



Slide 1

CIAT – Module 10
Common fault areas in
separating floors




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Welcome to Module 10 – Common fault areas in separating floors

Additional notes:

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Module Contents

This module will cover the following topics:

- Sealing floor slab joints
- Sealing slab camber gaps at wall head
- Installation of screed isolation layers
- Door thresholds and stair landings
- Service ducts penetrating through floors



This Module will cover the following topics

Read slide

Additional notes:



Slide 3




Read slide

Additional notes:

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Slide 4


Sealing floor slab joints



Ensure all slab joints are fully grouted.

Open slab joints can allow the passage of high frequency noise.

Remove any excess grout to prevent damage to the resilient layer.



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Ensure all joints and gaps in the planks are fully grouted. This enhances the floor stiffness, and stops the passage of high-frequency noise.

It is not acceptable to use expanding foam instead of grout.

It's important to remove the excess grout before it sets; and make sure the floor surface is clean before laying the resilient layers, to avoid any damage.

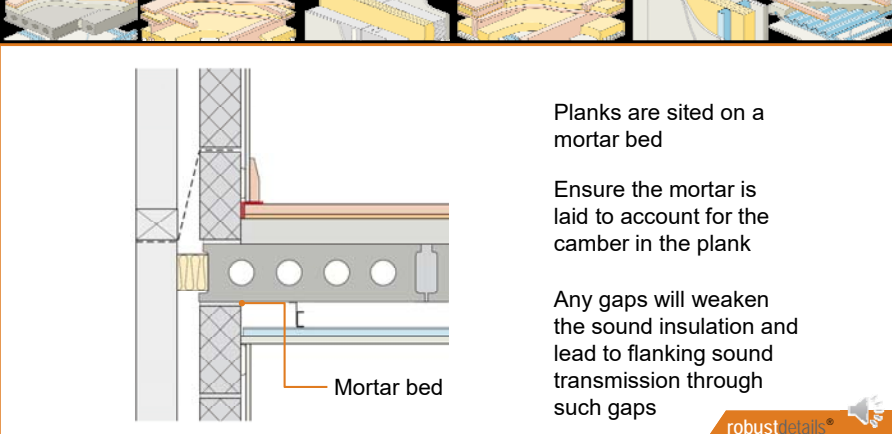
This is a still from one of the many animations we have on the Robust Details website – they're definitely worth a look if you're working with an unfamiliar Robust Detail.

Additional notes:

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Sealing floor slab joints



Planks are sited on a mortar bed

Ensure the mortar is laid to account for the camber in the plank

Any gaps will weaken the sound insulation and lead to flanking sound transmission through such gaps

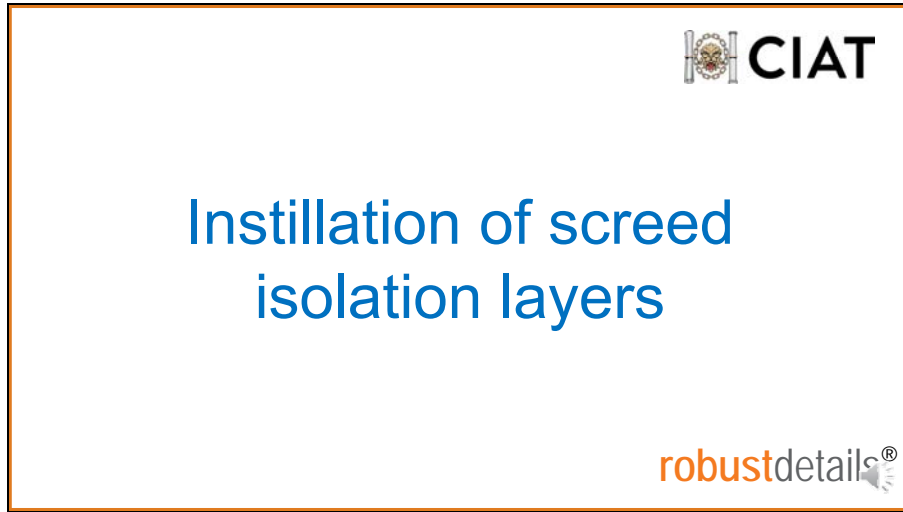
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Read slide

Additional notes:

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A rectangular box with an orange border containing the slide content. In the top right corner is the CIAT logo, which consists of a circular emblem with a crown and the letters 'CIAT' in a bold, sans-serif font. In the center, the text 'Instillation of screed isolation layers' is written in a blue, sans-serif font. In the bottom right corner is the robustdetails® logo, with 'robust' in orange and 'details' in grey, followed by a registered trademark symbol.

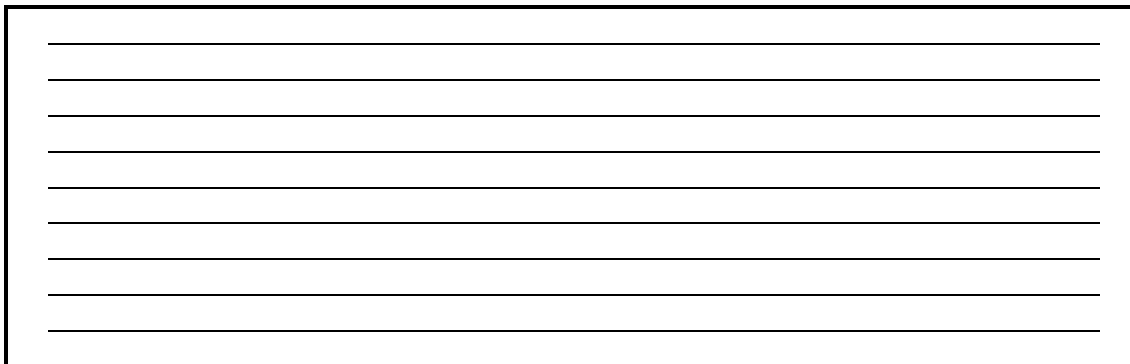
CIAT

Instillation of screed
isolation layers

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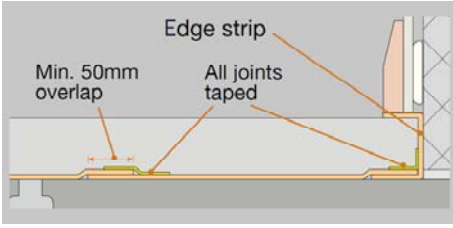
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Additional notes:

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Screed Isolation



Resilient layers **must** be installed allowing for the **required minimum overlaps**

All **joints must be taped** to prevent relative movement of the components

Edge strips are also referred to as flanking strips

It is critical that the resilient system, comprising the resilient layer and flanking edge strips, are properly installed with the required overlaps – and tape is securely applied.


Overlapping and taping the joints guards against the material moving during the screeding process. If it does move, the screed can get into any gaps that are formed, and will create a flanking path.

Additional notes:


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Screed Isolation



Correctly installed resilient layer



- Flanking strip installed around whole perimeter and extended up wall to prevent screed touching walls.
- Isolating layer laid flat over floor with **OVERLAPPING** and **TAPED** joints

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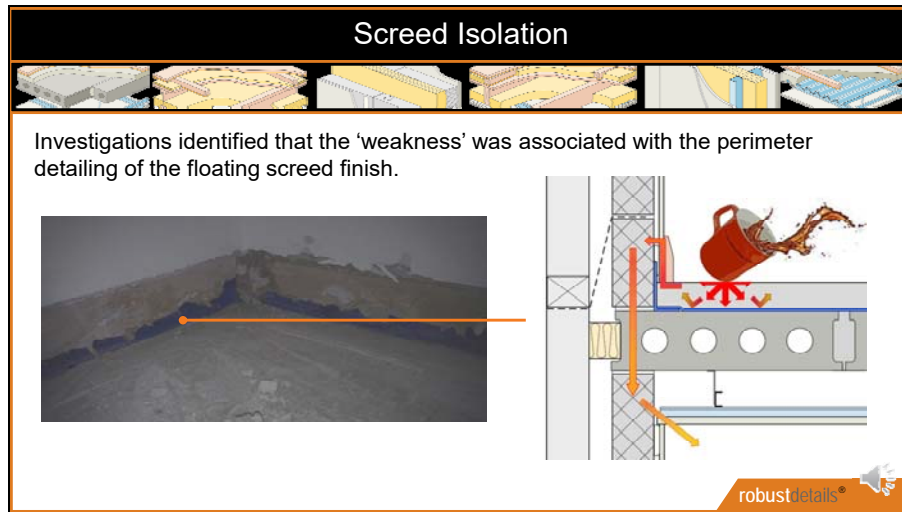
This is a photograph shows correctly installed resilient layer remaining firmly in place during application of the screed.

Additional notes:

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During the Robust Details monitoring, an impact fail was recorded – and the weakness was narrowed down to the perimeter.

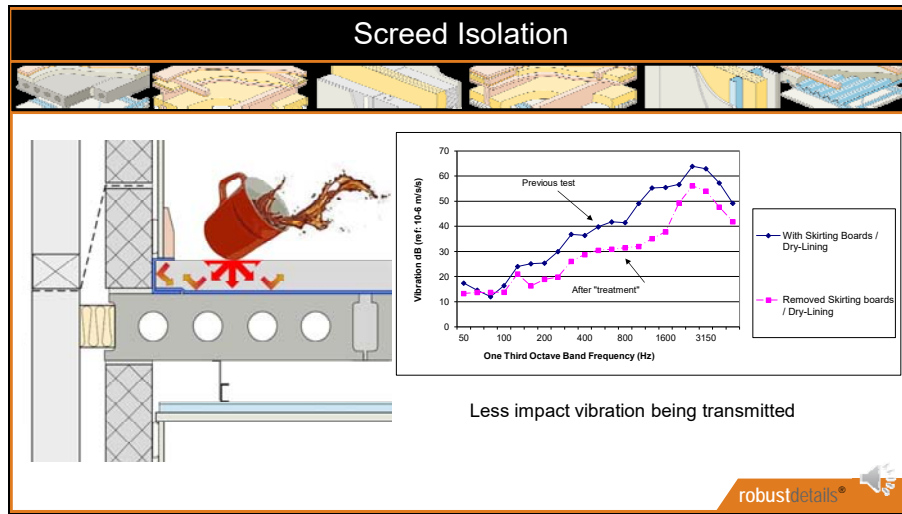
By removing the skirtings it was found that although the resilient flanking strips had been installed they had not been dressed down over the top of the screed.

As this image, shows, the contact of the skirting/wall finish onto the screed creates a flanking path, which in this case was sufficient to undermine the test results.

Additional notes:

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Slide 10

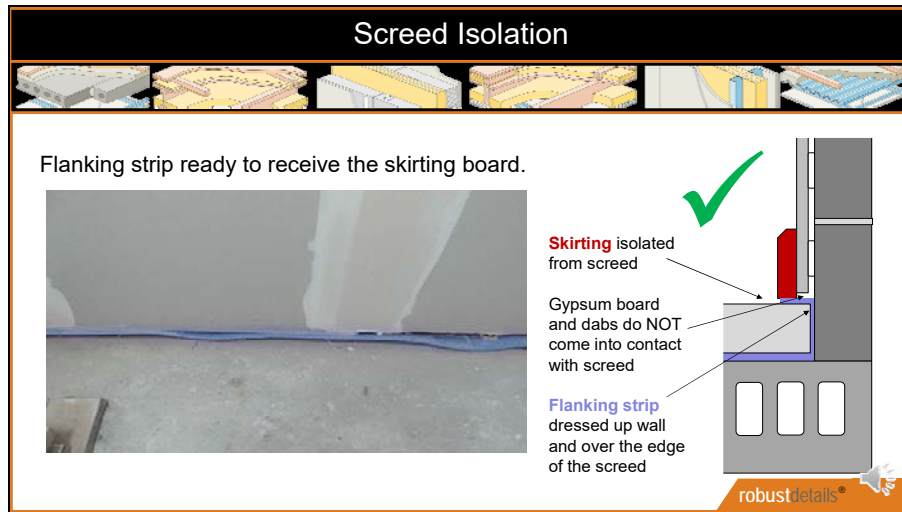


After the remedial works and with the skirting still off, another measurement was taken, which showed a 7dB improvement - so if the job was done right to start with, this would have been a good 57 dB pass, well below the 62dB maximum requirement for Part E and max 60dB for RD impact performance.

Additional notes:

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Resilient flanking strip must be dressed up the edge and over top of floating screed. This will isolate the screed from wall linings; and when the skirting board is affixed to the wall, it will sit above the flanking strip – and not on the screed.

Additional notes:

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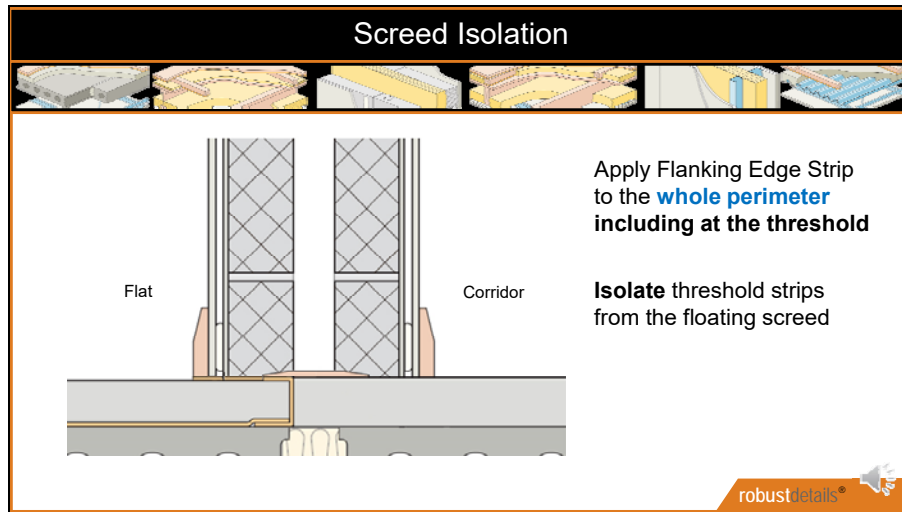


Read slide

Additional notes:

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The Robust Detail specifies that the flanking edge strip must be applied to the whole perimeter of the floating screed – so this includes at the threshold of the entrance door.

Now, provided the corridor floor is not above an apartment, it does not have to protect against impact noise. This means the screed can be directly applied to the concrete planks, so impact noise can get into the concrete planks in the corridor


It's good practice to prevent this impact noise tracking into the apartment, So think about the type of cavity stops used between the corridor and the apartment. Also if a threshold strip is used, this should sit on top of the flanking edge strip.

Additional notes:

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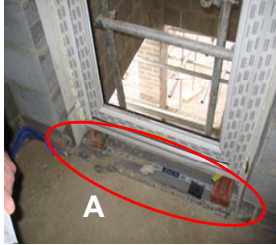
Slide 14

Screed Isolation




Always think about detailing at doorways at balconies and stairwells...

Flanking strip missing at junction between screed and balcony door



A



Mind the GAP!!

B

Stairwell

Apartment / Flat

X

Perimeter edge strip or flanking strip should have been continuous across the door opening to isolate screed from stairwell landing.

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We used these slide in the concrete floor section but its really important to explain how often we see these major errors on some sites.

In picture (A) the flanking strip is missing at junction between screed and balcony door. Sound and vibration will now be able to transmit into the block walls and door cill.

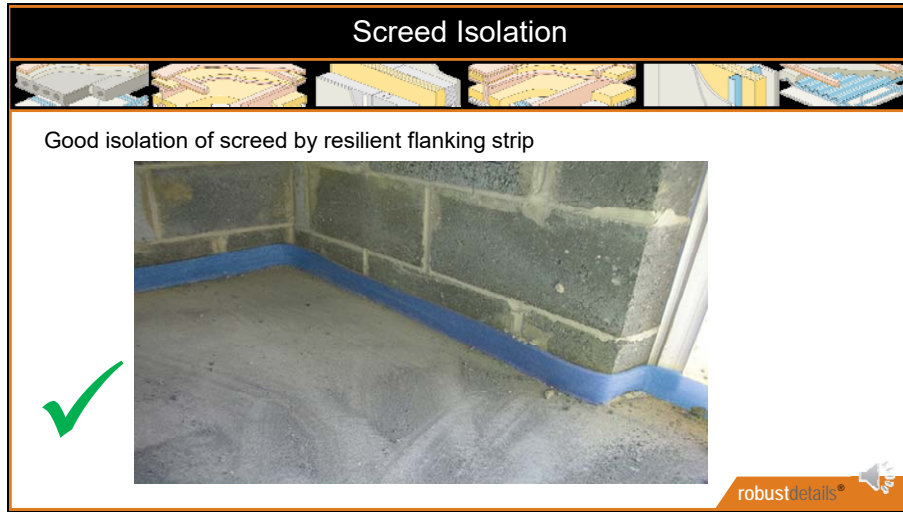
In picture (B) the screed has been allowed to connect and touch directly through to the common stairwell landing of the flats and also comes into contact with the block walls.

The purple perimeter edge strip or flanking strip should have been continuous across the door opening to isolate the screed from the stairwell landing.

Additional notes:

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Flanking strip properly installed around the perimeter – just remember to fold it down before applying the wall finishes.

Additional notes:

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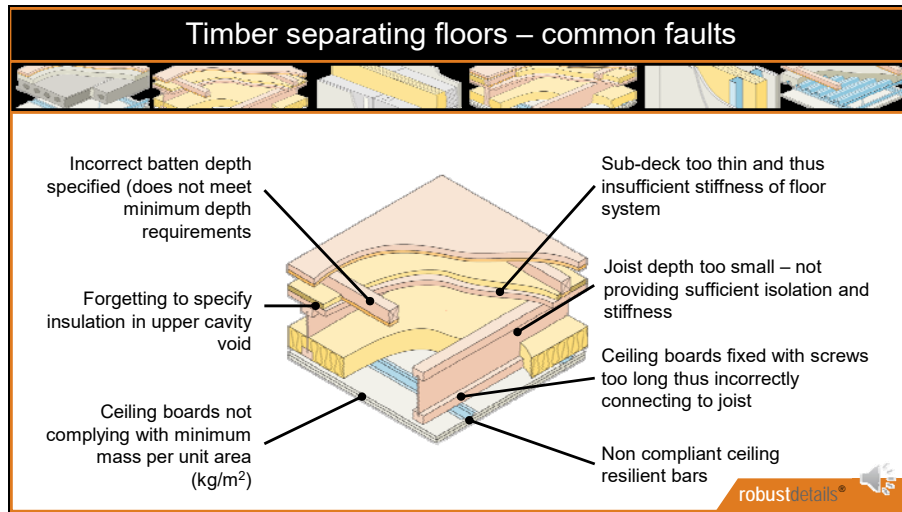


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Additional notes:

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Slide 17




There are a range of specification errors which can negatively influence the performance of a timber separating floor, which can affect airborne and impact performance. These include... (read slide)

Additional notes:

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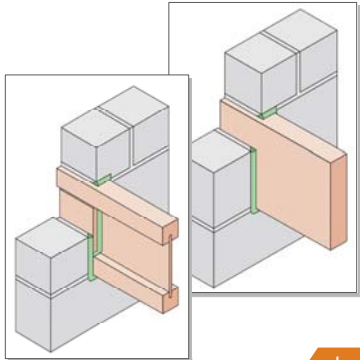
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Timber separating floors – common faults



Timber separating floors cannot be used with masonry walls.

They do not break the flanking path like concrete floors would.



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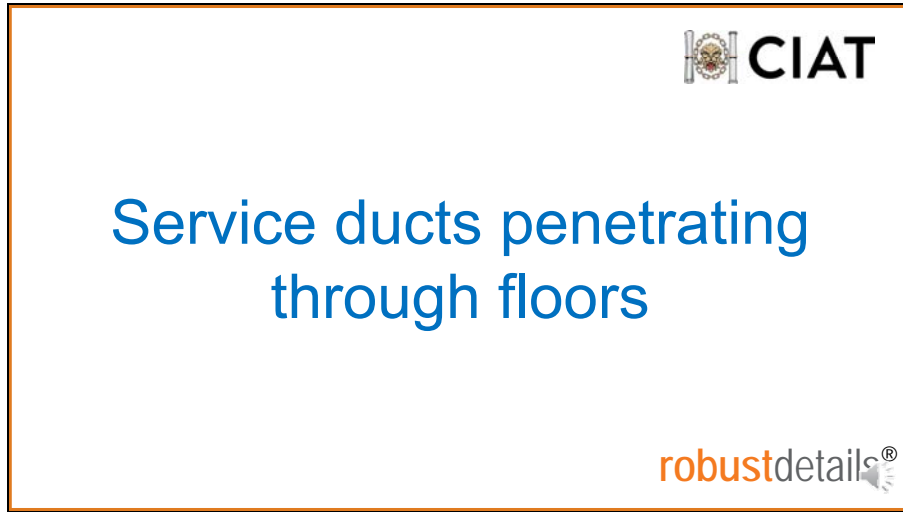
As stated at the top of page 1 of each of the timber separating floors, they are for “Use with timber frame walls only”.

If used with masonry walls, they will allow flanking sound via the masonry leaf that is continuous past the edge of the floor.

Concrete floors are built into all of the surrounding walls which fully breaks this flanking path – timber joists only give small intermittent breaks at best.

Additional notes:

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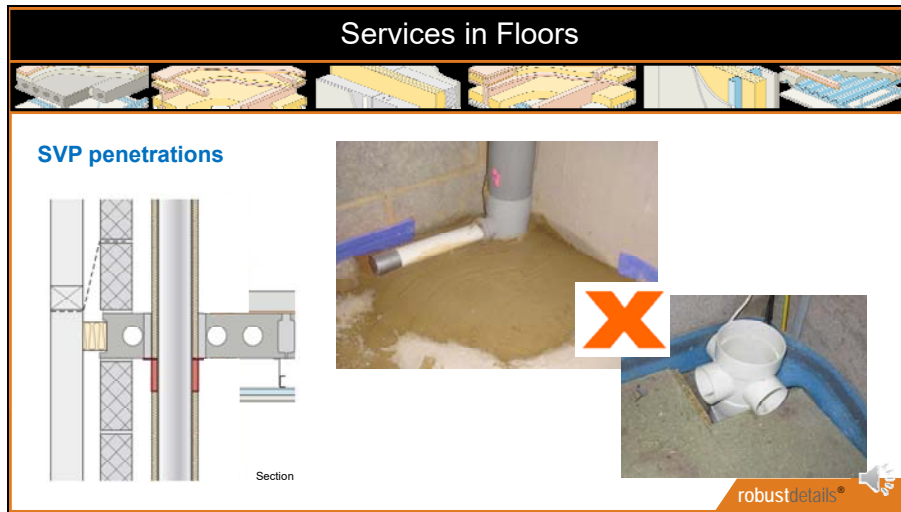


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Additional notes:

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Slide 20



Where SVPs or other services pass through the separating floor, part of the floor structure has to be removed, which introduces a weakness. So we need to shield, or protect the hole in the floor

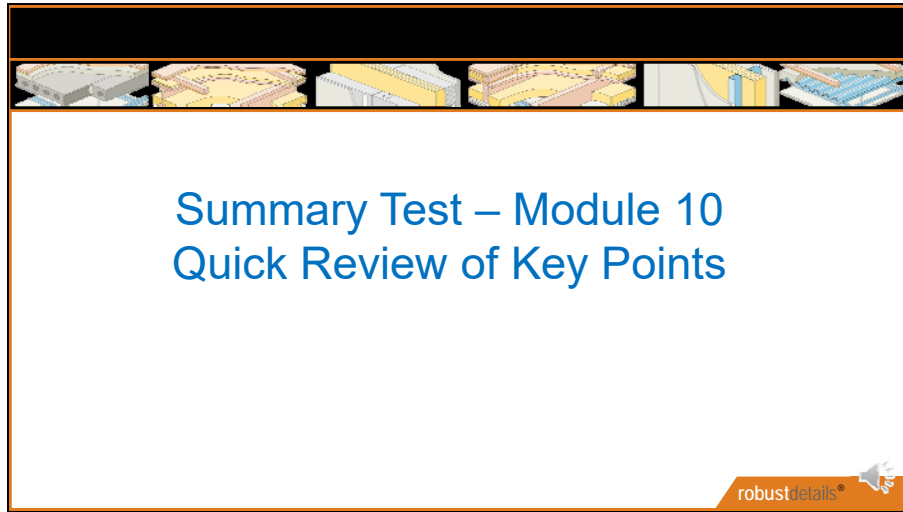
To do this, the SVP will be boxed-in. As the boxing is attached to the walls, we need to include the flanking edge strip to ensure that impact noise from the screed does not get into this structure, and then into the flanking walls. and of course the same goes for FFTs.

The mineral wool wrap is primarily to prevent reverberation within the boxing – and although it can reduce noise break-out from the pipe this is not a Building Regulation Part E requirement, as noise from use of the building falls under environmental noise.

Additional notes:

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Now for a quick TEST to recap on Module 10

Additional notes:


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Summary Test – Module 10



No.	Question
1	Why should all excess grout be removed once the plank joints have been filled?
2	What feature of precast planks can make it difficult to seal them to the surrounding walls?
3	The resilient layers need to be overlapped and taped - what can happen if they're not?
4	In floating floor treatments (FFTs), what can happen if the flanking strip is not applied to the whole perimeter?
5	Why is the flanking strip needed at the entrance door threshold of an apartment?
6	Why is it important to use the correct-length screws to fix the ceiling boards?
7	Can timber separating floors be used with masonry walls?
8	What will happen if the mineral wool is not included when SVP's are boxed-in?



Here are 8 questions – you may wish to PAUSE the recording and test yourself against these questions.

Once you have answered all of them – the next slide provides the answers. In 10 seconds the slide will change so press pause now if you want to test yourself first.

Thank you for following Module 10.


Additional notes:

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Summary Test – Answers



No.	Answer
1	Grout and other debris could damage the resilient layers
2	Precast planks can have a camber
3	The layers can move and gap when the screed is laid
4	Impact noise energy in the FFT can get into the surrounding structures where it could transmit to the flat below
5	To stop impact noise from the corridor floor tracking into the apartment
6	If the screws are too long, they can go into the joists, and compromise the resilient bars.
7	No. As they cannot fully break the wall leaf, flanking sound can transmit via the structure
8	Ensuring the resilient bars are not compromised by rigidly connecting the ducting to the joist and the ceiling board
9	Sound waves travel at the same speed in all directions
10	Reverberation can be set up in the boxing, which can increase the noise intensity





Here are the answer to Module 10's quick test.
How did you do?

Thank you for following Module 10


Additional notes:

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End of CIAT – Module 10
Common fault areas in
separating floors



End of Module 10 – Common Fault areas in separating floors

Additional notes:

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