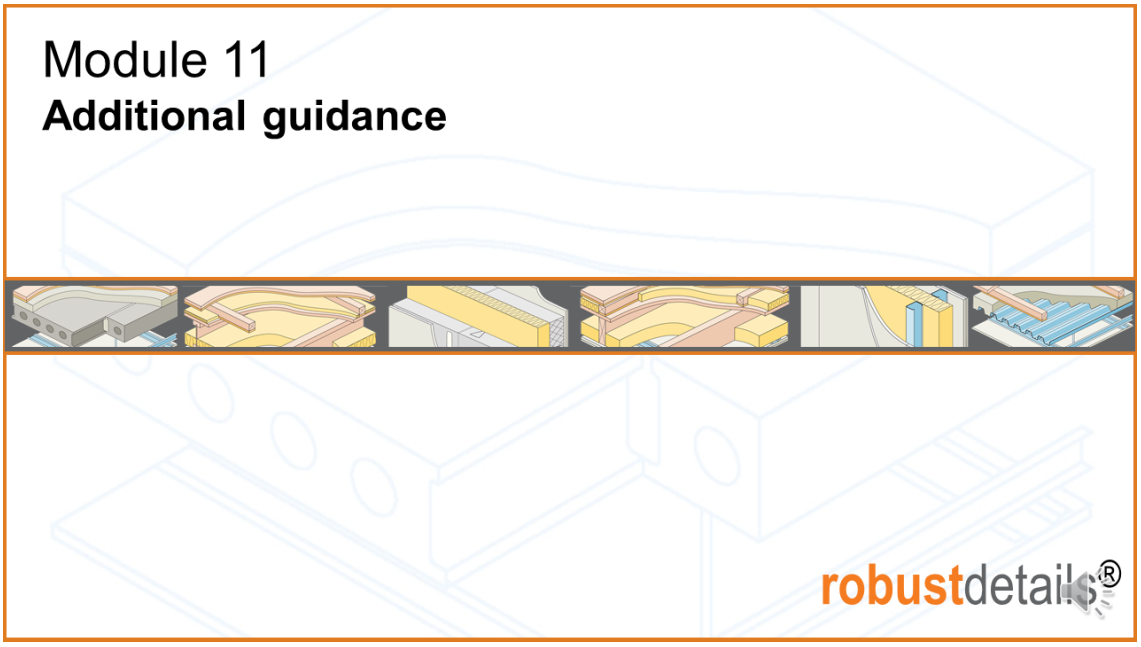
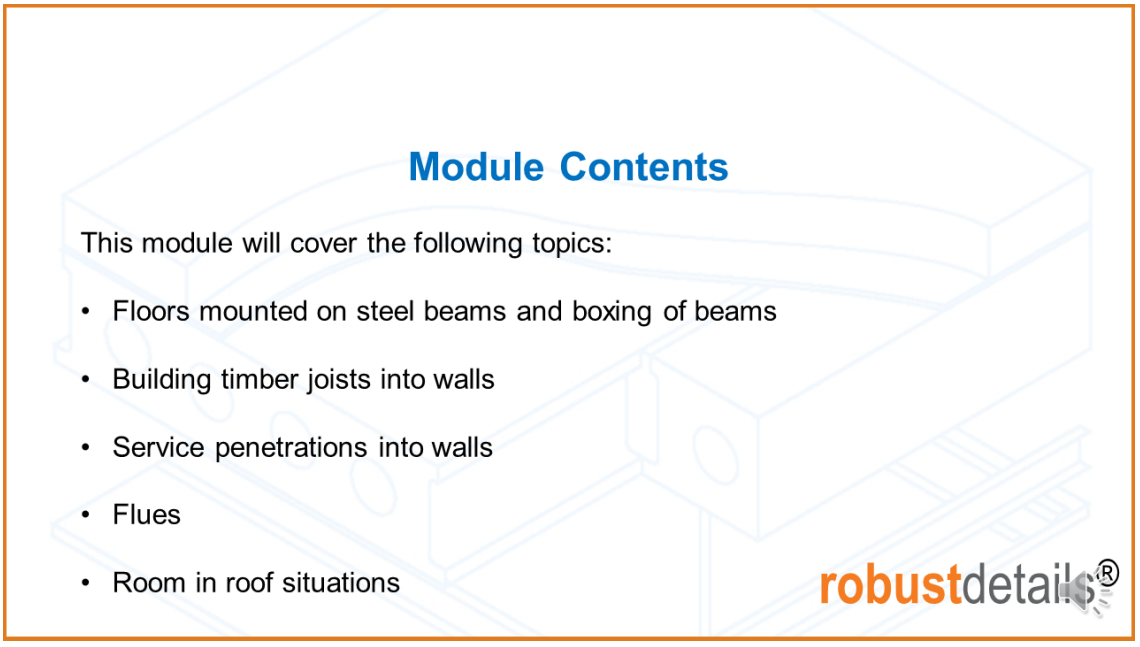
Slide 1



Welcome to the last module 11 – Additional guidance. This is the last module in the course.

Additional notes:

Slide 2

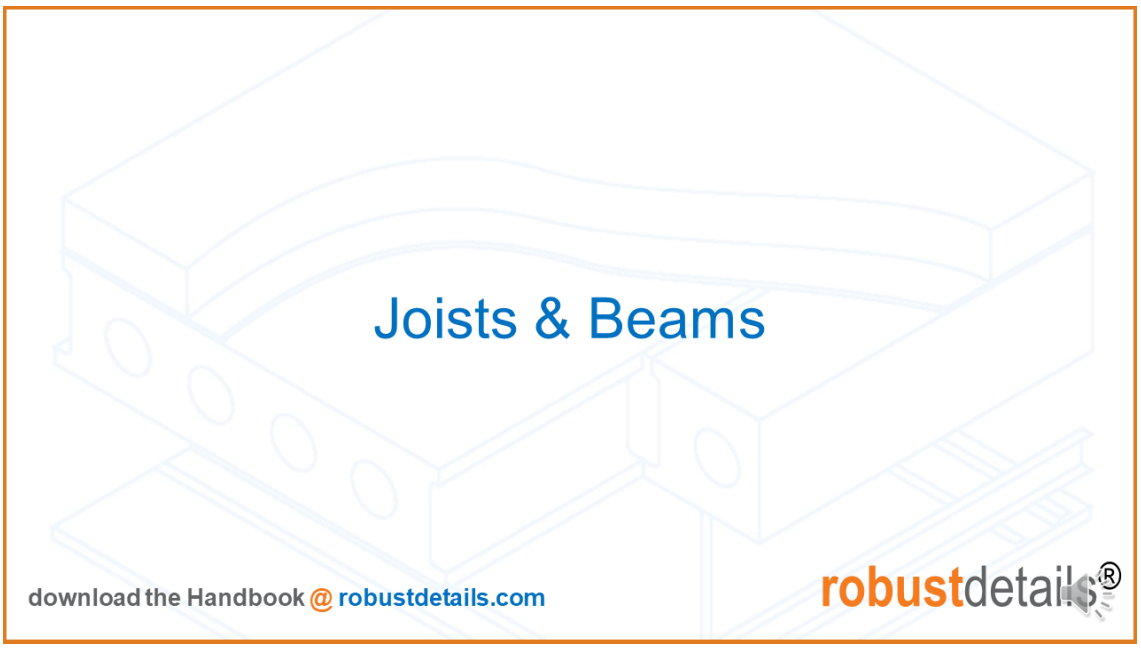


This Module will cover the following topics:

- Floors mounted on steel beams and boxing of beams
- Building timber joists into walls
- Service penetrations into walls
- Flues
- Room in roof situations

Additional notes:

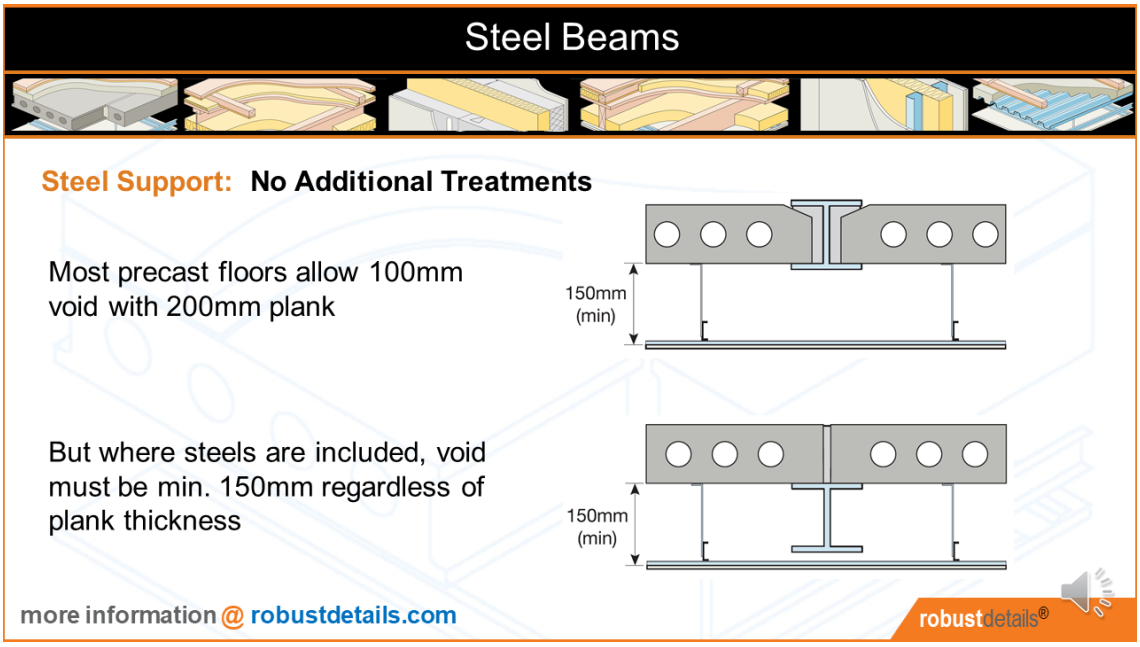
Slide 3



Read slide

Additional notes:

Slide 4



Sometimes, steel beams need to be introduced to give a mid-span support to concrete floors. The diagrams in the Handbook show planks, but this applies just the same to beam & block.

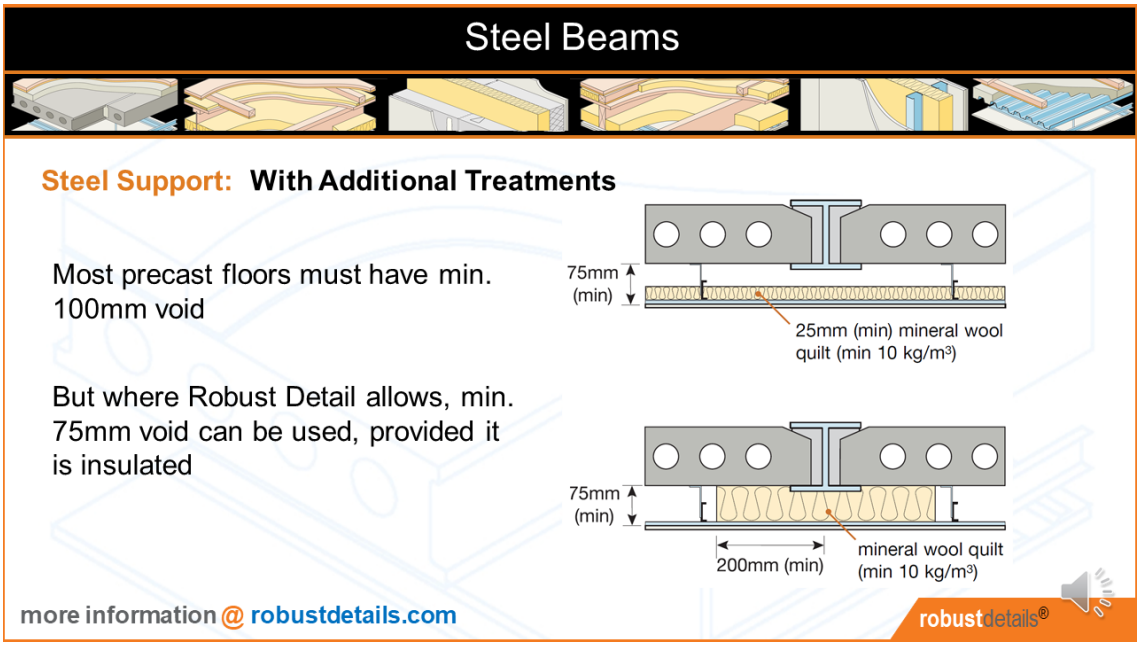
As a rule, the plank + ceiling void = 300mm, so 15mm0 plank has 150mm void; 200mm plank has 100mm void.

Where steels are incorporated with no additional treatment, a larger 150mm ceiling void must be used, even with a 200mm plank, to allow the sound energy to dissipate.

And….. as with every other joint in the planks, these voids must be fully grouted.

Additional notes:

Slide 5



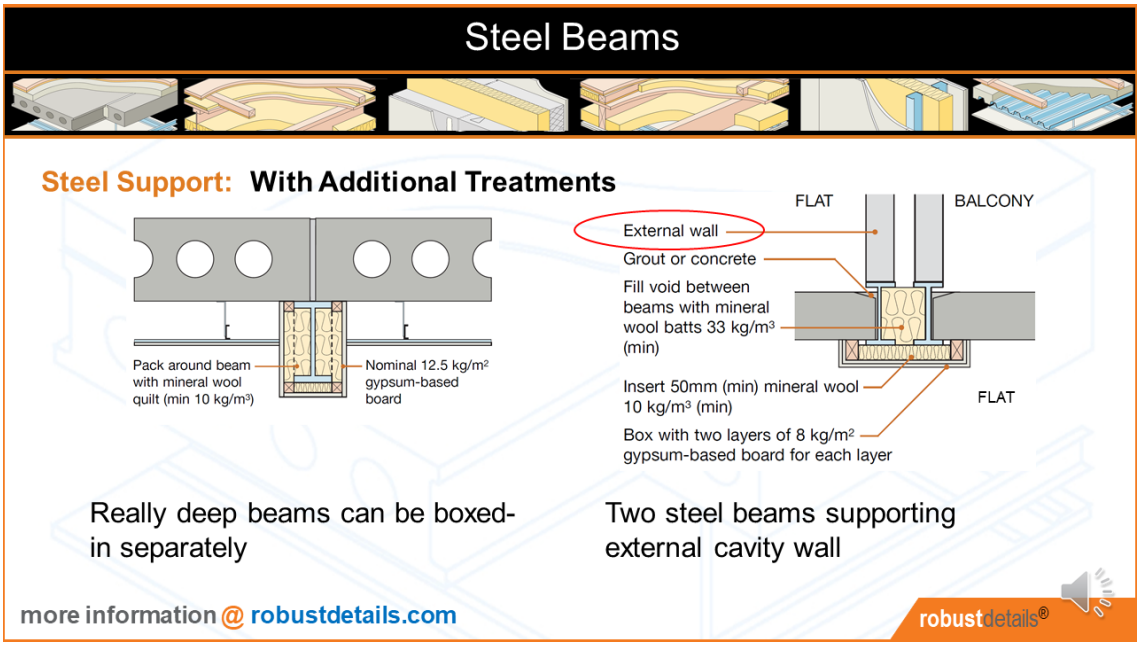
If the ceiling height is limited, a smaller void can be accommodated… but with the aid of additional treatments – and only where the Robust Detail allows.

So either 25mm of insulation to the whole ceiling area where the beam appears; or full-thickness insulation locally to the beam.

But of course if the Robust Detail shows that there has to be a min.100 void, it doesn't mean you can introduce a steel and insulation, and reduce it to 75 – E-FC-1 incidentally allows voids down to 65mm.

Additional notes:

Slide 6



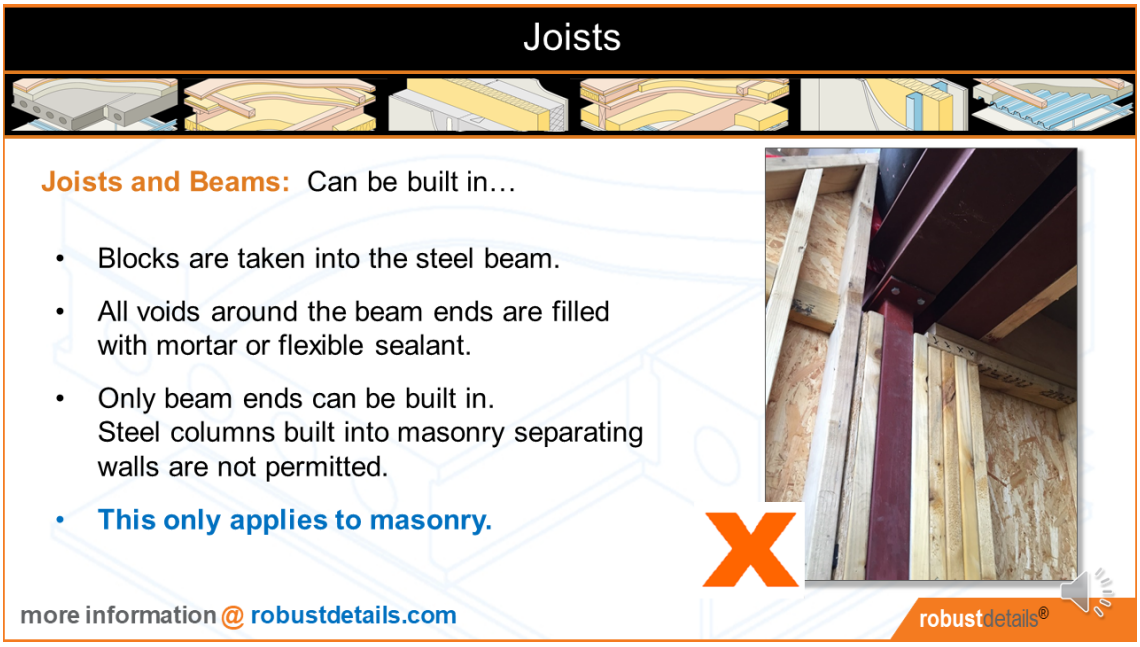
If you have a really deep beam, then it is possible for it extend through the ceiling line, but it must be packed with mineral wool and be boxed-in with heavy board. And it is advisable that the framing does not touch the beam.

Then finally, where the floor continues out to form a balcony, the flanking path from flat-flat has to be protected. There is no requirement under E1 to guard against noise from the outside, but it is good practice to mitigate against impact noise from the balcony.

And just to emphasise, this is an external wall… separating walls cannot be built off steels.!!

Additional notes:

Slide 7



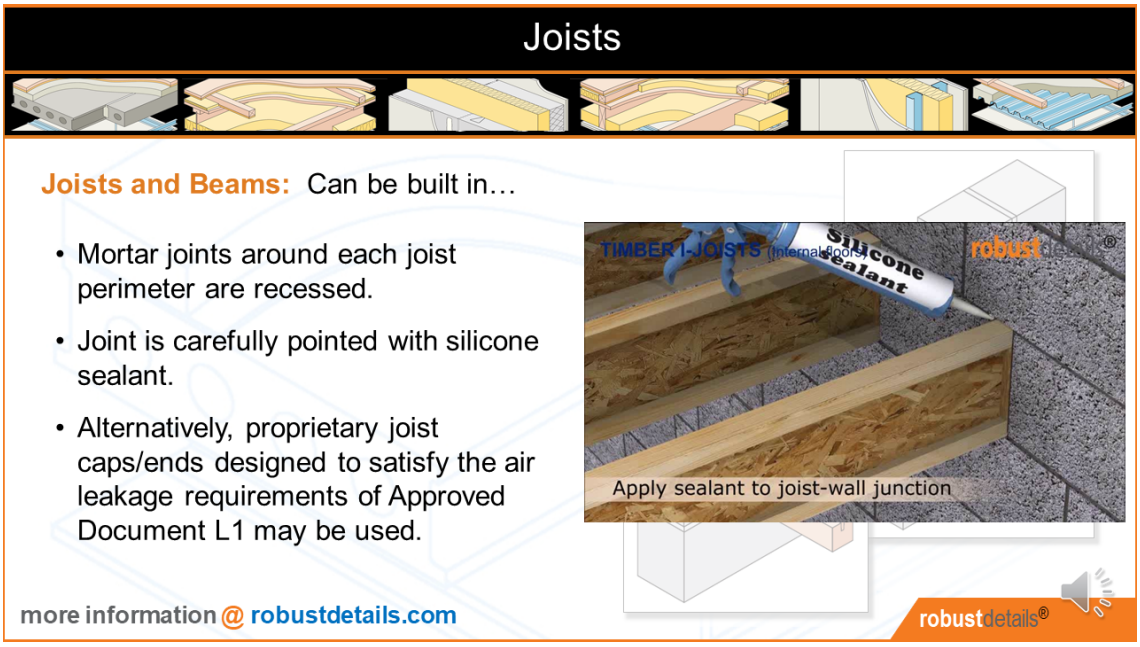
The ends of these solid steel beams, so not RHS, can be built in provided
Blocks extend right into the beam – so please, no squirty foam
And all joints are fully sealed.

As just mentioned only beam ends can be built-in. Columns remove a lot of mass from the wall and change the acoustic stiffness – which can lead to poor performance.

The other point to note is Steel is not allowed anywhere near timber Robust Details – if additional support is needed, you could perhaps look at composite timber components.

Additional notes:

Slide 8



As shown in Appendix A1, it is possible to also build joists into **cavity** masonry walls – but to ensure they don't create a flanking path through the wall [read slide]
This animation from our website that shows I-Joists with packers at the end, and Metal web joists having solid ends can be fully built in in the same way.

This animation is available on our website – www.robustdetails.com

Additional notes:

Slide 9

If the separating wall is inline with the ridge, then the mono-pitch trusses either side can have extended top and bottom cords, and they can be built in as well – vertical members cannot be built-in; and you can't include wall-plates.

This animation is available on our website – www.robustdetails.com

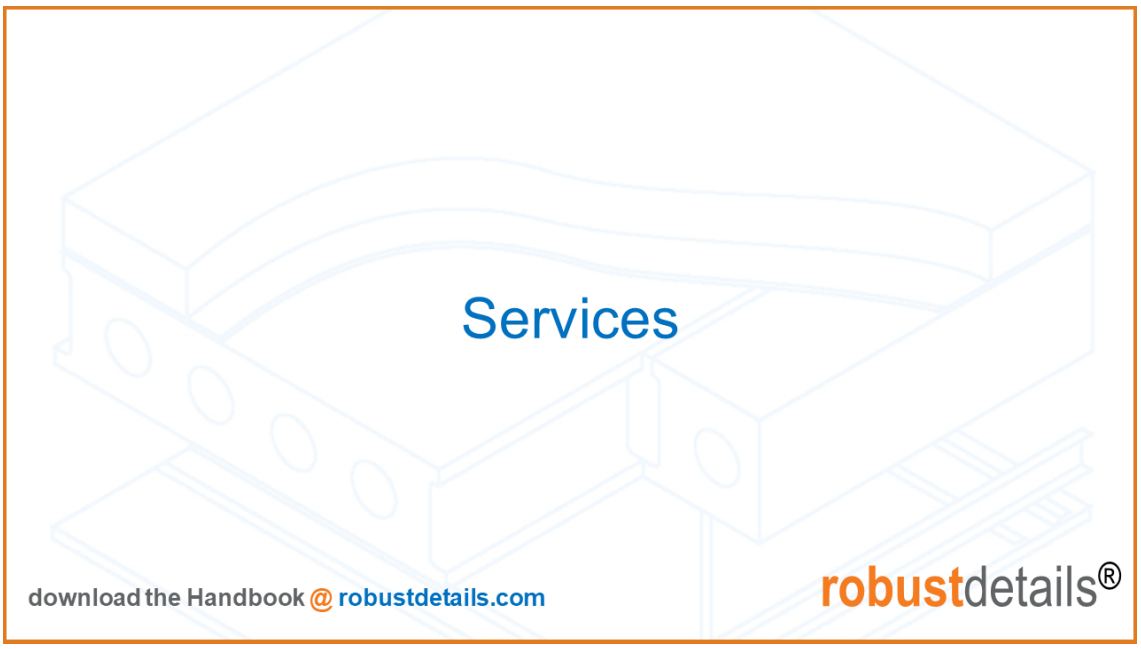
Additional notes:

Slide 10

When building in to the correct Robust Details guidance, some builders are very able and willing to do this…
Others not so.
Where gaps are left, high frequency noise can creep through – as we can see when this scenario is tested… there is a marked drop off at the top of the frequency range compared to a wall that's finished correctly.

Additional notes:

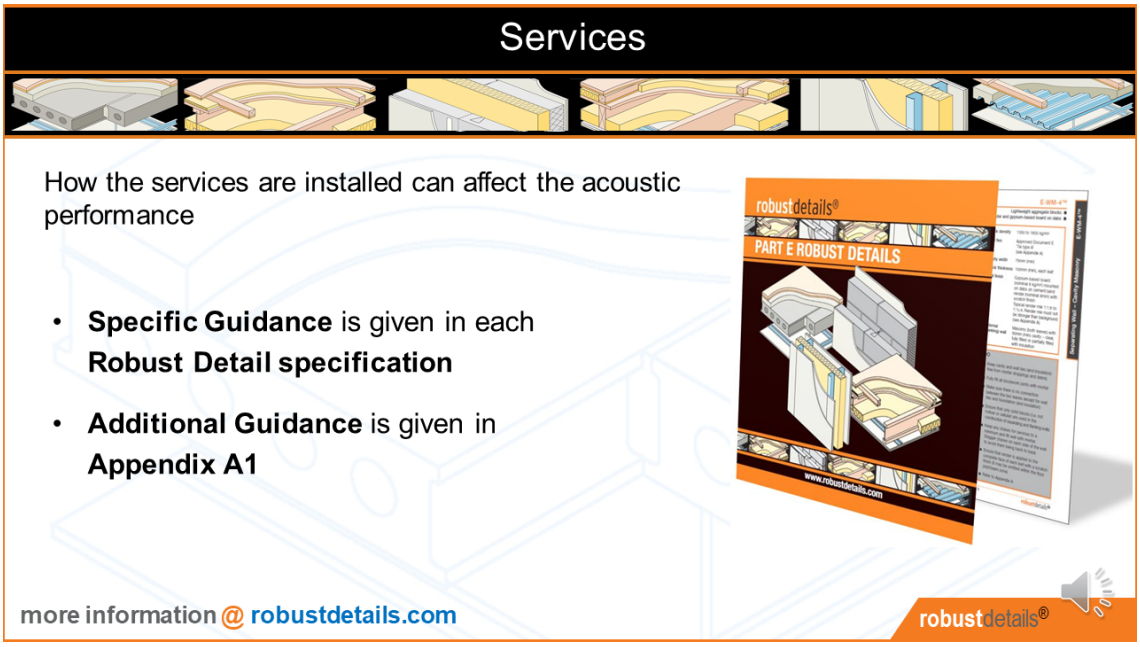
Slide 11



Read slide

Additional notes:

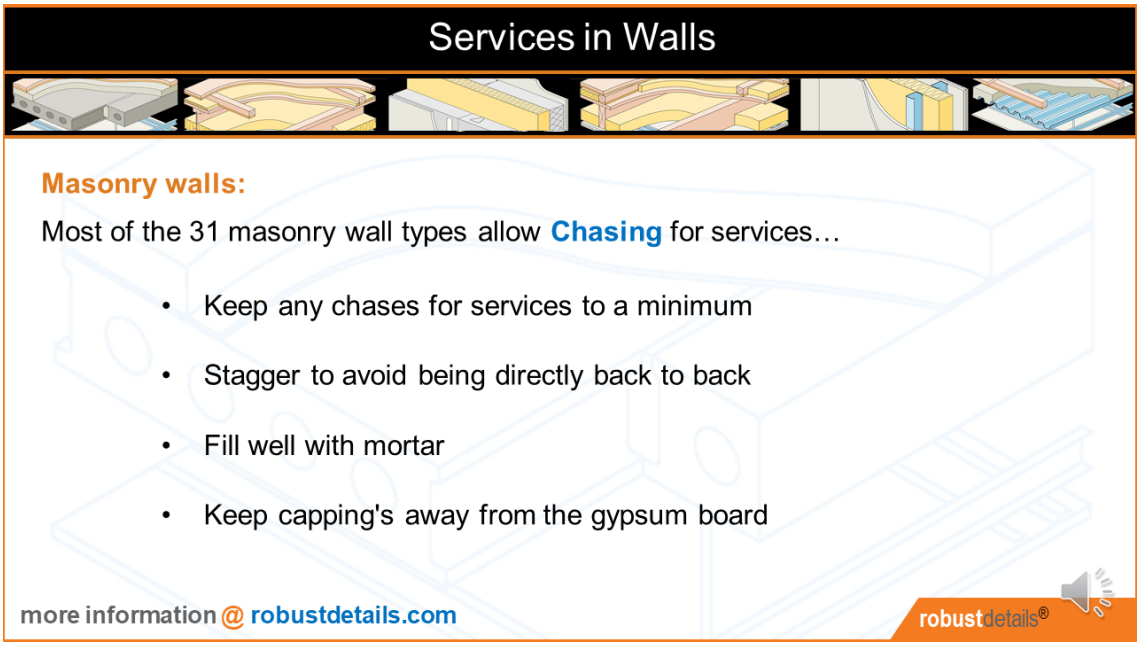
Slide 12



This can be critical to the acoustic performance, so there is Detail-specific guidance in the DO box on p.1 of each of the Details, as well as in the relevant diagrams through the Detail;
And there's a whole load of additional information in the Appendix A1 – which is more generic, and can apply to any of the Details.

Additional notes:

Slide 13

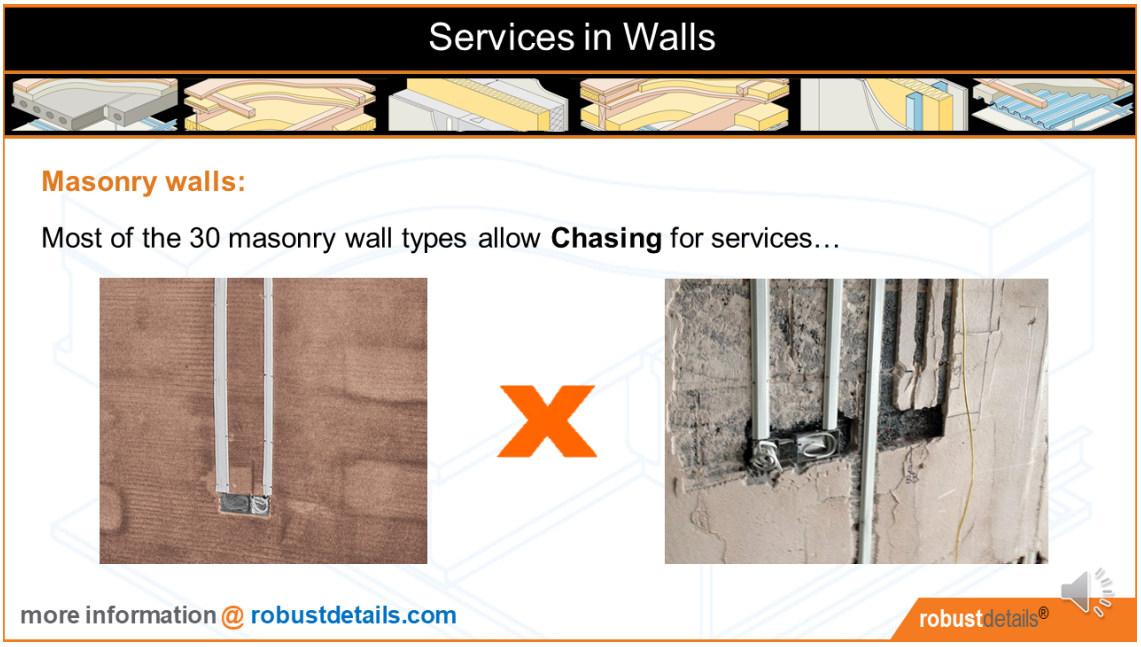


So for those that CAN accommodate chasing…
Also other regulations and standards dealing with depths of chases from a structural standpoint.

Read Slide

Additional notes:

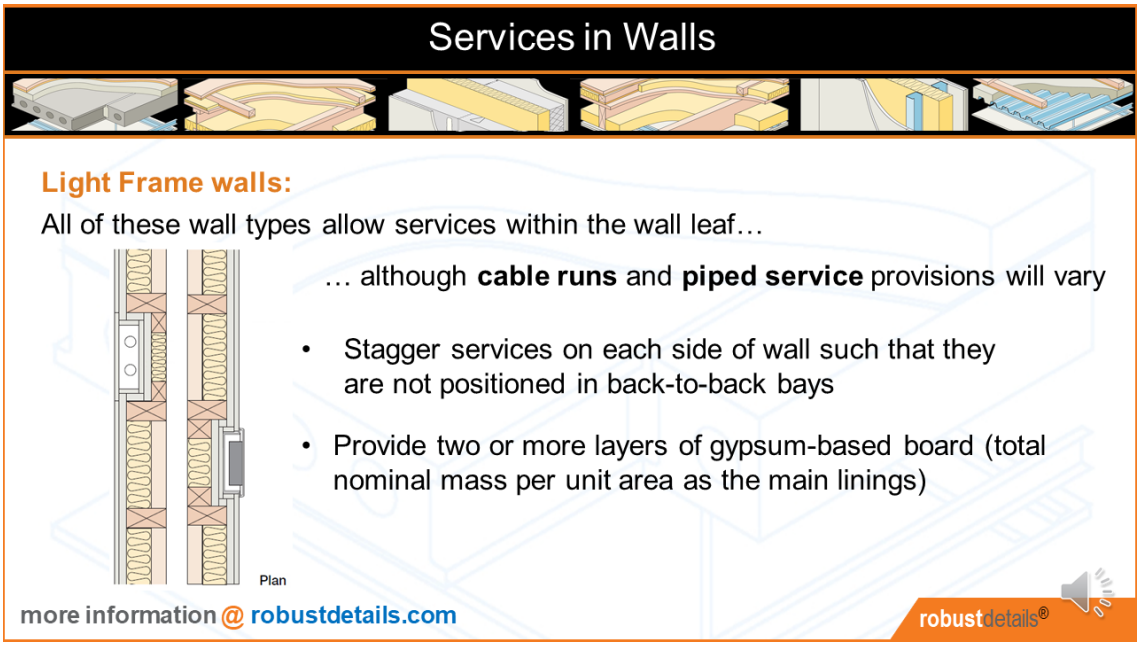
Slide 14



So here's a nice example of back-boxes being chased in to the wall to keep chasing to a minimum
And talking of keeping chases to a minimum…
– just need to make sure capping's don't touch the back of the gypsum board – which is unlikely to happen in the second example.

Additional notes:

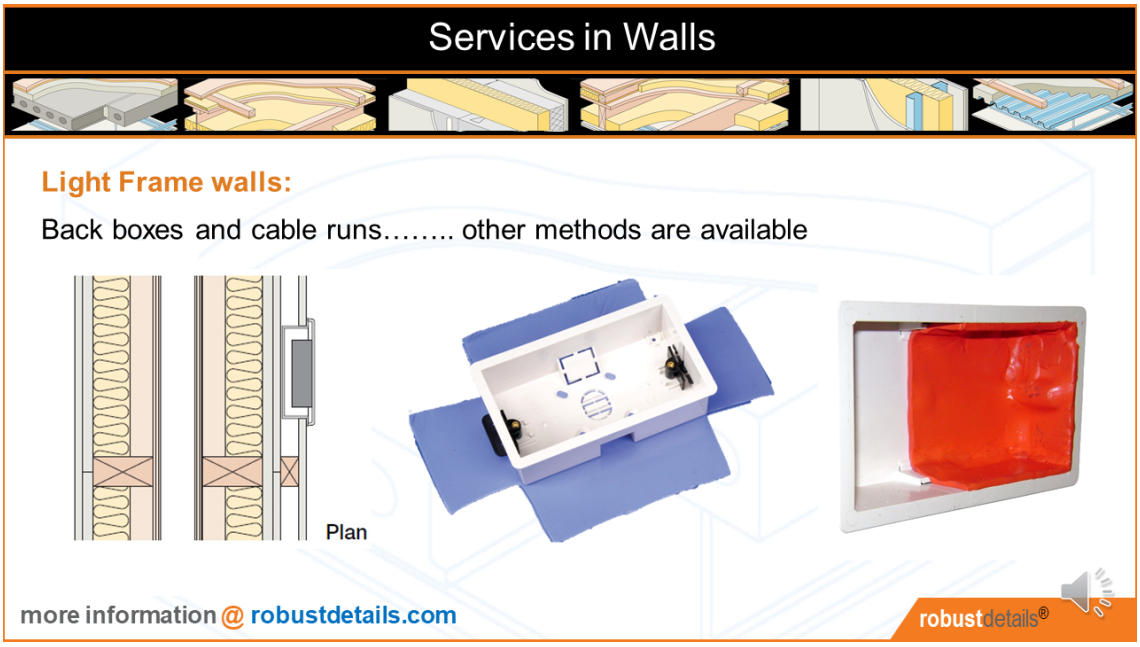
Slide 15



Now moving onto light frame walls – so timber and light steel frame
Regardless of it being electrical or piped services, ensure …
… piped services need boxing full height – whereas back box only localized boxing

Additional notes:

Slide 16

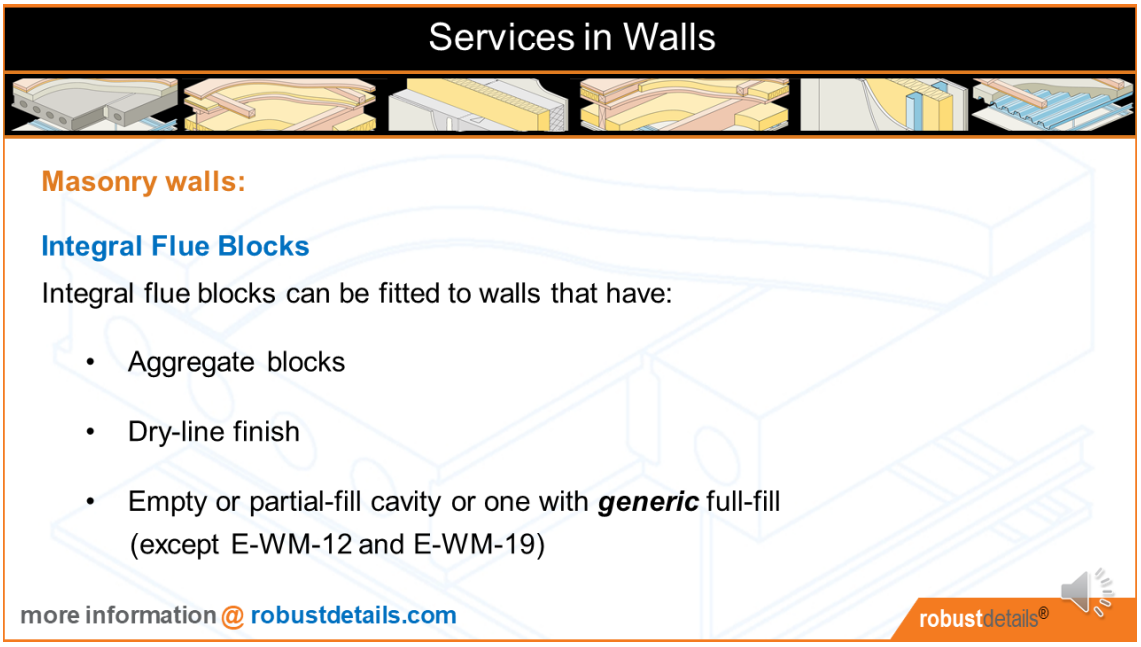


Now focussing on the electrics…
Creating the double boarding around a back-box is not the easiest, so you could consider

- Service zones – keeps primary lining intact for sound and fire - recommended in kitchens etc
- Putty pads and other proprietary enclosures – but not all the same, must be able to provide letter saying we've assessed

Additional notes:

Slide 17

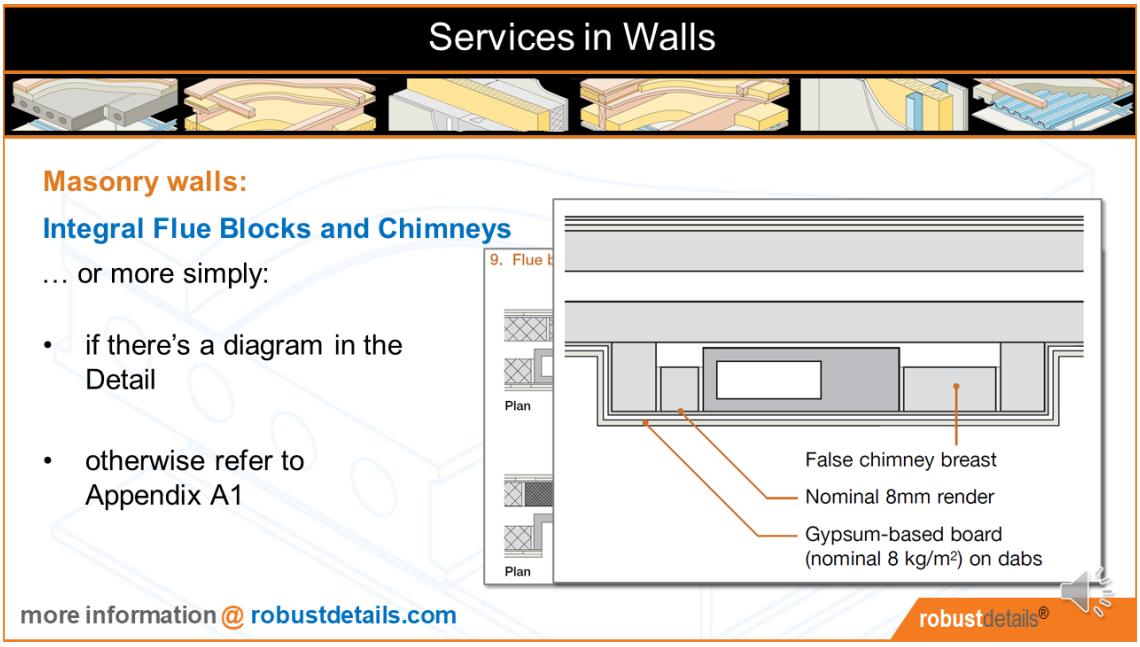


So we'll start off with separating walls – and perhaps the biggest of the services: Flues and Chimneys.
By integral flue blocks, we mean those concrete blocks that replace the standard blocks in the wall leafs.
As a rule, they can be fitted in walls that have …

Read slide

Additional notes:

Slide 18



But you don't have to remember all that… The simple way is if there's a diagram in the wall Detail, then you can do it.

If the wall can't take integral flue blocks, then there is guidance in Appendix A1 – but as you can see, this involves a false chimney breast (for the FULL height of wall), which must be provided with dry-lining, which can be in addition to a wet plaster finish if this is specified on the chosen wall.

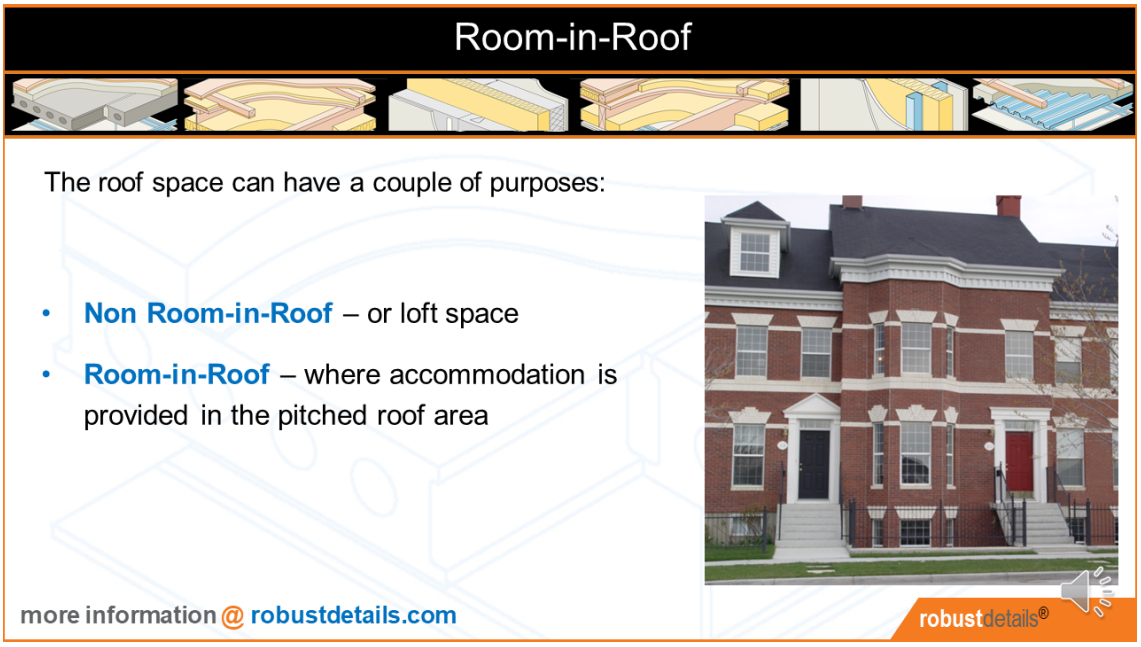
Additional notes:

Slide 19

Read slide

Additional notes:

Slide 20

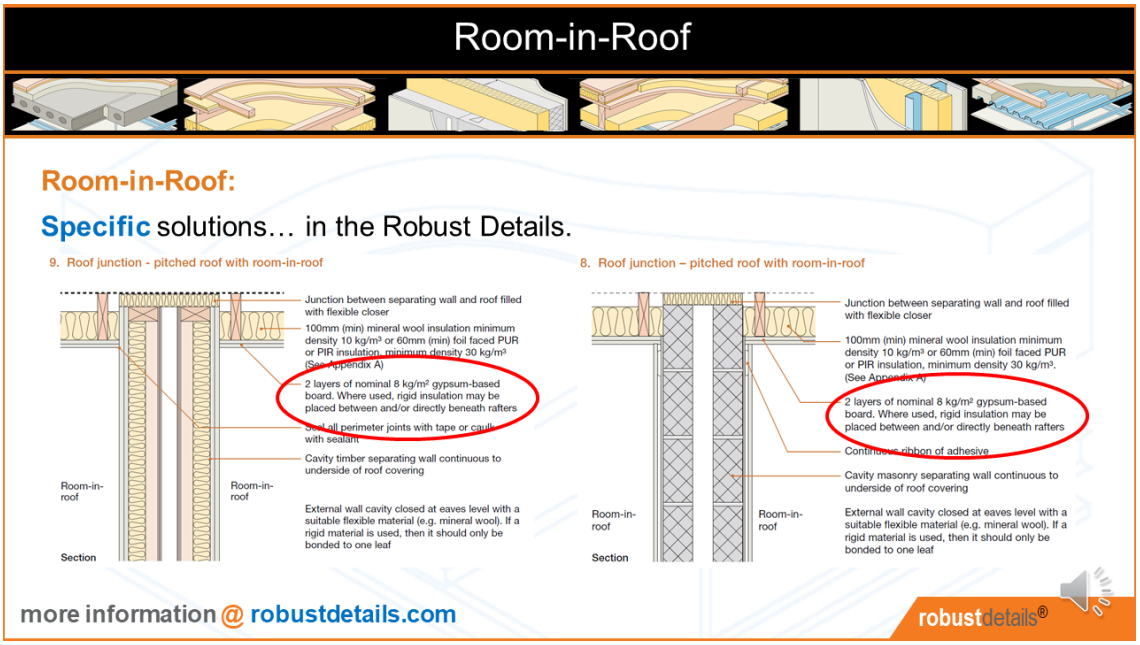


The roof space can have a couple of purposes

The 2 main scenarios – are non-room-in-roof and room-in-roof and both are dealt with differently in Robust Details terms.

Additional notes:

Slide 21



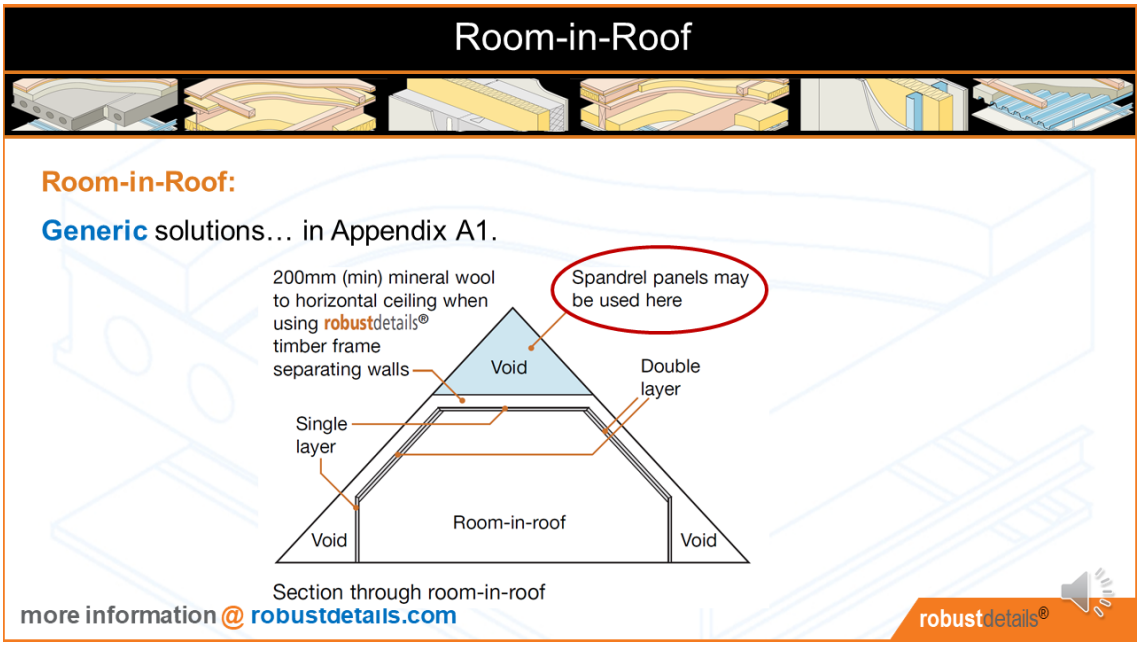
Lets look at Rooms-in-Roof first
This is where there is a continuation of the separating wall throughout the build – and specification is continuous.

So that's insulation all the way up, and no use of lighter weight blocks – if aircrete blocks wanted, then build aircrete wall.

Note, where there is a minimal void above ceiling board (for example sloping ceilings section), 2 layers of gypsum-based board is required.

Additional notes:

Slide 22



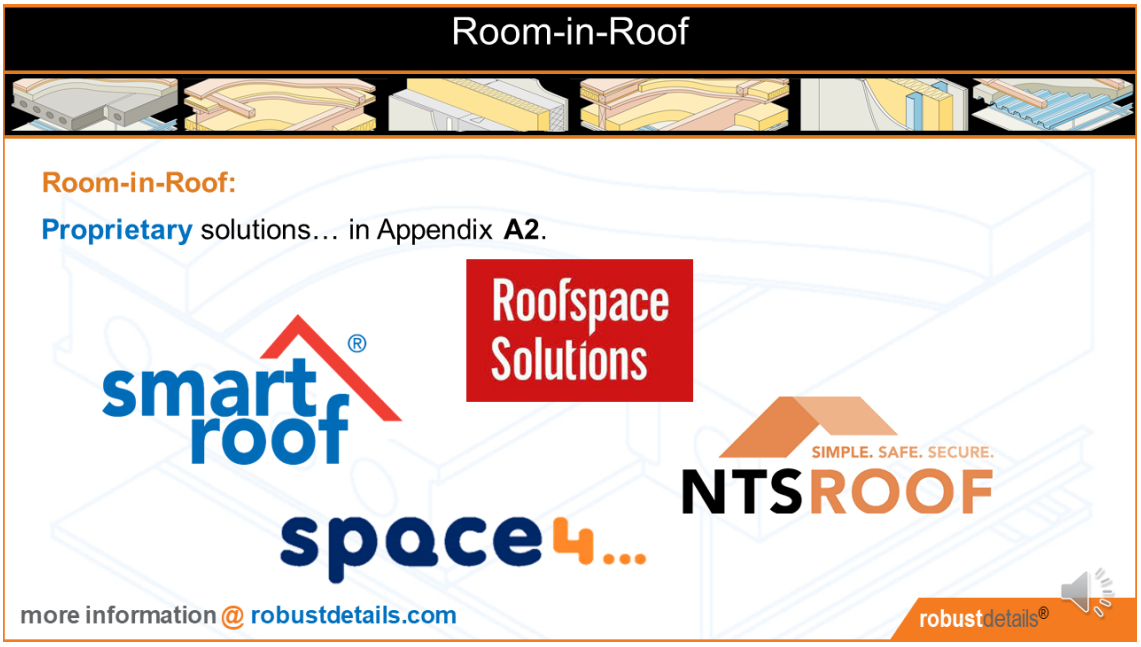
Additional guidance in Appendix A1 on lining requirements – for rooms directly against the separating wall.

Also note that although generic spandrels can't be used for the wall, they can be used but above the RIR element.

Voids will help to dissipate the sound, so these only need 1 layer as a minimum

Additional notes:

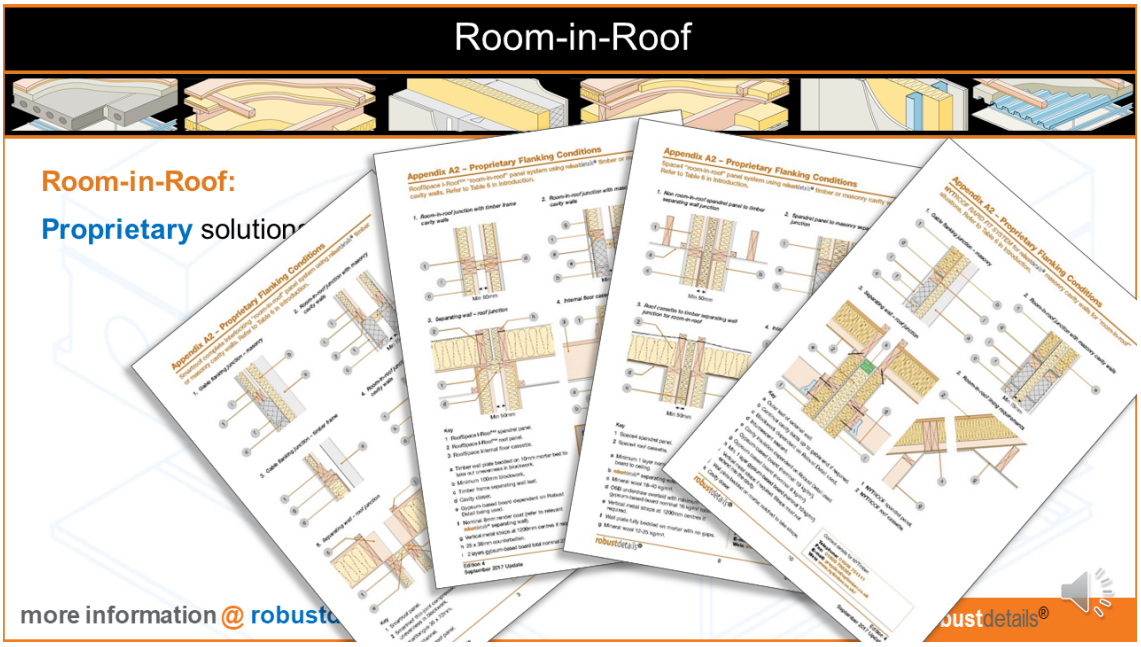
Slide 23



As just mentioned, the generic spandrels can't be used for room-in-roof, so if you want to take over with a lighter structure, in Appendix A2 we have Proprietary solutions are available to fit timber spandrels on top of masonry walls – however, these have roof cassettes rather than using roof trusses.

Additional notes:

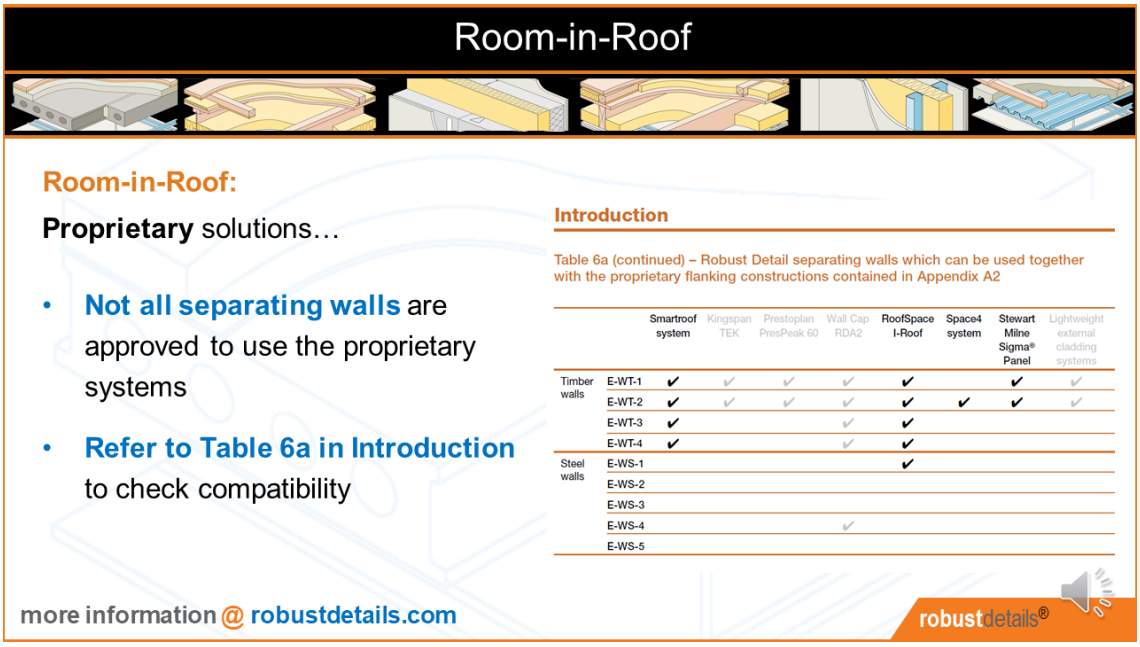
Slide 24



Each of these has its own requirements and method of installation
So make sure you refer to the appropriate page in the Appendix; and refer to the manufacturer's guidance.

Additional notes:

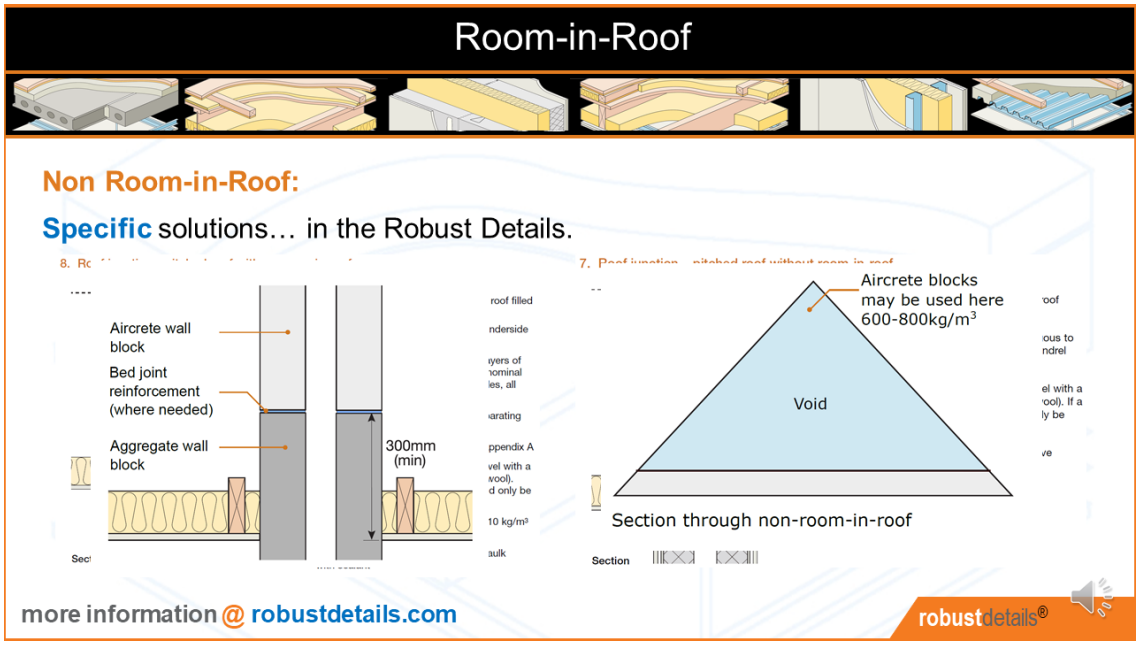
Slide 25



The other thing to remember is…
So as we can see in this table, you need to ensure that the right system is selected for the wall that's being built;
Or you select the right wall to match the RIR system you want to use.

Additional notes:

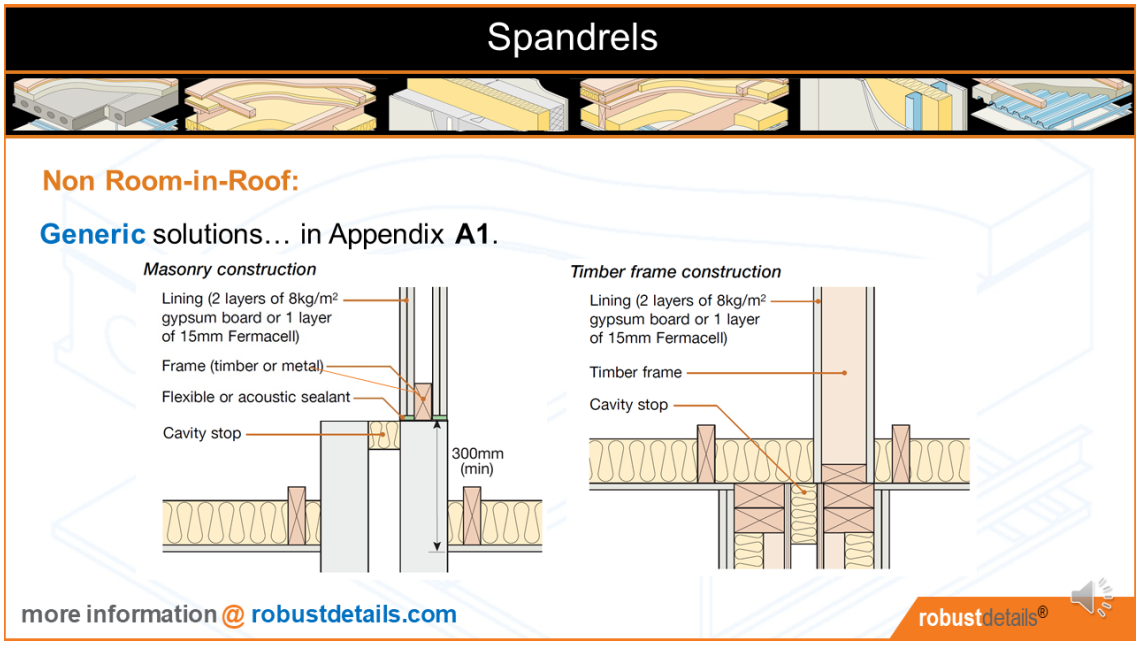
Slide 26



Moving onto non room-in-roof, these are what you might see in the Details themselves
Note lack of insulation, as replaced by ceiling insulation – same with render missing from masonry. It is possible to alter the Blockwork within the roof area, but this must start a minimum of 300mm above the ceiling level as seen here and aircrete blocks need to have a density between 600-800kg/m³
The separating wall within the non room-in-roof does other generic options as seen in our Appendices.

Additional notes:

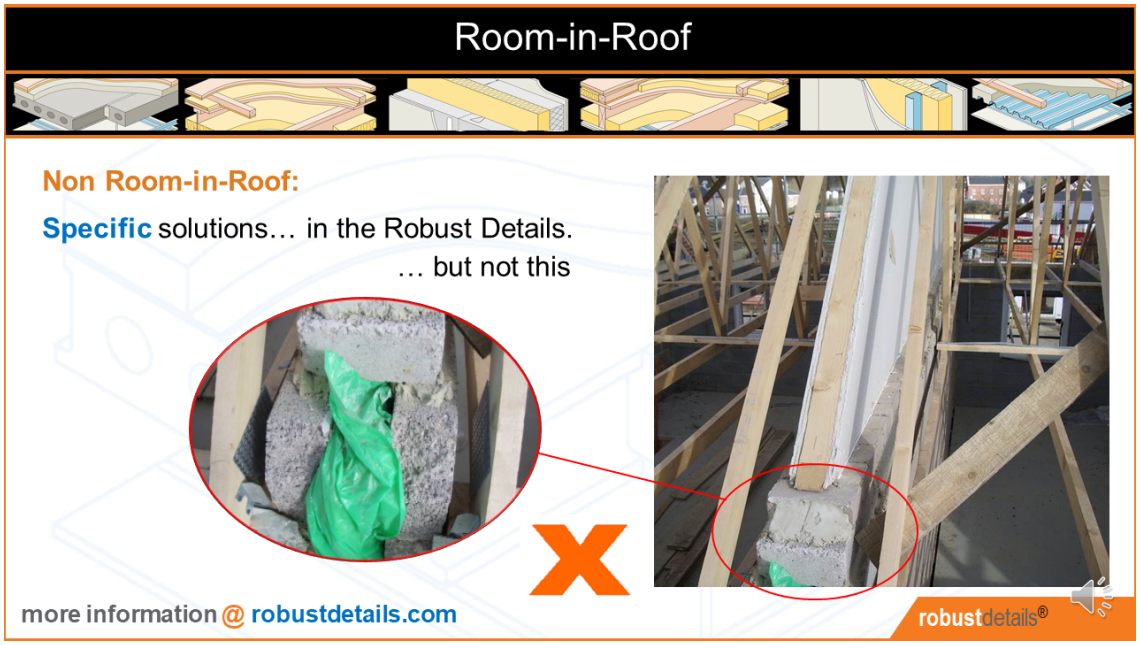
Slide 27



So let's look at these generic solutions in Appendix A1.
We have the options to utilise spandrel panels shown here for use with both timber and masonry walls, but the same can be applied for use on steel frame walls as well.
It's worth noting that a single layer of Fermacell can be used as an alternative to two layers of gypsum board.
The single spandrel is okay for simple layouts but more complex layouts, such as but flats, might require twin leaf approach but always ensure the spandrel must not bridge the cavity.

Additional notes:

Slide 28

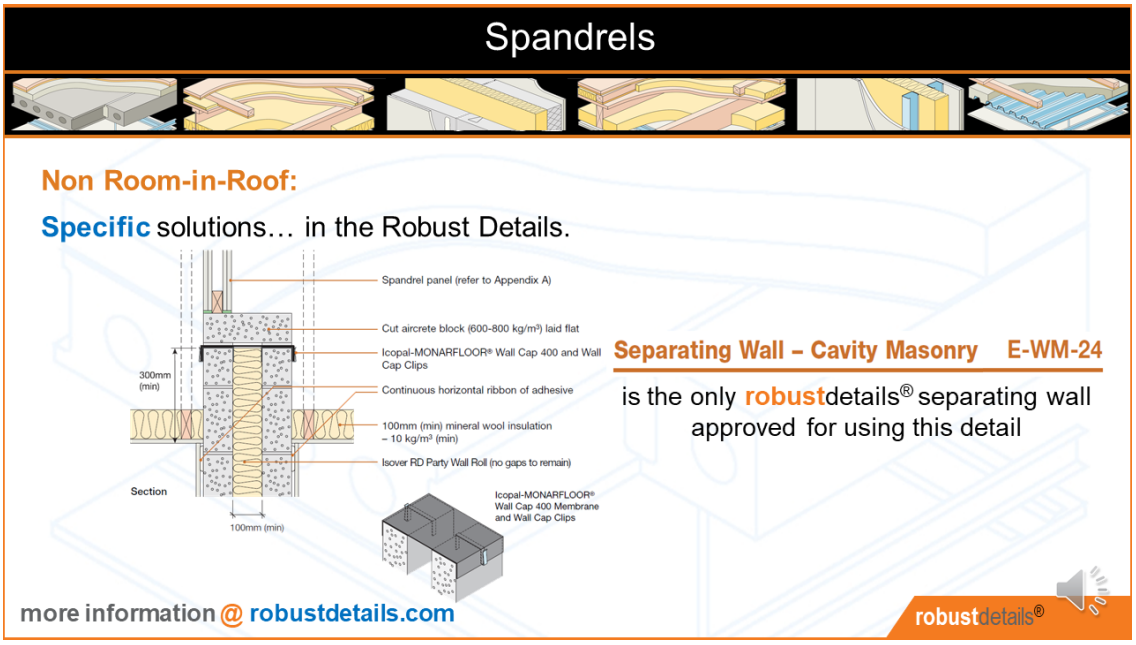


Blocks laid flat at the top of the wall does seem to be quite common practice

Possibly good for fire-stopping and for allowing spandrel to be positioned, but not good for sound, as it connects wall leafs together

Additional notes:

Slide 29



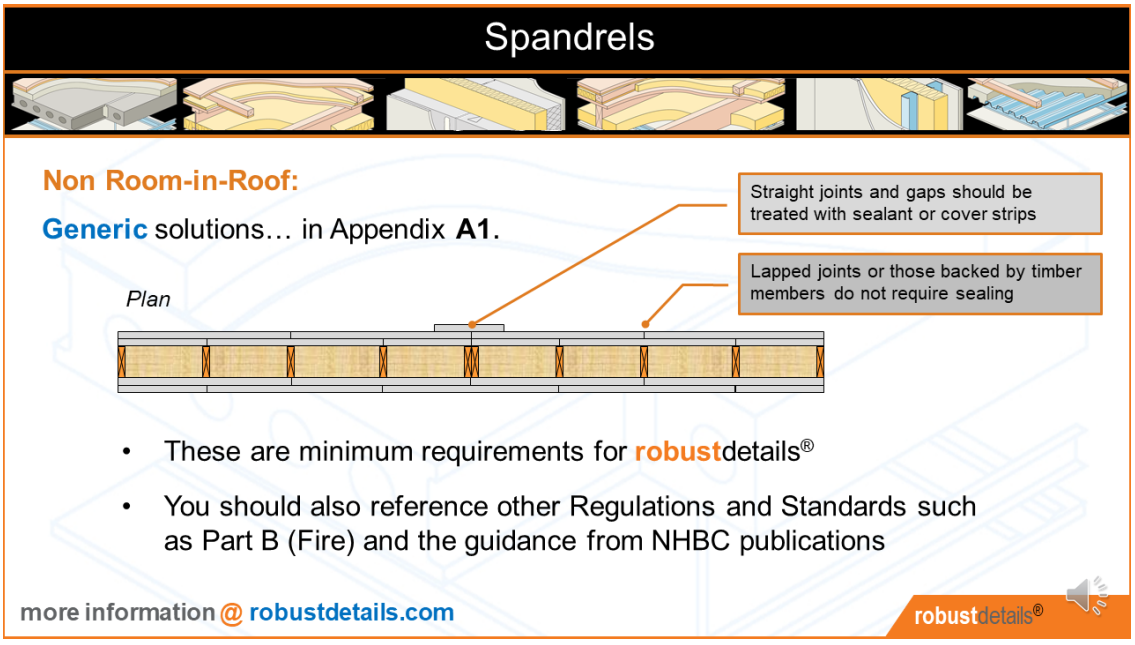
And because of this we have one wall type that has been approved with block laid flat but it must have the Icopal-MONARFLOOR Wall Cap, which then reinstates the isolation.

E-WM-24 is the only wall approved using this detail so no other wall type can use this method.

By utilising this detail, it allows a single spandrel which are generic solutions.

Additional notes:

Slide 30



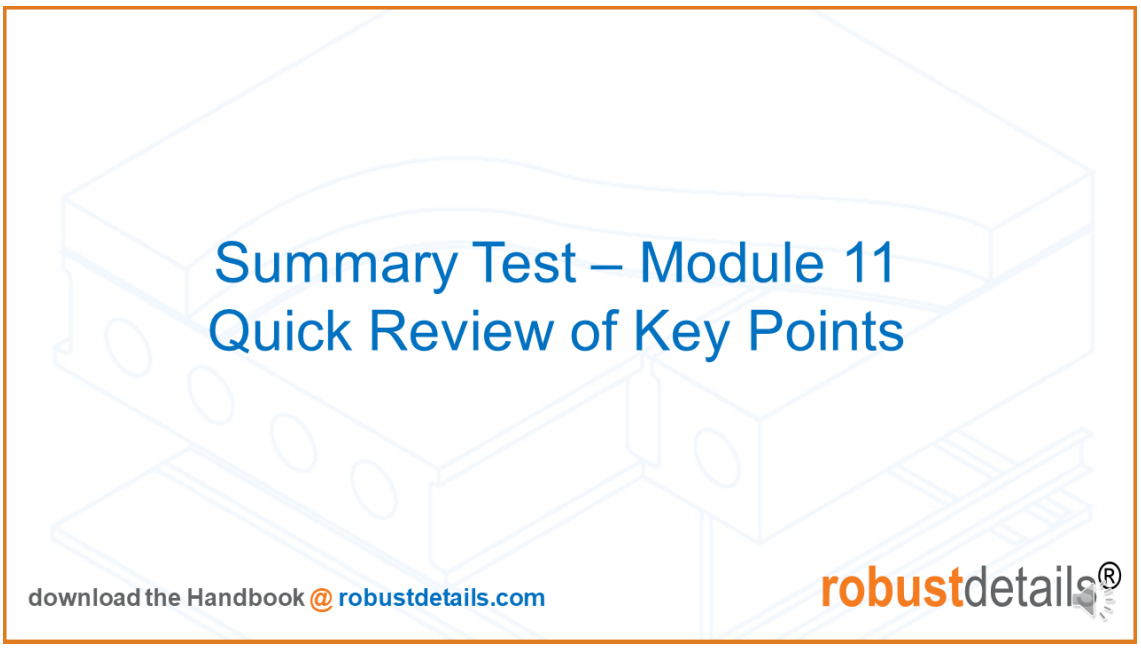
There are instances where spandrel panels are delivered to site in parts for easier transportation, normally supplied in 2 halves. In Appendix A1 we say lapped joints or those backed by timber members do not require sealing

However, straight joints represent a weakness, so those should be treated with sealant or gypsum board cover strips

Read Slide

Additional notes:

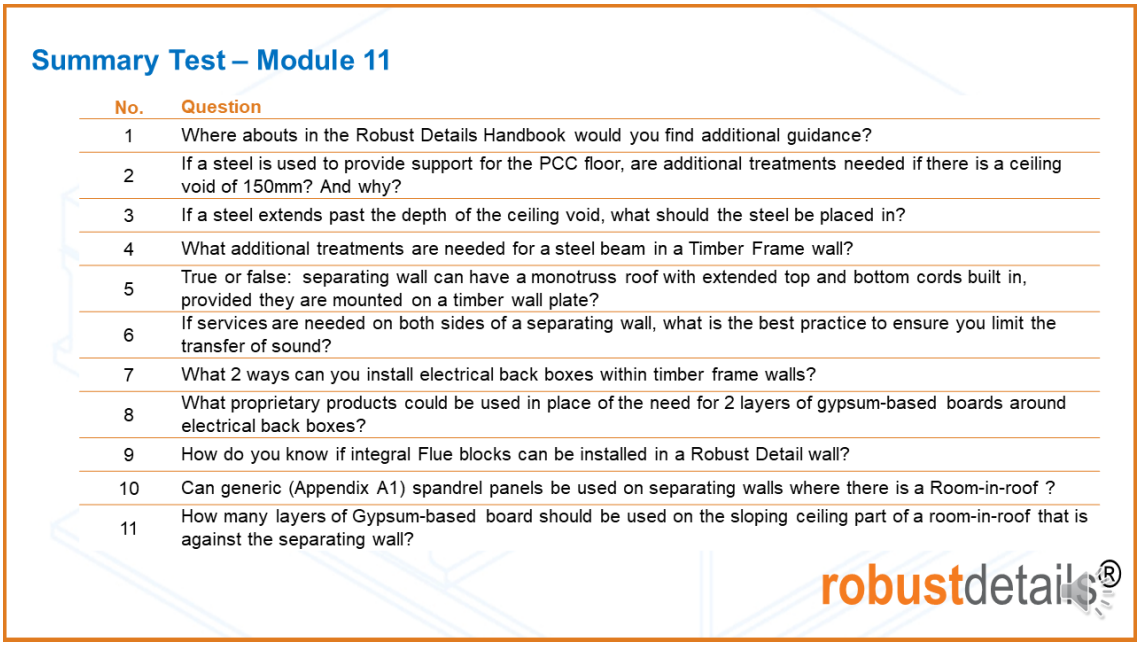
Slide 31



Now for a quick TEST to recap on Module 11

Additional notes:

Slide 32



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

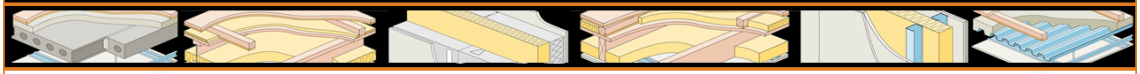
Once you have answered all of them – the next slide provides the answers.
In 10 seconds the slide will change so press pause now if you want to test yourself first.

Thank you for following Module 11.

Additional notes:

Slide 33

Summary Test – Answers



No.	Answer
1	Appendices.
2	No because additional treatment of insulation is only required where the ceiling void is less than 150mm.
3	Heavy gypsum based board boxing filled with mineral wool
4	None - Steel should not be used in timber frame so a composite timber alternative should be considered instead
5	False - the trusses must be built in exactly the same way as joists. Wall plates cannot be included.
6	Avoid where possible, Stagger the services, fill well with mortar and don't let any capping/ conduit contact the gypsum-based board.
7	Built into the wall or within a secondary service void.
8	Putty Pads - but these must have tested to to Appendix H in the Robust Details Handbook.
9	The detail will show this - if no, refer to Appendix A1.
10	No, you can only use them between loft spaces.
11	2 because there is a minimal void behind the board.

more information @ robustdetails.com

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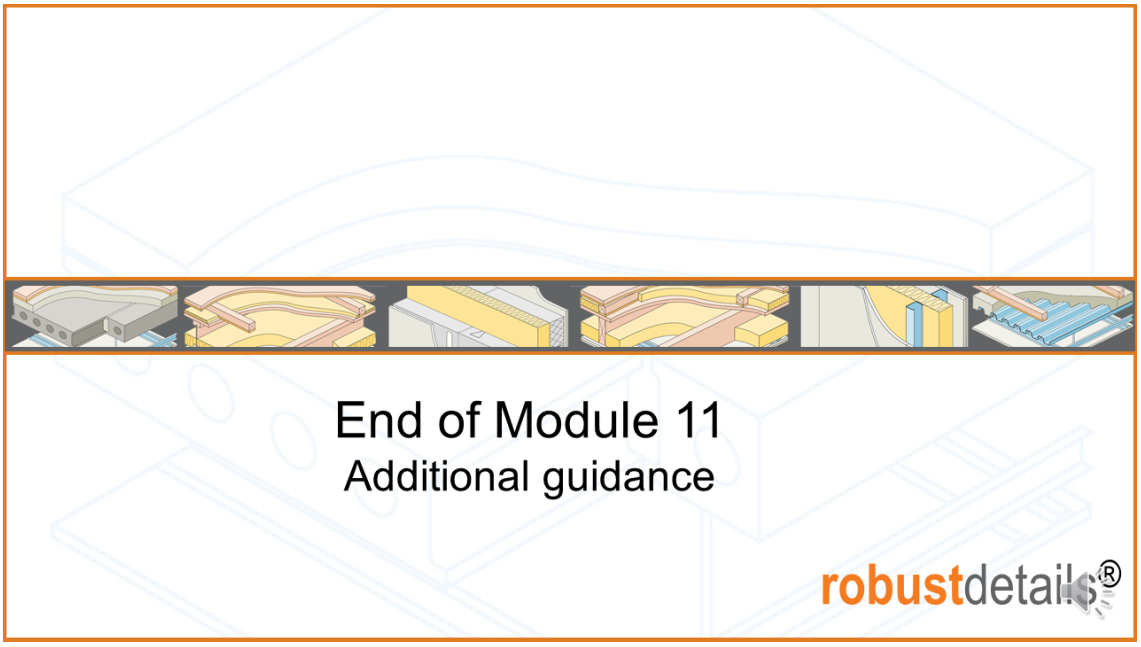
Here are the answer to Module 11's quick test.
How did you do?

Thank you for following Module 11

Additional notes:

Slide 34



This is the end of Module 11 – Additional guidance and the end of the short series.

Additional notes:

Slide 31

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Additional notes: