Groove

Timber Acoustic Panels

STIL
ACOUSTICS

Acoustic control and the warmth of real wood.

Groove timber acoustic panels

Groove panels
The ultimate renewable material for architecture is also one of the oldest, and most attractive. Wood is solid, can be bent and shaped, is easily machined, and with the used of computer-aided-design and CNC milling, timber is also continuously contemporary. These benefits make wood our preferred material for room acoustics solutions.

Groove panel systems are available for both ceilings and walls. They are simple to install, and provide sound absorption with a distinct linear pattern. Many customisation options are available for finish and slat sizes, and we can supply access panels, edge trims and factory produced light openings on request.
As with all our timber products, we can supply FSC® - C163652 certified.

Design support
Samples are available on request. We also provide a comprehensive design service to help you integrate our solutions in your project. We can supplly matching joinery items such as doors and detail trims to ensure a seamless end result.

Acoustic advice
When contacting Stil Acoustics, you can expect to be assisted by a member of the Institute of Acoustics, with extensive real-world experience.

Contact us for detailed support.

Quick reference guide

Groove 12

Pattern
3mm slot, 12mm slat width

Finish options
HPL, veneer with oil, veneer with lacquer

Sizes HPL
3030 x 1280 x 20 sheets
3030 x 192 x 20 T&G

Sizes veneer
3030 x 1200 x 20 sheets
3030 x 128 x 20 T&G

Doors available
Acoustic cupboard
Internal door covers

Sound absorption 1*
Class C

Sound absorption 2**
Class C

Fire performance
Euroclass B-s1-d0 components when specified

Environmental factors
FSC certified upon request.
Low emissions (E1 class)

Groove 24-W

Pattern
8.5mm slot, 23.5mm slat width

Finish options
HPL, veneer with oil, veneer with lacquer

Sizes HPL
3030 x 1280 x 18 sheets
3030 x 192 x 18 T&G

Sizes veneer
3030 x 1184 x 17 sheets
3030 x 128 x 17 T&G

Doors available
Internal door covers

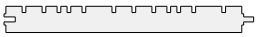
Sound absorption 1*
Class C

Sound absorption 2**
Class C

Fire performance
Euroclass B-s1-d0 components when specified

Environmental factors
FSC certified upon request.
Low emissions (E1 class)

Groove R



Pattern
3mm slot, random slat width

Finish options
HPL, veneer with oil, veneer with lacquer

Sizes HPL
3030 x 1280 x 20 sheets
3030 x 192 x 20 T&G

Sizes veneer
3030 x 1200 x 20 sheets
3030 x 128 x 20 T&G

Doors available
Acoustic cupboard
Internal door covers

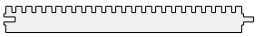
Sound absorption 1*
Class C

Sound absorption 2**
Class C

Fire performance
Euroclass B-s1-d0 components when specified

Environmental factors
FSC certified upon request.
Low emissions (E1 class)

Groove 5-H



Pattern
3mm slot, 5mm slat width

Finish options
HPL, veneer with oil, veneer with lacquer

Sizes HPL
3030 x 192 x 18 T&G

Sizes veneer
3030 x 128 x 17 T&G

Doors available
Internal door covers

Sound absorption 1*
Class B

Sound absorption 2**
Class C

Fire performance
Euroclass B-s1-d0 components when specified

Environmental factors
FSC certified upon request.
Low emissions (E1 class)

Groove 24

Pattern
3mm slot, 29mm slat width

Finish options
HPL, veneer with oil, veneer with lacquer

Sizes HPL
3030 x 1280 x 20 sheets
3030 x 192 x 20 T&G

Sizes veneer
3030 x 1200 x 20 sheets
3030 x 128 x 20 T&G

Doors available
Acoustic cupboard
Internal door covers

Sound absorption 1*
Class D

Sound absorption 2**
Class D

Fire performance
Euroclass B-s1-d0 components when specified

Environmental factors
FSC certified upon request.
Low emissions (E1 class)

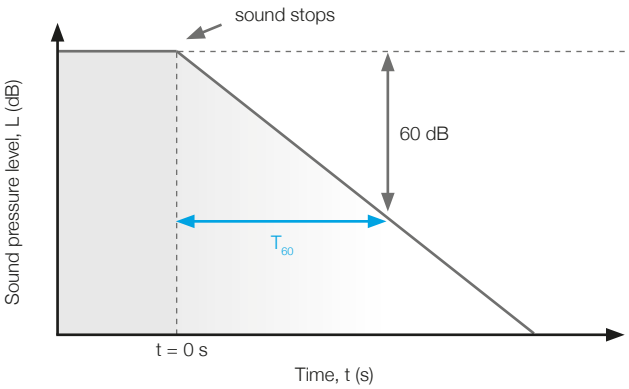
*Sound absorption 1 = 70mm cavity filled with 50mm mineral fibre
**Sound absorption 2 = 20mm cavity filled with 20mm polyester wool

General room acoustics principles

Sound absorption in rooms

Reverberation time, RT60
Reverberation time is one of the key determinants of room acoustic quality, and the factor we try to control with our sound absorbing solutions. It is the time it takes for a sound to decay by 60dB in a given space. It's measured at individual frequencies, with certain frequency ranges given more importance due to the way we perceive sound, and the frequency spectrum of speech and/or other common sound

Fig 1. Reverberation time, t = T_{60} (s)



sources. Often reverberation time is given as a single figure, which is based on these frequencies, and the function of the room will determine how short this time should be, with classrooms an example of a critical space due to the need for high speech intelligibility.

Controlling reverberation
The principal method of reducing reverberant noise is to introduce sound absorbing surfaces, with more effective absorbers and greater coverage leading to lower reverberation times.
The amount of sound energy a material will absorb is known as the absorption coefficient, and this is measured across a frequency spectrum, with a system to give a single figure performance level, based on the most important frequencies.

Predicting reverberation time
If we know the dimensions and the absorption characteristics of the finishes of a room, we can quite accurately predict the reverberation time. Wallace Clement Sabine, an American physicist who took the field of Architectural Acoustics from an art to an empirical science, developed a method of modelling this in the 1890's which is still in use today.

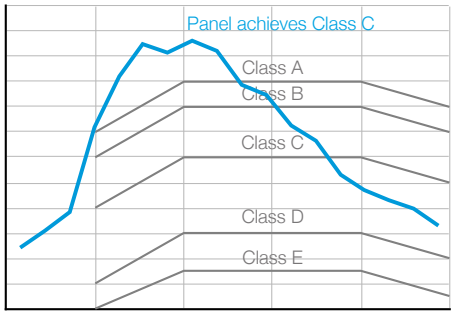
Bravura, London - Groove 24-W with Elm HPL finish.

Practical implimentation

Sound absorption in rooms

Practical implications for designers

Typically, an acoustic consultant will asses the appropriate reverberation time for a room, and inform the designers that a certain amount of absorption, of a given minimum performance, should be installed to fulfil this. Usually the simplified performance, i.e. Class C, will be specified, and we can then suggest suitable solutions to meet the criterion, along with the designer's aesthetic and functional requirements.
At times we suggest to show the detailed absorption graph to the consultants as it can allow for more accurate calculations. See below.



In this case, the panel meets Class C although the full data may show higher than expected performance.

Recommended reverberation times

Room type	Reverberation time T_{mf} seconds
Lecture halls	≤ 0.8 small room, ≤ 1.0 large room
Classrooms	≤ 0.6 primary, ≤ 0.8 secondary
Sports hall, swimming pool	≤ 1.5 - 2.0 dependant on size
Office	≤ 1.0
Meeting Room	0.6-0.8
Meeting Room	≤ 0.8
Library	≤ 1.0
Restaurant	≤ 1.0
Corridors, entrance halls	Class C absorption covers ceiling area equivalent. Can be used on walls instead

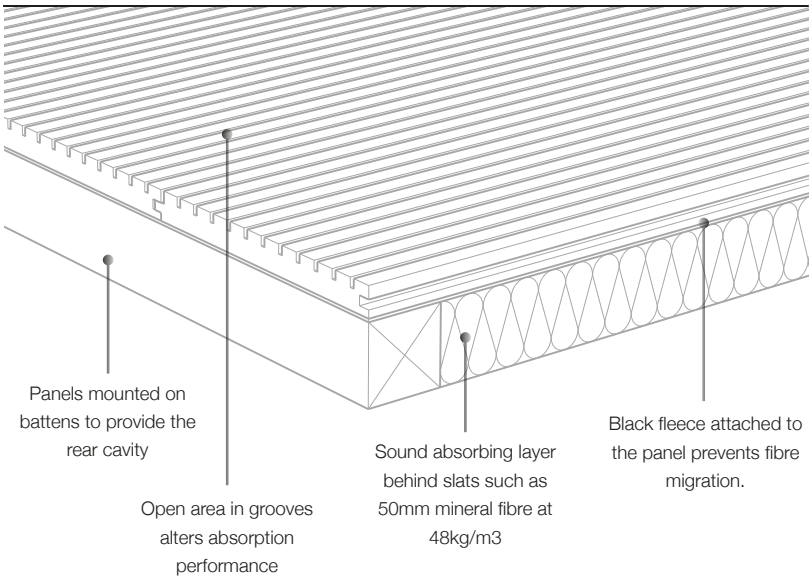
London Research Hub - Groove R with Light Oak HPL finish.

Groove panels and their performance.

Acoustics - Groove

How Groove panels absorb sound
As well as the grooves in the face, cut-outs to the rear or the centre meet the grooves, creating perforations. These perforations, combined with a cavity behind the panel create resonance, due to the air in the cavity which acts like a spring. In combination with damping, typically provided by a layer of mineral fibre in the cavity, to reduce sound energy. This is known as a Helmholtz absorber.

Changing the perforation pattern (in this case by selecting the width between the slits) alters the acoustic performance. Differences in the cavity depth and absorbent material in the void also have consequences.



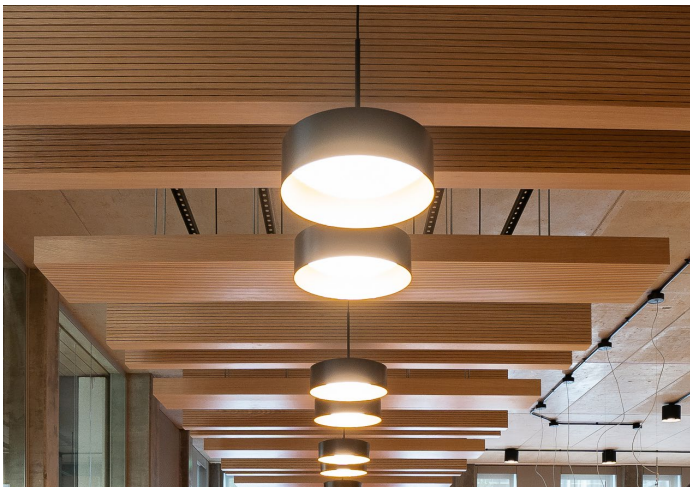
Aztec West, Bristol - Groove R with Natural Oak HPL finish.

We're ready to work with you to create something unique.

Special solutions

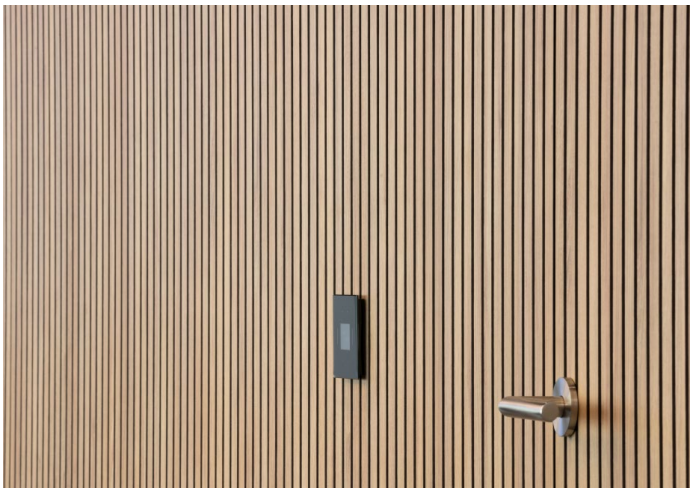
Integration with furniture
All of our products focus on a combination of technical performance, and seamless integration with the building and it's furnishing.
Our design team can guide you in maximising these qualities.

Left: HPL faced Groove 12 panels at Fora, London.



Rafts
We can provide bespoke, made to measure rafts. Sometimes these are required to maintain the thermal mass benefits from a concrete soffit, otherwise an aesthetic consideration.

Edinburgh University - Groove 12 with Oak and clear lacquer made up as acoustic rafts. We detailed everything and sent pre-made.



Matching door panels
Unlike the acoustic cupboard doors we provide, matching on standard internal doors will not provide any acoustic performance. Rather, they are supplied at 10mm thickness and are solely designed to provide further integration of the finish.
See page 24 for further details.

Shown here with Groove 24-W. Non-acoustic, matching doors supplied to provide complete contiuity across the wall.

The most popular choice.

Groove 12

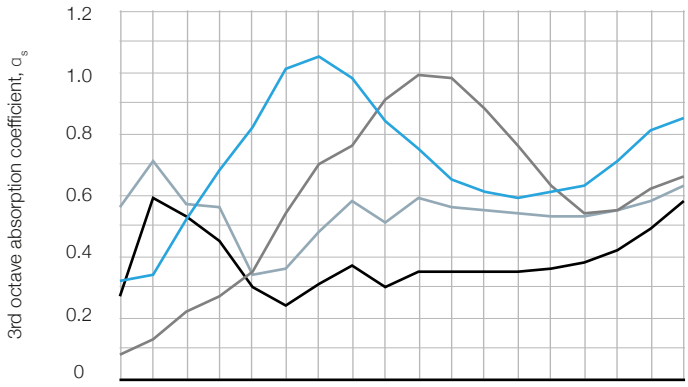
Key features:

Acoustic performance	Class C
Environmental factors	FSC certified upon request. Low emissions (E1 class)
Finishes	Veneer with lacquer, veneer with coloured oil, HPL
Formats	Sheets, planks, made to measure acoustic cupboard doors

Groove 12 datasheet

-3mm slot width, 13mm slat width

Absorption data for Groove 12 (EN 354: 2003)



Groove 12 acoustic performance	α_w	Class	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
70mm cavity including 50mm 40kg mineral fibre	0,65 LMH	C	0,40	0,85	0,95	0,65	0,60	0,80
20mm cavity including 20mm Polyester wool	0,65 M	C	0,15	0,40	0,80	0,95	0,65	0,60
Empty: Cupboard door with 500mm cavity	0,35 H	D	0,45	0,35	0,35	0,35	0,35	0,50
Filled: As above with 20mm Polyester wool	0,55	D	0,60	0,40	0,50	0,55	0,55	0,60

Specification checklist

Fire performance	Euroclass B-s1-d0 components when specified
Standard Measurements	3030 x 192 mm (tongue and groove HPL) 3030 x 128 mm (tongue and groove veneer) 3030 x 1200 mm (veneer) 3030 x 1280 mm (HPL) Acoustic cupboard doors - made to measure
Thickness	± 19mm veneer / ± 20mm HPL / ± 21mm cupboard doors
Weight	10.5kg/m^2
Core	Black moisture resistant MDF/Black fire retardant MDF
Can be applied to curved surfaces	Yes, T&G panel available as well as flexible sheets
Finishes	HPL - 0.9mm with Over 500 options available. Veneer finishes with lacquer or oil
Can be cut on site	Yes
Clear lacquer sheen levels (veneer)	10% for fire retardant lacquer. Oil very matt
Wall mouting	Softwood battens. Black pins fired through grooves.
Ceiling mounting	MF system with MDF strips at 600mm centres. Black pins fired through grooves.
Panel backing	Black fleece tissue inside the panel and balance HPL / veneer.
Sustainability	FSC accredited on request
Trims , doors and finishing details available	Matching internal door covers, acoustic doors, edgings, skirting and returns on request

**Wider grooves
for a bolder look.
Ideal for ceilings.**

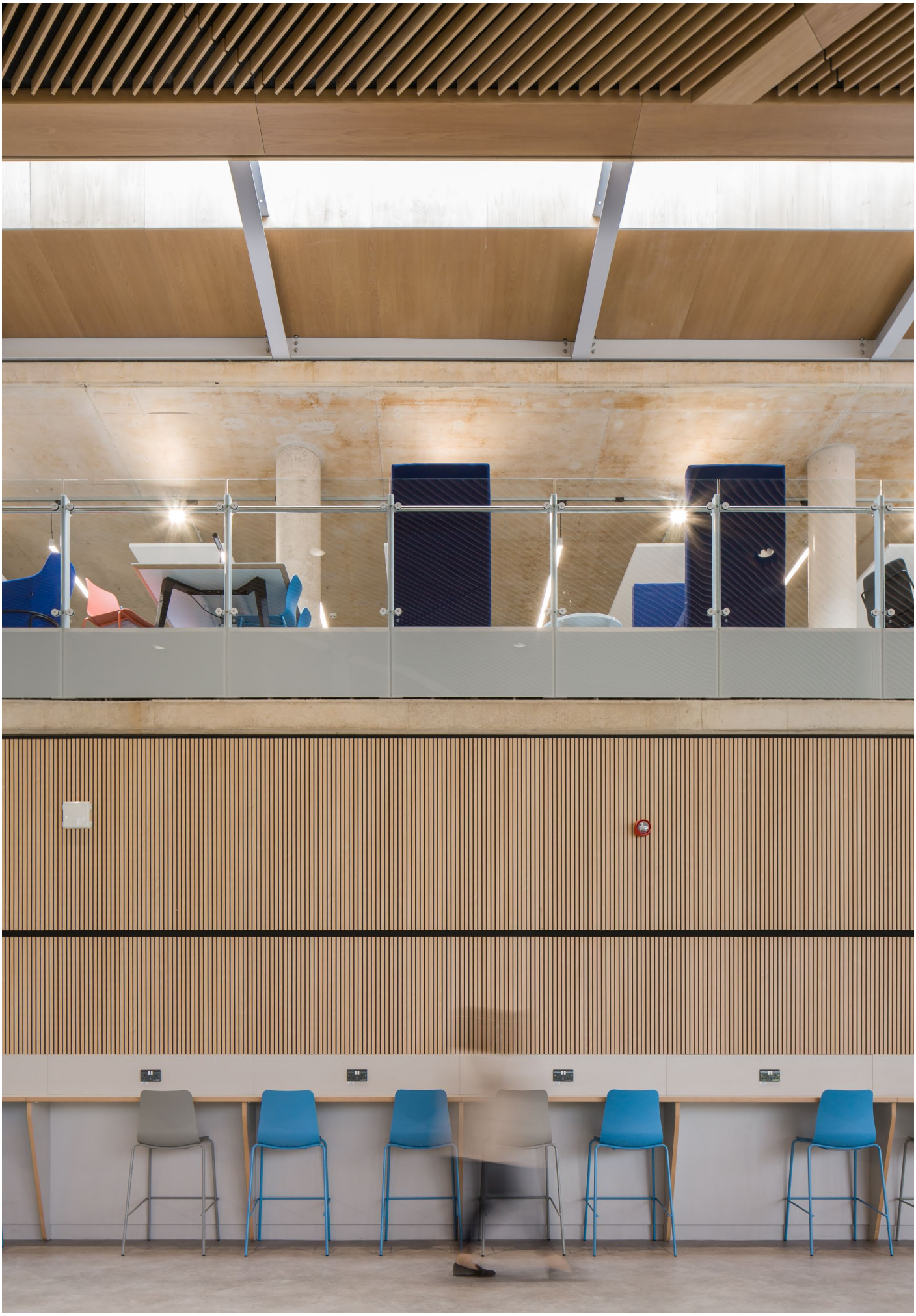
Groove 24-W

Key features:

Acoustic performance	Class C
Environmental factors	FSC certified upon request. Low emissions (E1 class)
Finishes	Veneer with lacquer, veneer with coloured oil, HPL
Formats	Sheets, planks


Phone.2

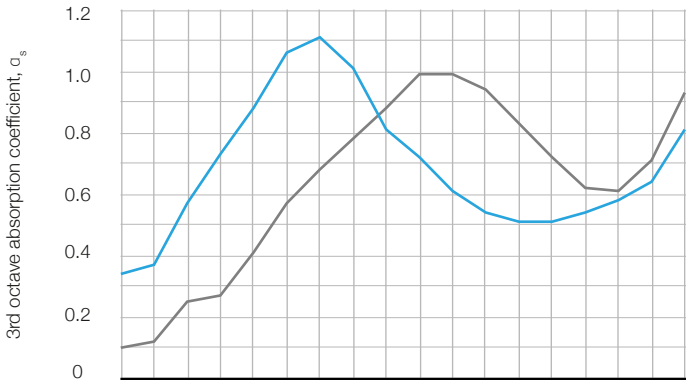

MADE FOR MIXING



Groove 24-W datasheet

8.5mm slot width, 23.5mm slat width

Absorption data for Groove 24-W (EN 354: 2003)



Groove 24-W acoustic performance	α_w	Class	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
70mm cavity including 50mm 40kg mineral fibre	0,60 LM	C	0,45	0,90	1,00	0,60	0,50	0,70
20mm cavity including 20mm Polyester wool	0,70 M	C	0,15	0,40	0,80	1,00	0,70	0,75

Specification checklist

Fire performance	Euroclass B-s1-d0 components when specified
Standard Measurements	3030 x 192 mm (tongue and groove HPL) 3030 x 128 mm (tongue and groove veneer) 3030 x 1184 mm (veneer) 3030 x 1280 mm (HPL)
Thickness	± 17mm veneer / ± 18mm HPL
Weight	11kg/m^2
Core	Black moisture resistant MDF/Black fire retardant MDF
Can be applied to curved surfaces	Yes, T&G panel available
Finishes	HPL - 0.9mm with Over 500 options available. Veneer finishes with lacquer or oil
Can be cut on site	Yes
Clear lacquer sheen levels (veneer)	10% for fire retardant lacquer. Oil very matt
Wall mouting	Softwood battens at 600mm centres. Black pins fired through grooves.
Ceiling mounting	MF system with MDF strips. Black screws through grooves.
Panel backing	Black fleece tissue to panel rear the panel and balance HPL / veneer.
Sustainability / Environment	FSC accredited on request, E1 Formaldehyde emissions
Trims , doors and finishing details available	Matching internal door covers, edgings, skirting and returns on request

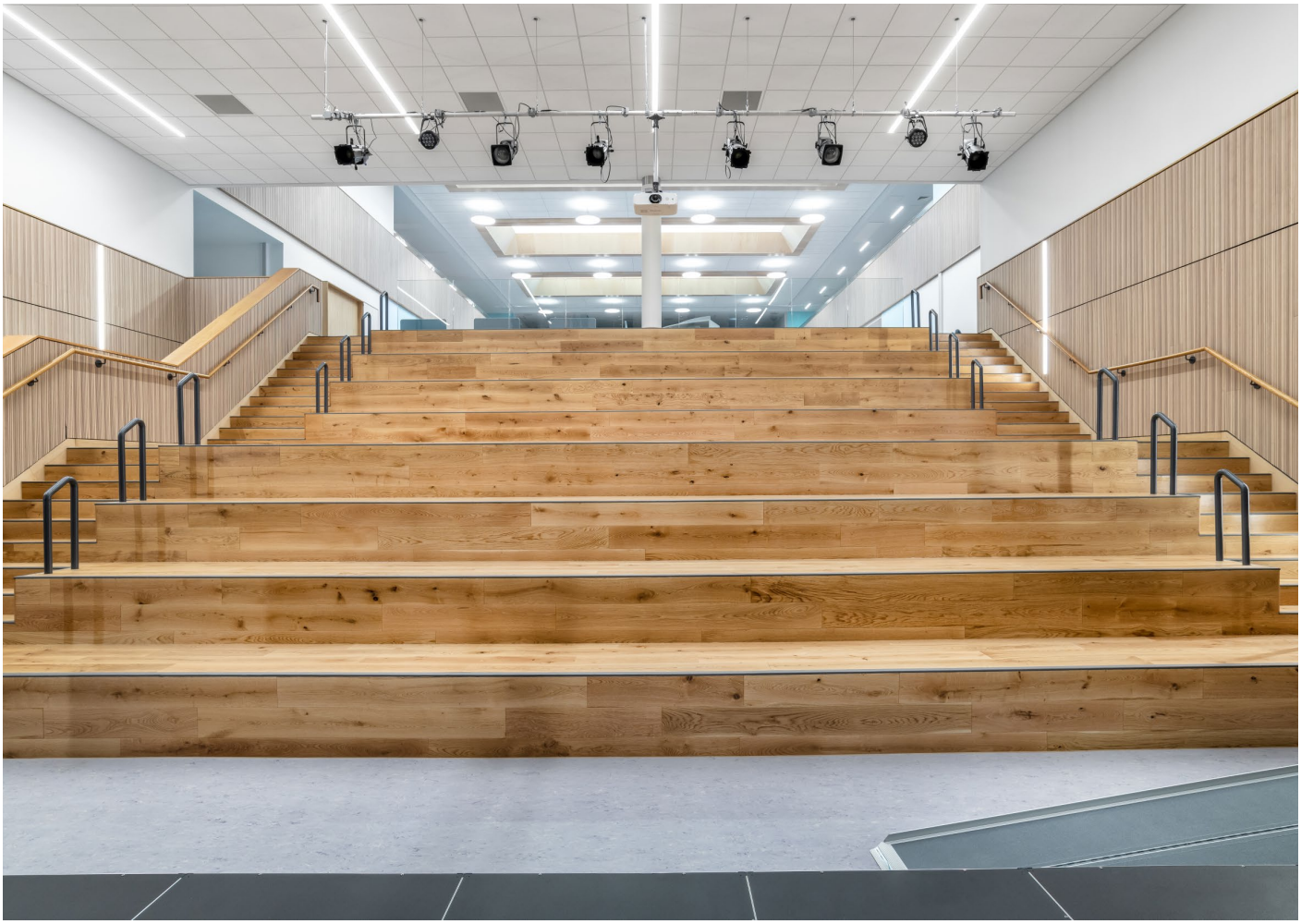
Like Groove 12 but a randomised pattern.

Groove R

Key features:

Acoustic performance	Class C
Environmental factors	FSC certified upon request. Low emissions (E1 class)
Finishes	Veneer with lacquer, veneer with coloured oil, HPL
Formats	Sheets, planks, made to measure acoustic cupboard doors

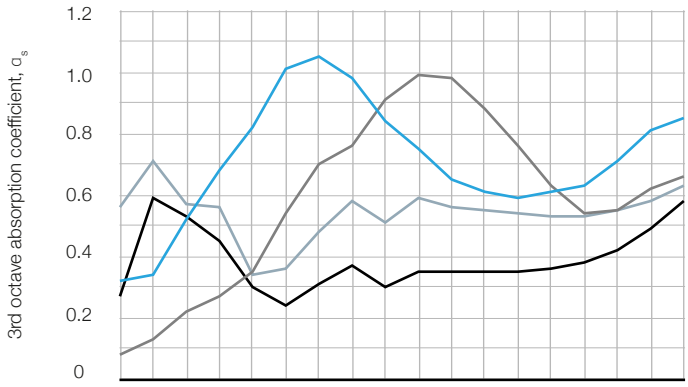

ASSEMBLY



Groove R datasheet

-3mm slot width, randomised slat width

Absorption data for Groove R (EN 354: 2003)



Groove R acoustic performance	α_w	Class	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
70mm cavity including 50mm 40kg mineral fibre	0,65 LMH	C	0,40	0,85	0,95	0,65	0,60	0,80
20mm cavity including 20mm Polyester wool	0,65 M	C	0,15	0,40	0,80	0,95	0,65	0,60
Empty: Cupboard door with 500mm cavity	0,35 H	D	0,45	0,35	0,35	0,35	0,35	0,50
Filled: As above with 20mm Polyester wool	0,55	D	0,60	0,40	0,50	0,55	0,55	0,60

Specification checklist

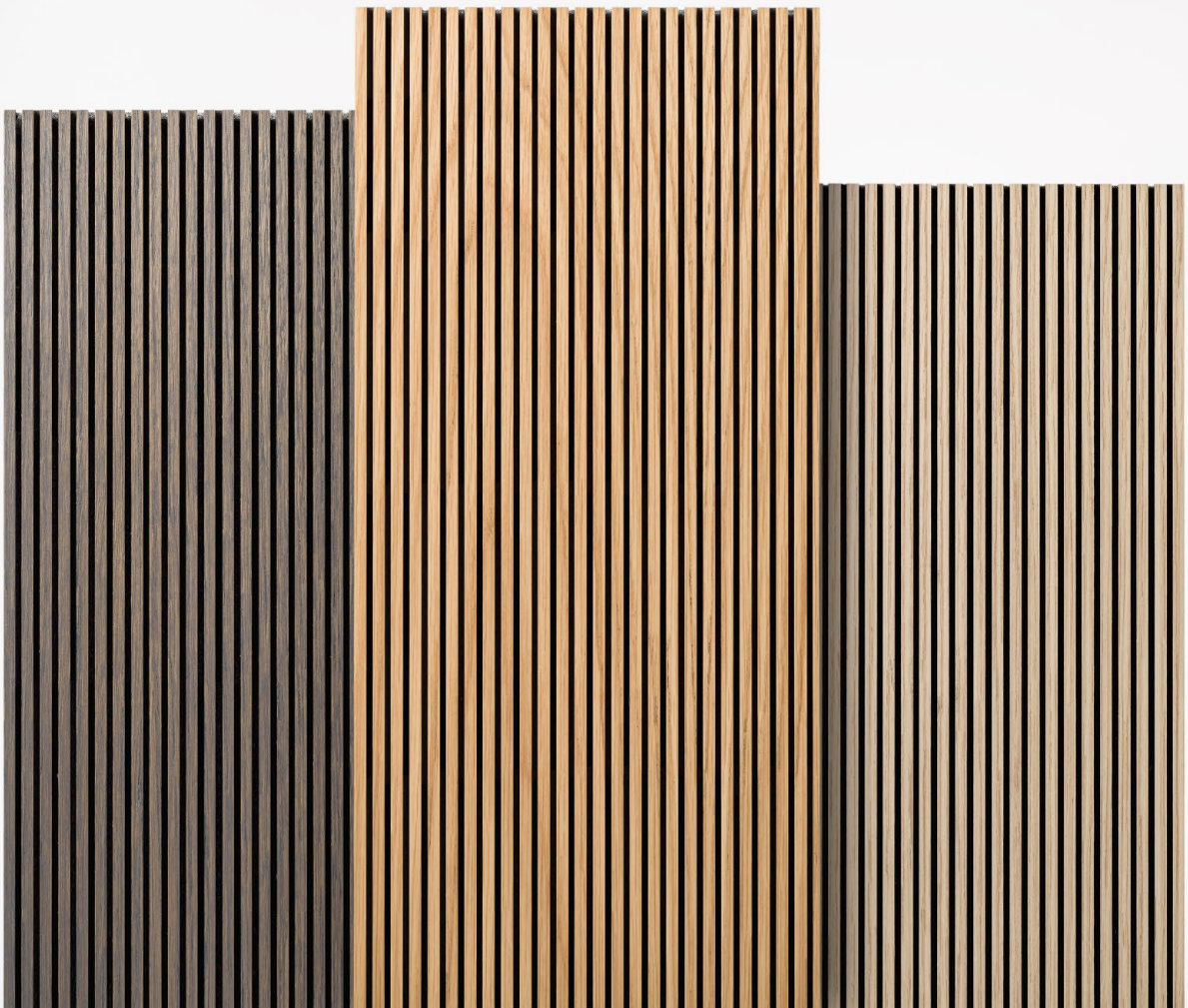
Fire performance	Euroclass B-s1-d0 components when specified
Standard Measurements	3030 x 192 mm (tongue and groove HPL) 3030 x 128 mm (tongue and groove veneer) 3030 x 1200 mm (veneer) 3030 x 1280 mm (HPL) Acoustic cupboard doors - made to measure
Thickness	± 19mm veneer / ± 20mm HPL / ± 21mm cupboard doors
Weight	10.5kg/m^2
Core	Black moisture resistant MDF/Black fire retardant MDF
Can be applied to curved surfaces	Yes, T&G panel available as well as flexible sheets
Finishes	HPL - 0.9mm with Over 500 options available. Veneer finishes with lacquer or oil
Can be cut on site	Yes
Clear lacquer sheen levels (veneer)	10% for fire retardant lacquer. Oil very matt
Wall mouting	Softwood battens at 600mm centres. Black pins fired through grooves.
Ceiling mounting	MF system with MDF strips. Black pins fired through grooves.
Panel backing	Black fleece tissue inside the panel and balance HPL / veneer.
Sustainability / Environment	FSC accredited on request, E1 Formaldehyde emissions
Trims , doors and finishing details available	Matching internal door covers, acoustic doors, edgings, skirting and returns on request

The highest absorption in the range.

Groove 5-H

Key features:

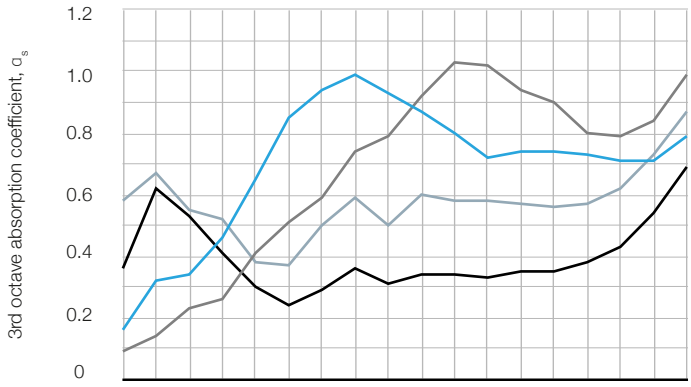
Acoustic performance	Class B
Environmental factors	FSC certified upon request. Low emissions (E1 class)
Finishes	Veneer with lacquer, veneer with coloured oil, HPL
Formats	Planks, made to measure acoustic cupboard doors



Groove 5-H datasheet

3mm slot width, 5mm slat width (higher perforation than Groove 5)

Absorption data for Groove 5 -H (EN 354: 2003)



Groove 5-H acoustic performance	α_w	Class	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
70mm cavity including 50mm 40kg mineral fibre	0,80	B	0,25	0,65	0,95	0,80	0,75	0,75
20mm cavity including 20mm Polyester wool	0,70 MH	C	0,15	0,40	0,70	1,00	0,90	0,85
Empty: Cupboard door with 500mm cavity	0,35 H	D	0,50	0,30	0,30	0,35	0,35	0,55
Filled: As above with 20mm Polyester wool	0,60 H	C	0,60	0,40	0,55	0,60	0,55	0,75

Specification checklist

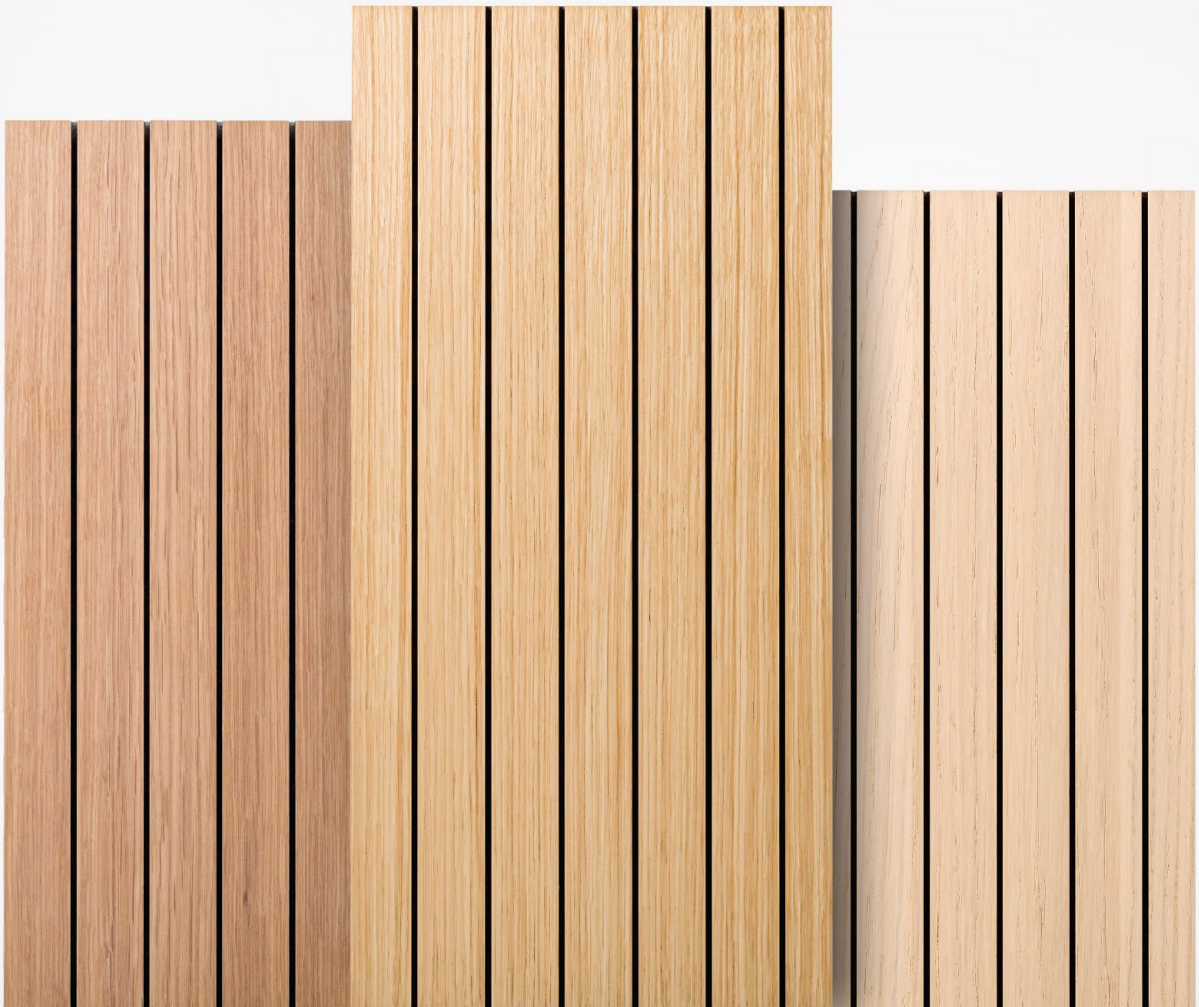
Fire performance	Euroclass B-s1-d0 components when specified
Standard Measurements	3030 x 192 mm (tongue and groove HPL) 3030 x 128 mm (tongue and groove veneer) Acoustic cupboard doors - made to measure
Thickness	± 18mm veneer / ± 19mm HPL / ± 21mm cupboard doors
Weight	10.5kg/m^2
Core	Black moisture resistant MDF/Black fire retardant MDF
Can be applied to curved surfaces	Yes, T&G panel available as well as flexible sheets
Finishes	HPL - 0.9mm with Over 500 options available. Veneer finishes with lacquer or oil
Can be cut on site	Yes
Clear lacquer sheen levels (veneer)	10% for fire retardant lacquer. Oil very matt
Wall mouting	Softwood battens at 600mm centres. Black pins fired through grooves.
Ceiling mounting	MF system with MDF strips. Black pins fired through grooves.
Panel backing	Black fleece tissue to panel rear and balance HPL / veneer.
Sustainability / Environment	FSC accredited on request, E1 Formaldehyde emissions
Trims , doors and finishing details available	Matching internal door covers, edgings, skirting and returns on request

Less grooving makes for more wood.

Groove 24

Key features:

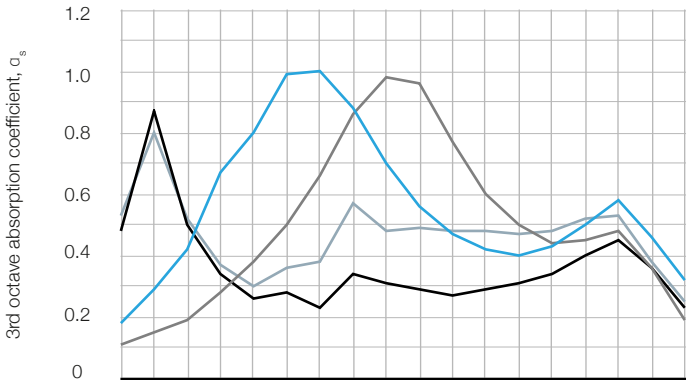
Acoustic performance	Class D
Environmental factors	FSC certified upon request. Low emissions (E1 class)
Finishes	Veneer with lacquer, veneer with coloured oil, HPL
Formats	Sheets, planks, made to measure acoustic cupboard doors



Groove 24 datasheet

3mm slot width, 29mm slat width

Absorption data for Groove 24 (EN 354: 2003)



Groove 24 acoustic performance	α_w	Class	125Hz	250Hz	500Hz	1kHz	2kHz	4kHz
70mm cavity including 50mm 40kg mineral fibre	0,50 LM	D	0,30	0,80	0,85	0,50	0,45	0,45
20mm cavity including 20mm Polyester wool	0,50 MM	D	0,15	0,35	0,85	0,80	0,45	0,35
Empty: Cupboard door with 500mm cavity	0,35	D	0,60	0,30	0,30	0,30	0,35	0,35
Filled: As above with 20mm Polyester wool	0,60	C	0,60	0,35	0,45	0,50	0,50	0,40

Specification checklist

Fire performance	Euroclass B-s1-d0 components when specified
Standard Measurements	3030 x 192 mm (tongue and groove HPL) 3030 x 128 mm (tongue and groove veneer) 3030 x 1200 mm (veneer) 3030 x 1280 mm (HPL) Acoustic cupboard doors - made to measure
Thickness	± 19mm veneer / ± 20mm HPL / ± 21mm cupboard doors
Weight	10.5kg/m^2
Core	Black moisture resistant MDF/Black fire retardant MDF
Can be applied to curved surfaces	Yes, T&G panel available as well as flexible sheets
Finishes	HPL - 0.9mm with Over 500 options available. Veneer finishes with lacquer or oil
Can be cut on site	Yes
Clear lacquer sheen levels (veneer)	10% for fire retardant lacquer. Oil very matt
Wall mouting	Softwood battens at 600mm centres. Black pins fired through grooves.
Ceiling mounting	MF system with MDF strips. Black pins fired through grooves.
Panel backing	Black fleece tissue inside the panel and balance HPL / veneer.
Sustainability / Environment	FSC accredited on request, E1 Formaldehyde emissions
Trims , doors and finishing details available	Matching internal door covers, acoustic doors, edgings, skirting and returns on request

Finishes

Images for guidance only as variations occur in natural timber.

HPL wood effect

- Hundreds of finishes
- Scratch resistant
- UV resistant
- FSC available
- Fire performance

HPL colours

- Hundreds of finishes
- Scratch resistant
- UV resistant
- FSC available
- Fire performance

Veneer with clear lacquer

- 10% sheen
- Match other joinery
- Stain options
- FSC available
- Fire performance

Veneer with tinted oil

- Very matt finish
- Match other joinery
- From subtle to strong tints
- FSC available
- Fire performance

Crown Cut *Quarter Cut* *Rotary Cut*

Veneer cuts explained

The type of veneer cut changed the pattern of the grain. Look out for this in the veneer finish pages.

Finish matching and non-standard options

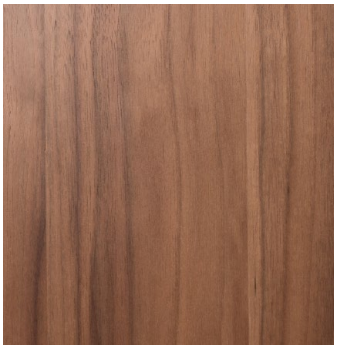
As pictured right, finish matching with FR tinted oil to reference flooring samples. Minimum orders may apply for custom options.

Veneer with clear lacquer


Ash


Oak


Rotary Cut Birch


Walnut

Veneer with tinted oil


Pure Oak


Fair Oak


Fair White Oak


Oak Gris


Black Mist Oak


Oak Kakoa


Pure Ash


Fair Ash


Fair White Ash


Ash Gris


Black Mist Ash


Ash Kakoa

Veneer with tinted oil (continued)


Fair Birch


Fair White Birch


Birch Gris


Black Mist Birch


Pure Walnut


Stone Walnut


Black Mist Walnut


Intense Black Walnut

Veneer with pre-colour plus tinted oil (additional cost)

For further colour modification, we can include a pre-colour before applying tinted oil.
The project below at Berkeley Square, London, received a pale stain then dark oil on Oak veneer, to acheive a grey/brown colour.

HPL Wood effect


Natural Oak


Rustic Oak


Light Oak


White Washed White Oak

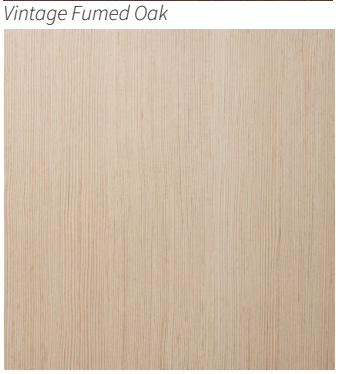

Nobel Oak


Vintage Fumed Oak


Black Stained Oak

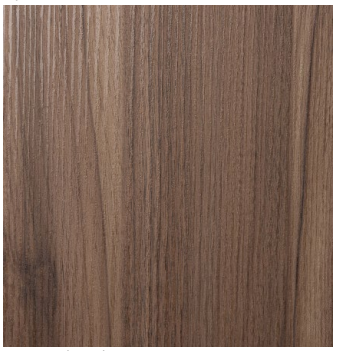

Manzano

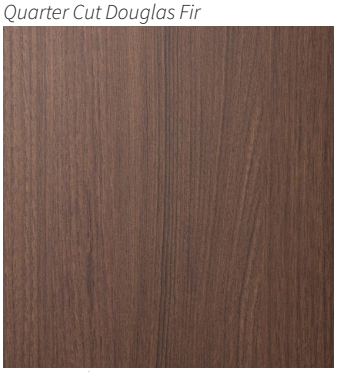

Elm


Quarter Cut Douglas Fir

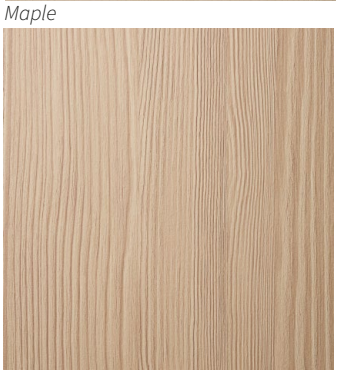

Birch


Maple


Natural Walnut


Warm Walnut


Olmo


Ash


White Washed Ash

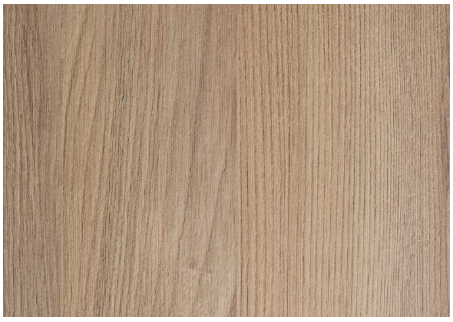

Grey Ash

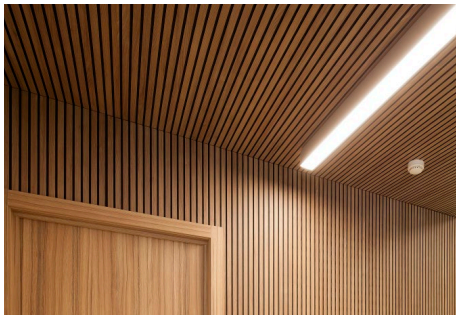

Grey Mocha


Grey Wash

Scratch, UV and impact-resistant. Timber effect or solid colours. Cost effective.

High Pressure Laminates overview



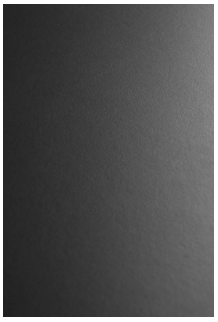


Timber effect

As well as the standard finishes overleaf, many more options are available. These are high quality finishes with complimentary texture.

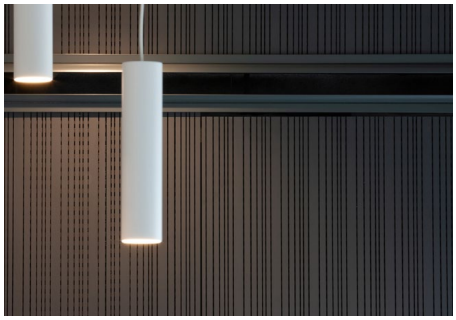
Solid colours

A wide range of colours are available. Talk to us if you have specific NCS, RAL or Pantone requirements.



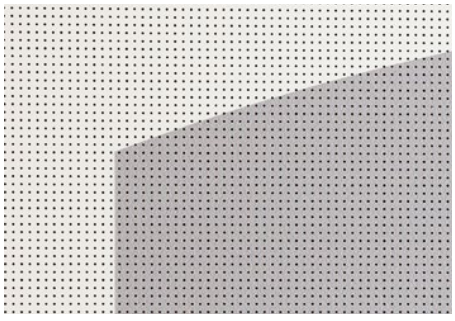
Textures

Each of the timber effect finishes has a pre-selected texture to best suit the character of the species it represents.
Solid colours are usually a satin finish and on special request, Ultra Matt finishes are available as mentioned below.



New: Ultra Matt, anti-fingerprint HPL

A dramatic and contemporary look. Highly resistant to scratches and fingerprints, unlike other matt surfaces.



New: Printed HPL

Enables uniquely multifunctional solutions like sound absorbing cupboard doors with imagery, branding or signage; still maintaining the abrasion resistance of normal HPL.

Groove R
Oak Gris veneer

Groove 12
Fair Oak veneer

Groove 12
Manzano HPL

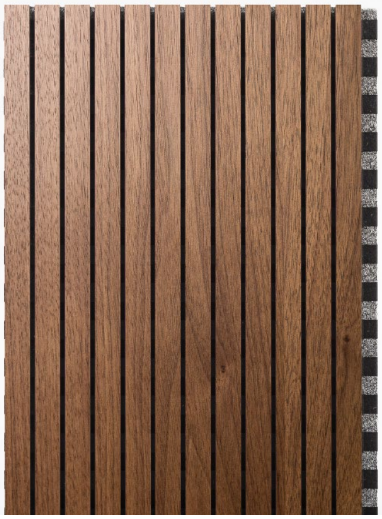
Groove 24-W
White HPL

Groove 5-H
Black Mist Oak veneer

Groove 24
Fair White Oak veneer

Groove 24-W
Fair White Oak veneer

Groove 12
Walnut veneer with clear lacquer



Groove R
Natural Oak HPL

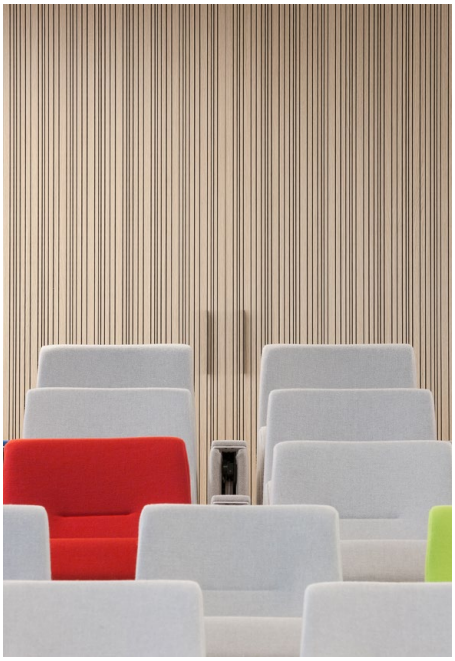
Groove 24-W
Oak with clear lacquer

Groove 24-W
Elm HPL

Groove 5-H
Ultramatt Black HPL

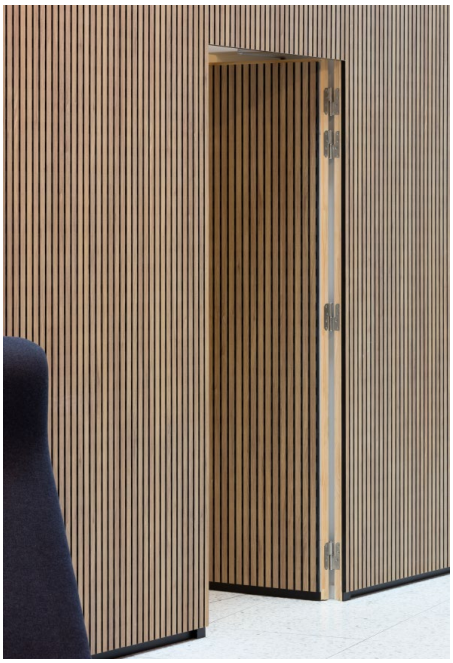
Take advantage of these options for seamless integration.

Matching doors



Acoustic cupboard and sliding doors
A solution to enclose storage and services, or as the face of sliding doors; these made-to-measure panels can transform the design of a space.
Because open area through the panel is retained, acoustic performace is still provided.

Acoustic cupboard doors only available for Groove 12, R, and 24. All products available for sliding doors.



Matching door covers
Unlike the acoustic cupboard doors, matching on standard internal doors will not provide any acoustic performance. Rather, they are supplied at 10mm thickness and are solely designed to provide further integration of the finish. We can help with detailing.

Shown here with Groove 24-W. Non-acoustic, matching doors supplied to provide complete contiuity across the wall.

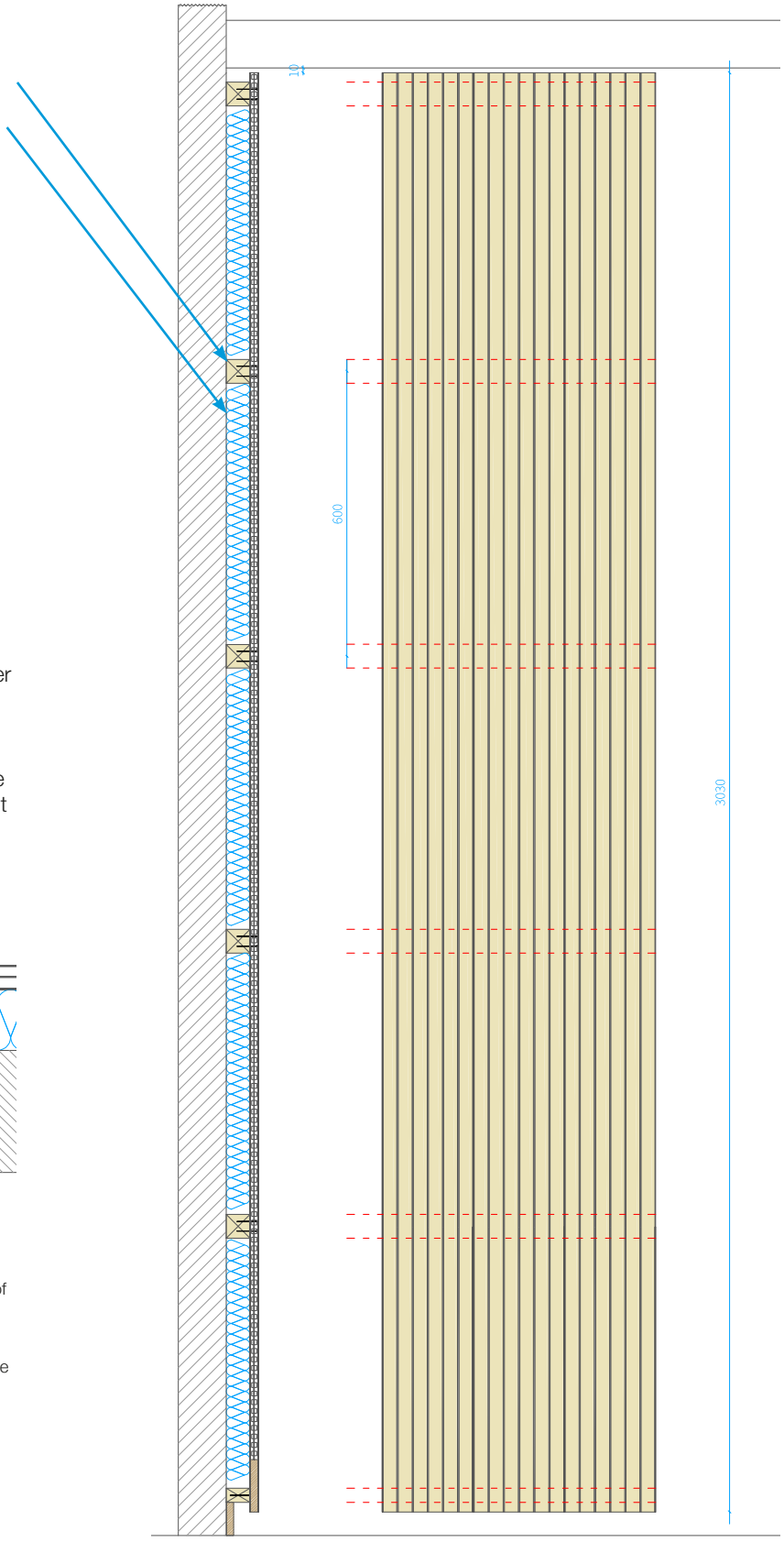
Installation - walls

Walls
Softwood battens typically 50x50mm at 600mm centres

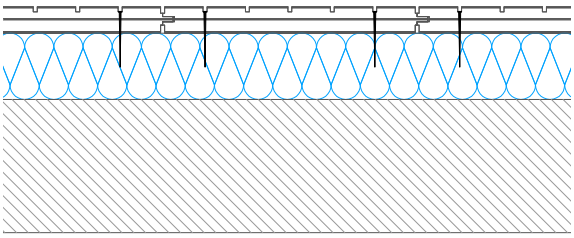
50mm Mineral fibre insulation

Panels pinned and glued through the groove

Staggered joints where necessary
Standard plank length is 3030mm.



Overview
The Groove planks are relatively simple to install thanks to their tongue and groove connections and the fact that planks can be cut on-site. Most commonly, the panels are either fixed directly to timber battens (walls), or to plywood strips which are in turn fixed to a MF system (ceilings). The planks are glued and pinned through the grooves, with mineral fibre in the cavity created to increase sound absorption. Fibre migration is controlled with an acoustically transparent black fleece integrated with panels.



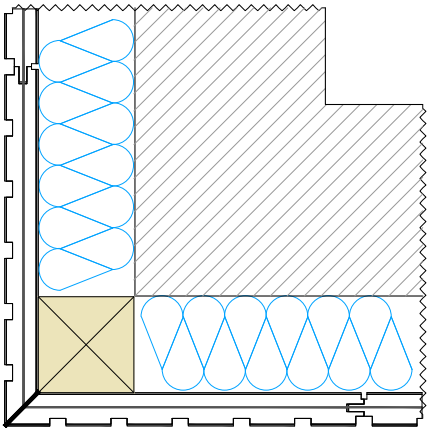
*Planks can be cut on site.
This should be done in one of the grooves when running the length of a plank.

*We can supply black head pins and a special gun to fire between the grooves.

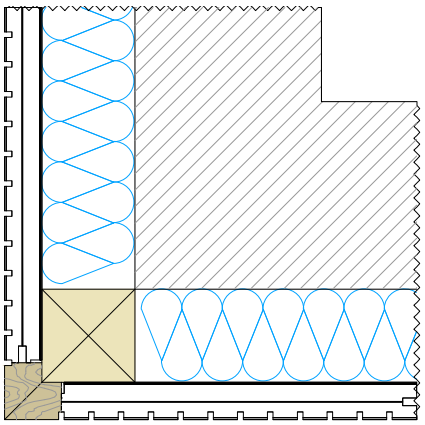
*Contact us for dwg files of details and more specific guidance.

Typical wall details

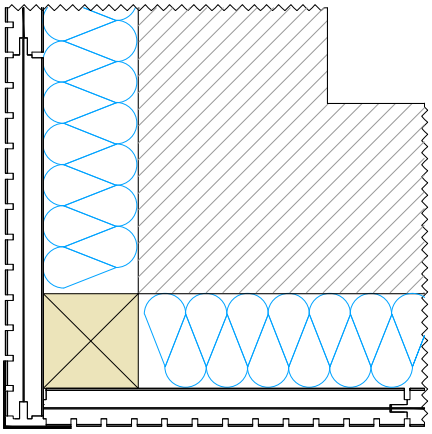
Typical Corner details



Mitred at the corner with metal piece

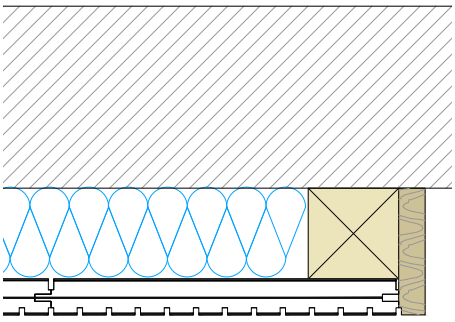


Hardwood corner detail

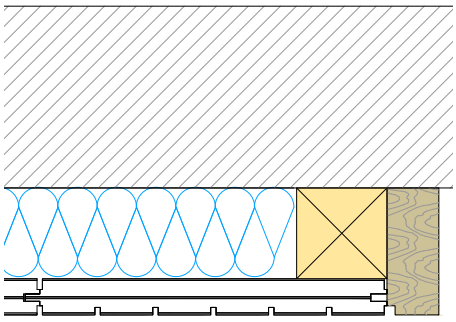


Metal L-Profile

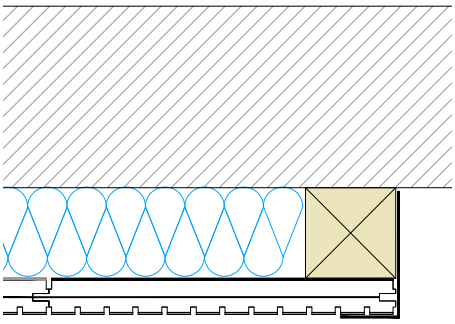
Typical end details



Hardwood examples for Groove 12

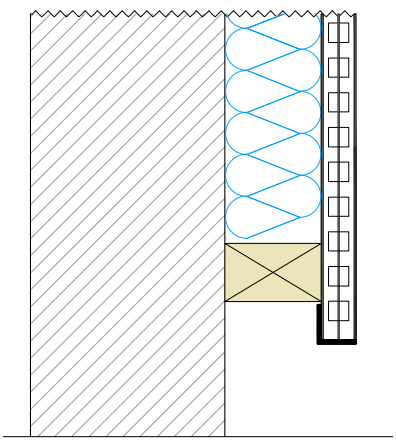


Hardwood example for Groove 24-W

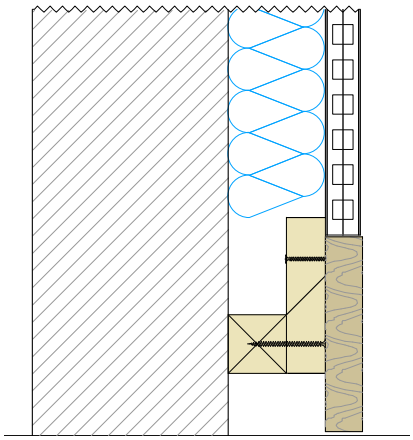


Metal L-Profile

Typical skirting details

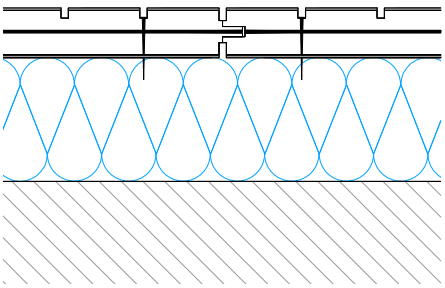


No Skirting with protective trim



Hardwood/matching skirting

Typical fixing detail



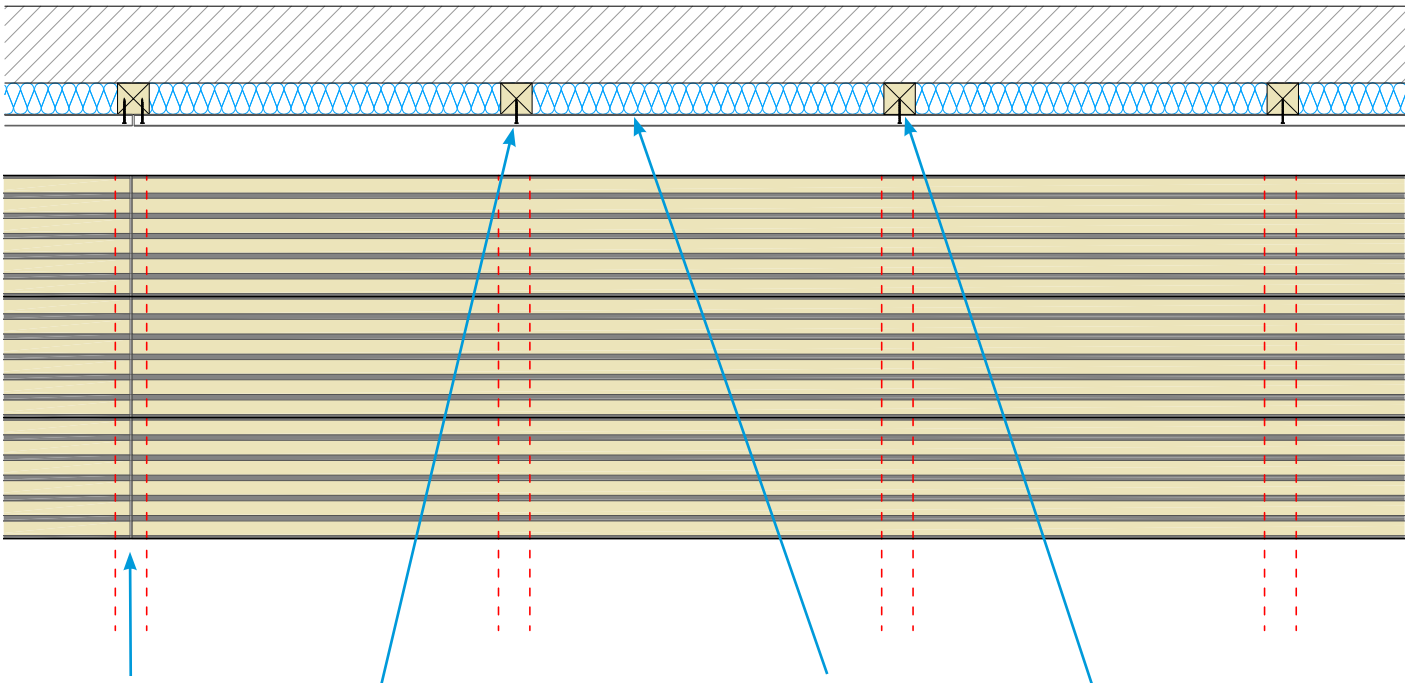
T&G with pins through the grooves

Installation - ceilings

Groove 24-W - simple installation to battens

This illustrates a simple method of installing the Groove 24-W panels to a ceiling. This model is unique in having 8.5mm slits, which allow for black screws to fix the panels to softwood battens. Alternativelely, the sam principal can be applied with an MF system, to create a suspended ceiling. We can also provide access panels in this event.
The panels can be easily cut on site, and so working around curves is a simple task, and cutouts can be made for light fittings and services. Where Joints are required (panels are 3030mm in length, a 3mm shadow gap should be created, which creates a neat detail, as the core board in black underneath.
There is also the possibility to supply pre-formed rafts and baffles. Contact us for details on how these systems work.

Typical section - Groove 24-W ceiling (simple batten



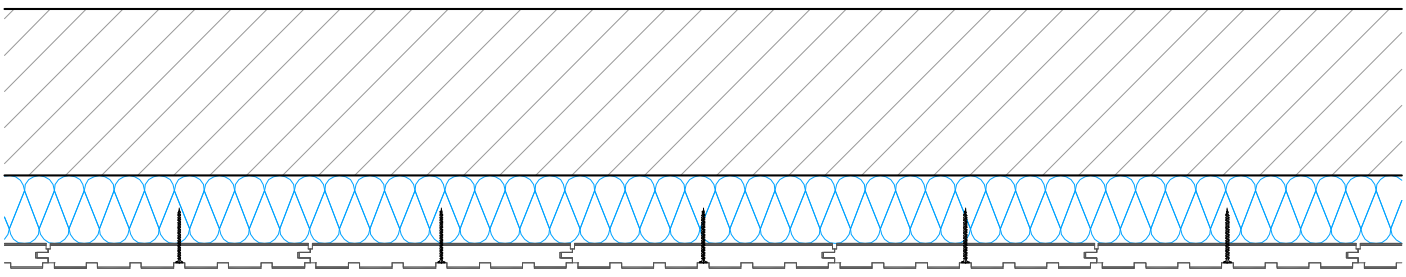
3mm shadow gap at joints
Standard plank length is 3030mm.

Panels fixed through the groove with black screws

50mm Mineral fibre insulation

Softwood battens typically 50x50mm at 600mm centres

Typical section - Groove 24-W ceiling (simple batten system)



Black screws through the boards to softwood battens

*** Areas highlighted in blue for editing to project specifics**

Specification examples

Walls

K13 RIGID SHEET FINE LININGS/PANELLING
To be read with preliminaries/general conditions

TIMBER ACOUSTIC PANELS

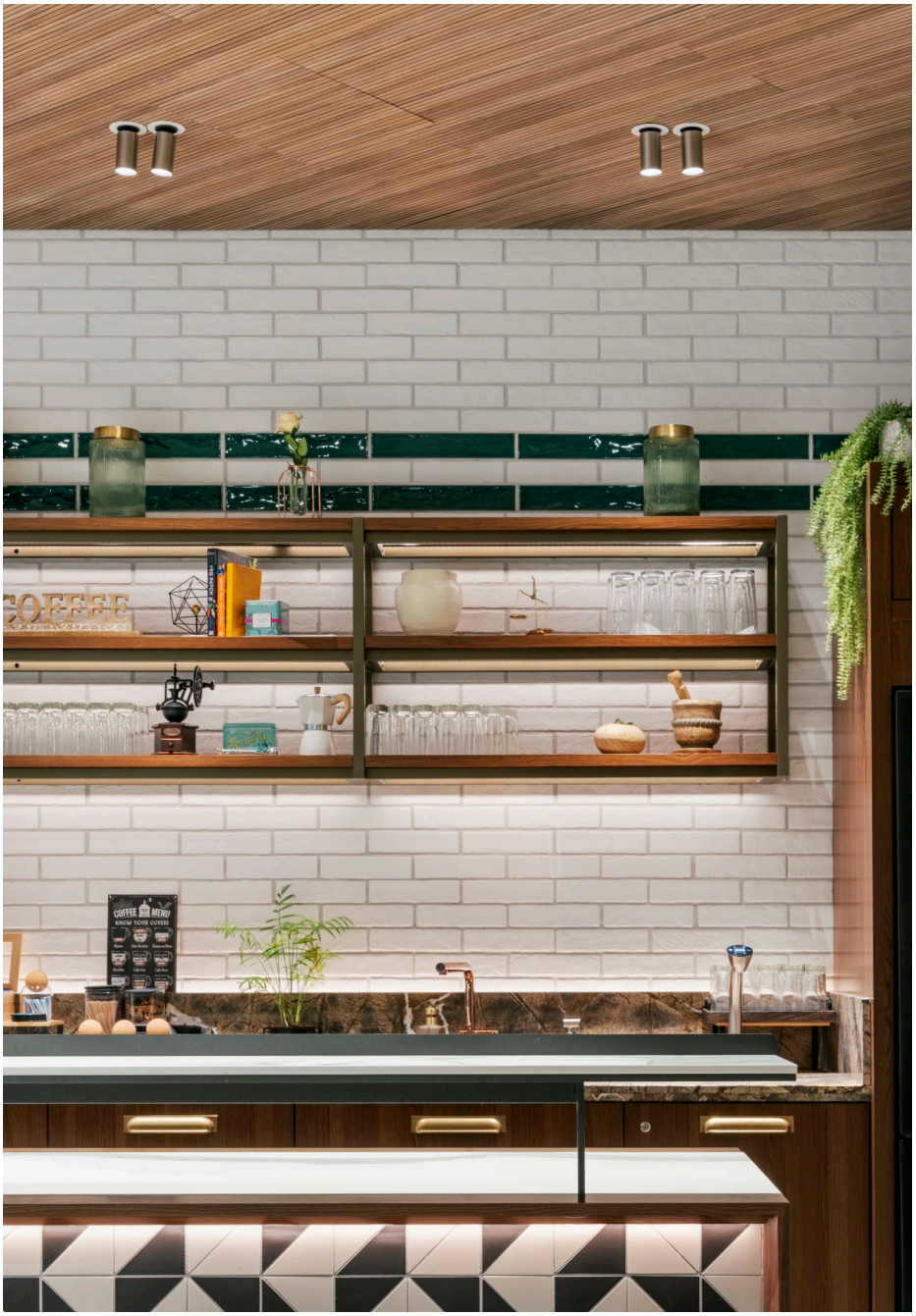
- Drawing references: aaaa
  - Battens: Softwood battens
  - Size: 50x50mm
  - Spacing: 600mm centres
  - Fixing Method: Mechanically fixed.
- Panelling:
  - Supplier: Stil Acoustics. Tel: 0161 36 2049. Email: info@stil-acoustics.co.uk Web: www.stil-acoustics.co.uk
  - Product reference: Groove 12 T&G acoustic panels
  - Fire performance: Euroclass B components/Not required
  - Face finish: HPL reference.../White Oak veneer
  - Timber class: Best available/Remove for HPL
  - Substrate: 18mm black MDF
  - Sizes: 192mm wide (T&G)/1280 X 21mm thickness and 3030mm length (HPL)
  - 128mm wide (T&G)/1200 X 20mm thickness and 3030mm length (veneer)
  - Surface treatment: Clear fire retardant lacquer at 10% sheen/ Coloured Oil; (No finish to HPL laminate face)
  - Acoustic Insulation:
  - Integrated acoustic fleece to rear
  - 50mm Mineral fibre at 48kg/m3
  - Acoustic Requirements: Should provide minimum Class C sound absorption according BS EN: 11654. Test reports should be provided to confirm performance.
  - Moisture content at time of fixing: 6-10%
  - Method of fixing: Pinned through grooves into 50x50mm softwood battens at 600mm centres
  - Joint treatment: Cuts only within the grooves. No cuts within the strips
- Skirting: to match veneer and finishing of the panels

Ceilings

K13 RIGID SHEET FINE LININGS/PANELLING
To be read with preliminaries/general conditions

TIMBER ACOUSTIC PANELS

- Drawing references: aaaa
  - Battens: Plywood strips
  - Size: 50x18mm
  - Spacing: 600mm centres
  - Fixing Method: glued and fixed to ceiling furring channels.
- Panelling:
  - Supplier: Stil Acoustics. Tel: 0161 36 2049. Email: info@stil-acoustics.co.uk Web: www.stil-acoustics.co.uk
  - Product reference: Groove 12 T&G acoustic panels
  - Fire performance: Euroclass B components/Not required
  - Face finish: HPL reference.../White Oak veneer
  - Timber class: Best available/Remove for HPL
  - Substrate: 18mm black MDF
  - Sizes: 192mm wide (T&G)/1280 X 21mm thickness and 3030mm length (HPL)
  - 128mm wide (T&G)/1200 X 20mm thickness and 3030mm length (veneer)
  - Surface treatment: Clear fire retardant lacquer at 10% sheen/ Coloured Oil; (No finish to HPL laminate face)
  - Acoustic Insulation:
  - Integrated acoustic fleece to rear
  - 50mm Mineral fibre at 48kg/m3
  - Acoustic Requirements: Should provide minimum Class C sound absorption according BS EN: 11654. Test reports should be provided to confirm performance.
  - Moisture content at time of fixing: 6-10%
  - Method of fixing: Pinned through grooves into 50mm x 19mm plywood strips. Seek manufacturer recommendations for guidance
  - Joint treatment: Cuts only within the grooves. No cuts within the strips



STIL ACOUSTICS

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www.stil-acoustics.co.uk