



Slide 1

CIAT – Course Introduction
Sound insulation for attached housing



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Course editors: Colin Potter, Claire Porteus MCIQB and John Thompson

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Hello and welcome to the sound insulation for attached housing course. This has been developed by Robust Details in collaboration with the CIAT whereby the course lead editor is Professor Sean Smith, alongside editors: Colin Potter, John Thompson and myself Claire Porteus.

Additional notes:

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Contents

- Aims of the course
- Course structure and contents
- Summary tests (Q&A)



Within this introduction overview we will cover.


- Aims of the course
- Course structure and contents
- Summary tests (Q&A)

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Aims of the course



The aims of this course are:

- To provide an understanding of key factors behind technical specifications for sound insulation in housing.
- To explain primary acoustic properties of separating walls and floors and their components.
- To outline where common errors can occur, and what to look out for on construction sites.

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Aims of the course:

To provide an understanding of some of the key fundamental factors; and reasons behind technical specifications and detailing for sound insulation in attached housing.

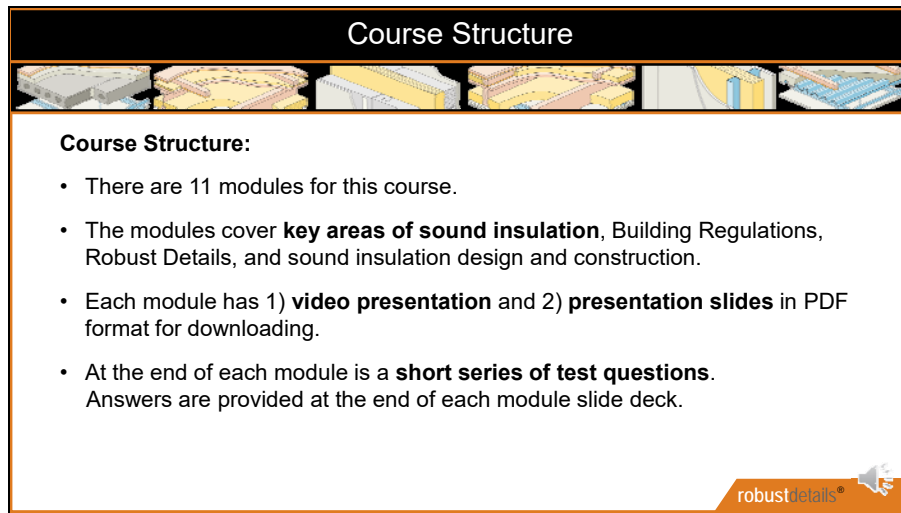
To explain some of the primary acoustic material properties of separating wall and floor systems and their construction components.

To outline where some common errors in design or construction can occur and what to observe when on construction sites for attached housing.

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The slide is titled "Course Structure" and features a header with six small images of building details. The main content is a list of bullet points under the heading "Course Structure:". The bottom right corner contains the "robustdetails®" logo and a speaker icon.

Course Structure:

- There are 11 modules for this course.
- The modules cover **key areas of sound insulation**, Building Regulations, Robust Details, and sound insulation design and construction.
- Each module has 1) **video presentation** and 2) **presentation slides** in PDF format for downloading.
- At the end of each module is a **short series of test questions**. Answers are provided at the end of each module slide deck.

Course Structure:

There are 11 modules for this course – all free to access.

The modules cover key areas of sound insulation, regulations, compliance for Robust Details, Developing a new Robust Detail and sound insulation design and construction for various separating walls and floors.

Each module has a video presentation along with presentation slides that can be downloaded in PDF format.


At the end of each module is a short series of test questions – so users can test their knowledge from the module. Answers are also provided at the end of each module slide deck.

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Course Modules




Module & Title	
1	Introduction to sound transmission and insulation for housing
2	Sound insulation criteria for new housing
3	Compliance pathways for sound insulation in new housing
4	Design and development of a Robust Detail
5	Masonry and blockwork separating walls
6	Concrete separating floors
7	Timber and lightweight steel separating walls
8	Timber and lightweight steel frame separating floors
9	Common fault errors in separating walls
10	Common fault errors in separating floors
11	Additional guidance

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The course modules are: As per table

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Course structure and contents (Modules 1 to 3)	
	
MODULE	
1. Introduction to sound transmission and insulation for housing	Learning Outcomes
Hearing & the spectrum of sound	<i>Introduction to acoustics, understanding sound transmission of direct and indirect (flanking paths) and importance in design</i>
Why reduce sound transmission	
5 key elements for sound insulation	
Types of direct sound transmission	
Types of indirect (flanking) sound transmission	
2. Sound insulation criteria for new housing	Learning Outcomes
Decibels (dB) and sound insulation criteria	<i>Explanation of sound insulation criteria, regulations differences across UK for airborne and impact sound and nomenclature differences for on-site and lab testing</i>
Regulations across the UK for airborne sound insulation in housing	
Regulations across the UK for impact sound transmission in housing	
Regulations for internal wall and floor sound insulation (new housing)	
The difference between field (on-site) testing and lab testing	
3. Compliance pathways for sound insulation in new housing	Learning Outcomes
Attached housing and flats - Pre-completion testing	<i>Sound testing for new build housing, Robust Details compliance route for attached housing and flats</i>
Attached housing and flats - Robust Details	
Detached houses	

Lets now look at the course structure and the contents.


At the beginning of each module the individual topics seen within the following tables will be shown, but for the following 4 slides, I will explain each module and the learning outcomes for each.

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Course structure and contents (Modules 4 to 6)



MODULE	Learning Outcomes
4. Design and development of a Robust Detail What is a Robust Detail? Pathway of a candidate detail Design of the robustdetails® Handbook Checklists and Annex guidance Choosing and registering Robust Details for your site	What is a Robust Detail, developing new RDs, Handbook and guidance Annex sections, checklists and choosing RDs for your site
5. Masonry and blockwork separating walls Block types options and junctions with inner leafs Cavity width and wall ties (Type A) Avoid mortar collection on Isolation of screed floors - isolating layers and flanking strips Ceiling layers and option for mounting	Types of blocks and their properties, importance of junctions and cavity widths, types of cavity fill and wall linings
6. Concrete separating floors Precast separating floors (depth and mass) Precast separating floors and key junction with flanking walls Precast separating floors and key junction with separating walls Isolation of screed floors - isolating layers and flanking strips Ceiling layers and option for mounting	Types of concrete separating floors, junctions with flanking walls, importance of isolation screeds and types of ceiling options


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Course structure and contents (Modules 7 to 9)



MODULE	
7. Timber and lightweight steel separating walls	Learning Outcomes
Twin leaf stud walls	<i>Types of timber and steel twin frame walls, insulation, role of cavity width and wall linings</i>
Sheathed and unsheathed	
Maintaining cavity width and min depth	
Insulation within frames	
Linings and service entry points	
Metal stud walls, min cavity width and insulation	
8. Timber and lightweight steel frame separating floors	Learning Outcomes
Types of joist floors (solid, I joist and metal web)	<i>Types of separating floor joists, role of floating floor treatments, resilient bars and importance of fixings and ceiling boards</i>
Subdecks and floating floor treatments	
Use of absorption quilt in main cavities	
Resilient ceiling bars and fixings	
Ceilings linings, services and downlighters	
9. Common fault errors in separating walls	Learning Outcomes
Wall ties and stiffness	<i>Examples of common errors for sound insulation of separating walls</i>
Mortar collection on ties	
Overfilling cavities with insulation	
Filling of joints and perpend	
Junctions with raft foundations	


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Course structure and contents (Modules 10 & 11)



MODULE	
10. Common fault areas in separating floors	Learning Outcomes
Sealing floor slab joints	<i>Common fault areas for separating floors, joints, screeds, landing and service ducts</i>
Sealing slab camber gaps at wall heads	
Installation of screed isolation layers	
Door thresholds and stair landings	
Service ducts penetrating through floors	
11. Additional guidance	Learning Outcomes
Joist and Beams	<i>Additional guidance for steel beams, service flues and room-in-roof situations</i>
Building timber joists into walls	
Service penetrations into walls	
Flues	
Room in roof situations	




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Summary Tests Q&A



Summary Tests Q&A:

- At the end of each module – there is a short series of test questions
- You may wish to pause your video, and attempt the questions before seeing the answers on the next slide
- The Q&A covers some of the points contained in each module.

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Acknowledgements



- We would like to acknowledge the CIAT for their support of this short training programme.
- Our thanks to the UK house builders and Home Builders Federation (HBF) who supported the original development of Robust Details, and who continue to provide input via the RD Standards Committee along with warranty, construction product and building control representatives.
- To acknowledge the input of the RD Inspectorate from the ongoing site inspection and sample sound insulation monitoring of Robust Details.

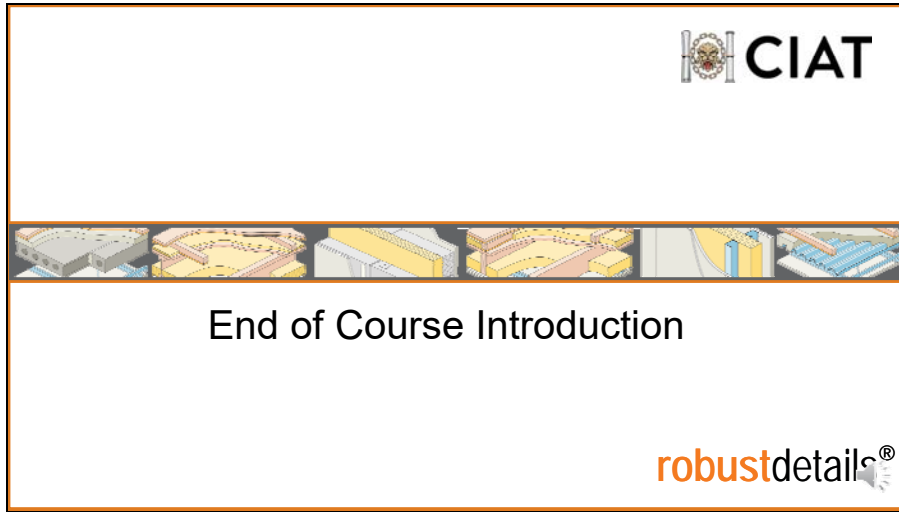
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This is the end of the course introduction and we look forward to seeing you in Module 1

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