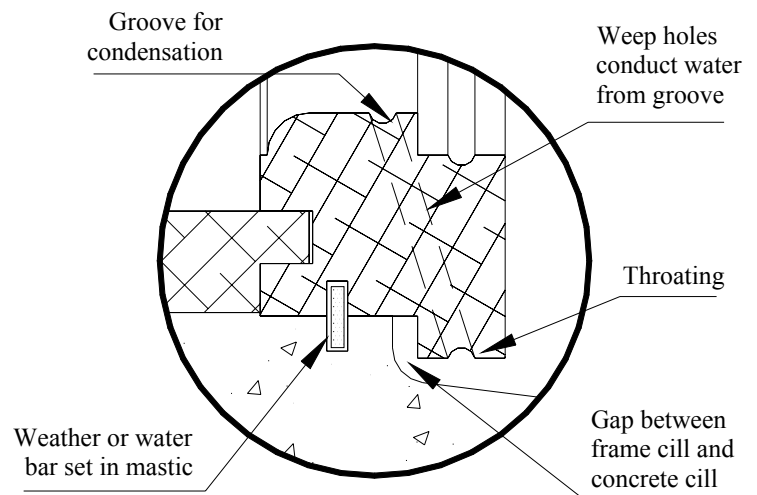
- Sash or casement lips over the outside faces of the frame by means of a rebate in its edge in addition to the rebate in the frame.
- Two checks to the entry of wind and rain between casement and frame, detail at A.
- Drip fillet stops water running down and into the sash rebate, detail at A.
- Anti-capillary grooves in the rebates of the casement and frame stop water being drawn across, detail at A.

- Draught excluder fitted in rebate of frame and sash at manufacture or retrofitted detail at A.
- Rebate at transom sloped to outside to carry water away from inside, detail at B.
- Condensation is collected in a groove on the inside of the frame cill and conducted to the outside through weep holes, detail at C.
- The frame cill can be fixed to the concrete cill by means of a water bar which is bedded in mastic in a groove in the frame cill as shown in detail at C.



Detail at B

- Throating on the underside of the frame cill halts the movement of water across.
- The gap between the inside of the rebate under the frame cill and the concrete cill guards against capillarity, detail at C.



Detail at C

(b)

Advantages of using softwood in the manufacture of windows:

- Less expensive.
- Easier to machine.
- Lightweight
- Can be extremely durable if properly treated and maintained.
- Good fire resistance.
- Suits traditional buildings
- A renewable resource.
- Non-polluting.
- Acts as a carbon sink to counter global warming.

Disadvantages:

- Appearance needs constant care
- Decays if not properly maintained
- Easily damaged
- Lacks strength
- May be expensive when maintenance is considered
- Currently unfashionable
- Variation in quality

(c)

$$\text{Daylight Factor, DF} = \frac{E_i}{E_o} \times 100$$

$$5 = \frac{E_i}{5000} \times 100$$

$$E_i = \frac{5 \times 5000}{100} = 250 \text{ lx}$$

Ceist 10

(a)

i. In support of the erection of the apartment block:

- Sustainable living - medium density creates sense of shared community
- Security of apartment living for older people
- Shorter distances to centre of town/shops/facilities for larger number of people
- Reduces traffic congestion on road, if more people can live closer to their work.
- Reduces ribbon development and relieves urban sprawl. Towns should be planned to house people as well as shops and offices.
- Apartment building less greedy on non-renewable building resources than once off dwellings to accommodate same number of persons
- Easier to heat - fewer external walls, savings in fossil fuels
- Central services to one location – water, electricity, gas, oil, sewage etc. Brings more life to the centre of the town.
- Economy of scale, apartments usually smaller units, therefore cheaper especially for first-time buyers
- Shared hallways, corridors, shared lighting, heating, maintenance costs
- Central refuse collection
- More economical than dispersed dwellings for buses, transportation
- Services e.g. crèche, restaurants develop in proximity to centres of population
- There's demand for apartments and such type of accommodation.
- The existing building is not of architectural merit and should be knocked to build something relevant. The owners and developers should be free to knock it down and build what's needed.

ii. In support of the retention of the existing house.

- The existing house is in keeping with surrounding houses, age, style, materials etc. It is a fine building on its own and part of the architecture of the town and should not be demolished.
- An apartment block fractures sense of suburbs - house dwellers and apartment dwellers
- Demolishing existing dwelling wastes resources, building materials and creates unnecessary waste
- Detached dwelling has more individual space, garden, garage etc
- Detached dwelling has better sound insulation properties from noise
- Residential area – house retains harmony of existing atmosphere
- Apartment block breaks the visual cohesion of the area. The area is a densely built area, without imposing a high-rise building in the centre of it. Also, there are no other four-storey buildings on this area and would look out of place.
- High density puts pressure on existing services, more cars concentrated on one place
- More dangerous for young children and older people
- Lifts can break down, access by stairs difficulty for older people, parent with young child
- Dependent on good will of other apartment dwellers for quiet life
- Different expectations of young and old, peace and quiet versus noise, energy, music
- In apartment, little control of who enters social areas – disconcerting for people living alone
- Difficult to get all dwellers agree on common standards, e.g. refuse storage, bikes etc.
- Some apartments may face north, reduction of natural light, sunlight
- People will object to a four storey block/apartments being built in their area.

Ceist 10 (alternative)

Vernacular Styles

- Throughout the world vernacular styles of building differ from country to country and also within countries. Vernacular buildings meet the needs of local people.
 - These buildings are characterised by a simple basic proven style and layout using a limited range of design elements and materials.
 - Local materials are used because they are freely and cheaply available.
 - The people have perfected through time the skills to use such materials properly.
 - The materials and designs suit the local climate and are in harmony with the environment.
 - Through centuries of practice the people have gained the knowledge necessary to create simple elegant buildings to meet their needs.
 - The buildings are constructed with apparent ease and are accessible and functional.
 - The knowledge and skills are passed on from generation to generation and are accessible to all through observation, apprenticeship and association.
 - Due to changing life styles and greater migration of people there is a loss of the vernacular tradition, particularly of local knowledge, customs and skills.
 - The simple forms are being neglected, are being forgotten or are often absent.
 - The design of the buildings is often influenced by people from outside the local area often lacking a sensitivity for the vernacular.
 - Vernacular buildings are modest in scale to meet human needs.
 - In the vernacular tradition there is a congruence between the scale of the buildings and the number of inhabitants.
 - Economic factors and in particular increased wealth has promoted the importation of a multiplicity of materials resulting in a decline in the simplicity of the vernacular tradition.
 - Increased foreign travel has resulted in the unreflected imposition of styles unsuited to the local landscape and climate.
 - Lack of design education allows for the growth of multiplicity of styles with little or no design coherence.
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