LMC DECO

FRAME PROFILES

SOUND-INSULATION BOARDS

WATERPROOF BACKER BOARDS

TRIM SYSTEMS

CONNECTION DETAILS

PROJECT REFERENCES

ACOUSTIC PARTITION SYSTEMS

Prefabricated Partition Walls

PRODUCT CATALOGUE

SYSTEMS / PROFILES / DETAILS

2026 / EN

lmcdeco.com | info@lmcdeco.com

CONTENTS

Prefabricated Partition Walls

2026 / ENGLISH EDITION

Manufacturer profile 03

Product systems 05

System overview and advantages 07

Structure, integration and installation 11

Frame profiles 17

Accessories and test reports 21

Wall configurations 23

Structural and connection details 27

Partition wall boards 43

Waterproof backer boards 45

Trim and skirting systems 49

Commercial applications 53

Healthcare and senior living 55

Original certificates and certification records are reproduced unchanged.

MANUFACTURER PROFILE

Foshan Borui Construction Technology Co., Ltd.

Foshan Borui Construction Technology Co., Ltd. is committed to the industrialisation of interior construction, focusing on the research, development and manufacture of green building materials. The company has several prefabricated building-material manufacturing bases across China, each with a designed production capacity of 10,000 m^2 per day.

The company provides integrated interior-space solutions and technical services to prefabricated interior-construction businesses and project developers.

Guided by its corporate mission of “Low Carbon, Health and Safety”, the company continues to develop and innovate to manufacture better products. Its business philosophy centres on creation, empowerment and achievement, with the aim of creating green, comfortable indoor environments.

10×
Environmental and health benefits

10%
Cost savings

20%
Labour savings

30%
Shorter construction period

90%
Reduced maintenance

Business licence



10×
Environmental and health benefits

10%
Cost savings

20%
Labour savings

30%
Shorter construction period

90%
Reduced maintenance

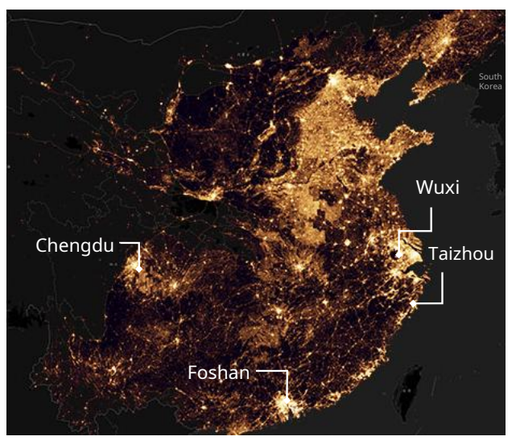
A stud for a prefabricated high-acoustic-performance partition wall system



A stud and a high-acoustic-performance partition wall system incorporating the stud



Manufacturing locations



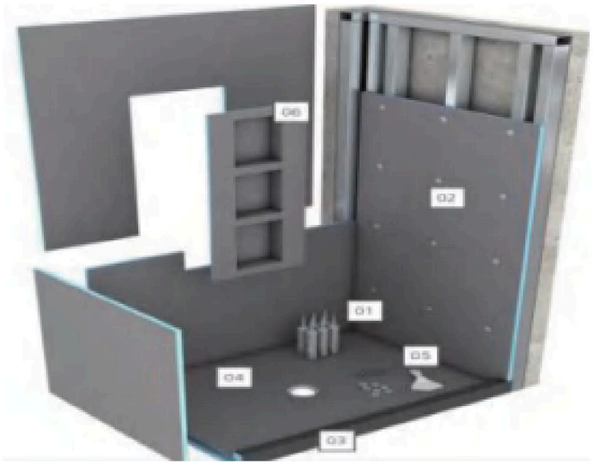
The manufacturer profile, production-capacity information, business licence and patent documents on this page concern the original product manufacturer.

PRODUCT SYSTEMS



Prefabricated Acoustic Partition Wall System

The main frame combines high-strength light-gauge steel framing, dedicated sound-insulation boards and rock-wool or glass-wool thermal and acoustic insulation. The exterior substrate is clad with green inorganic boards such as gypsum board, calcium silicate board or fibre cement board. The finish layer can be selected to meet the functional and aesthetic requirements of the space.

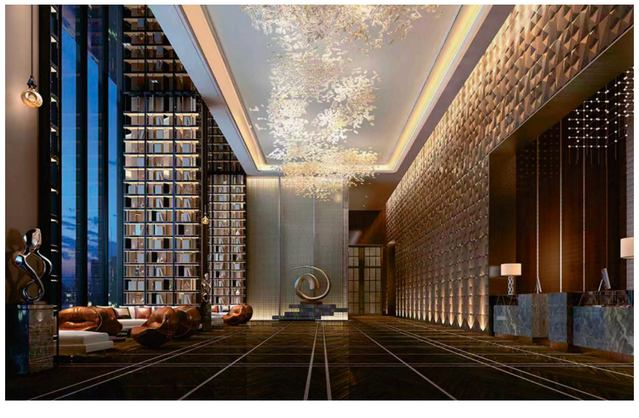


Waterproof Insulating Backer Board System

The system’s thin-bed waterproof backer board uses a specialised composite insulating and waterproof material with an internal closed-cell honeycomb structure. Mortar coatings on both faces provide high compressive and flexural strength and also improve the assembly’s flame-retardant performance.

The mortar-coated surface has strong bonding properties and can be bonded with various structural adhesives, mortar-based bonding agents and glues. It is suitable as a substrate for common finishes including tiles, stone, skim-coat filler, wall fabric, wallpaper and PVC film.

The backer board is readily machinable using CNC equipment or multi-axis robotic carving. Grooving one face enables the board to bend freely for curved designs. On site, it can be cut using a utility knife, handsaw, jigsaw, cutting machine or table saw.



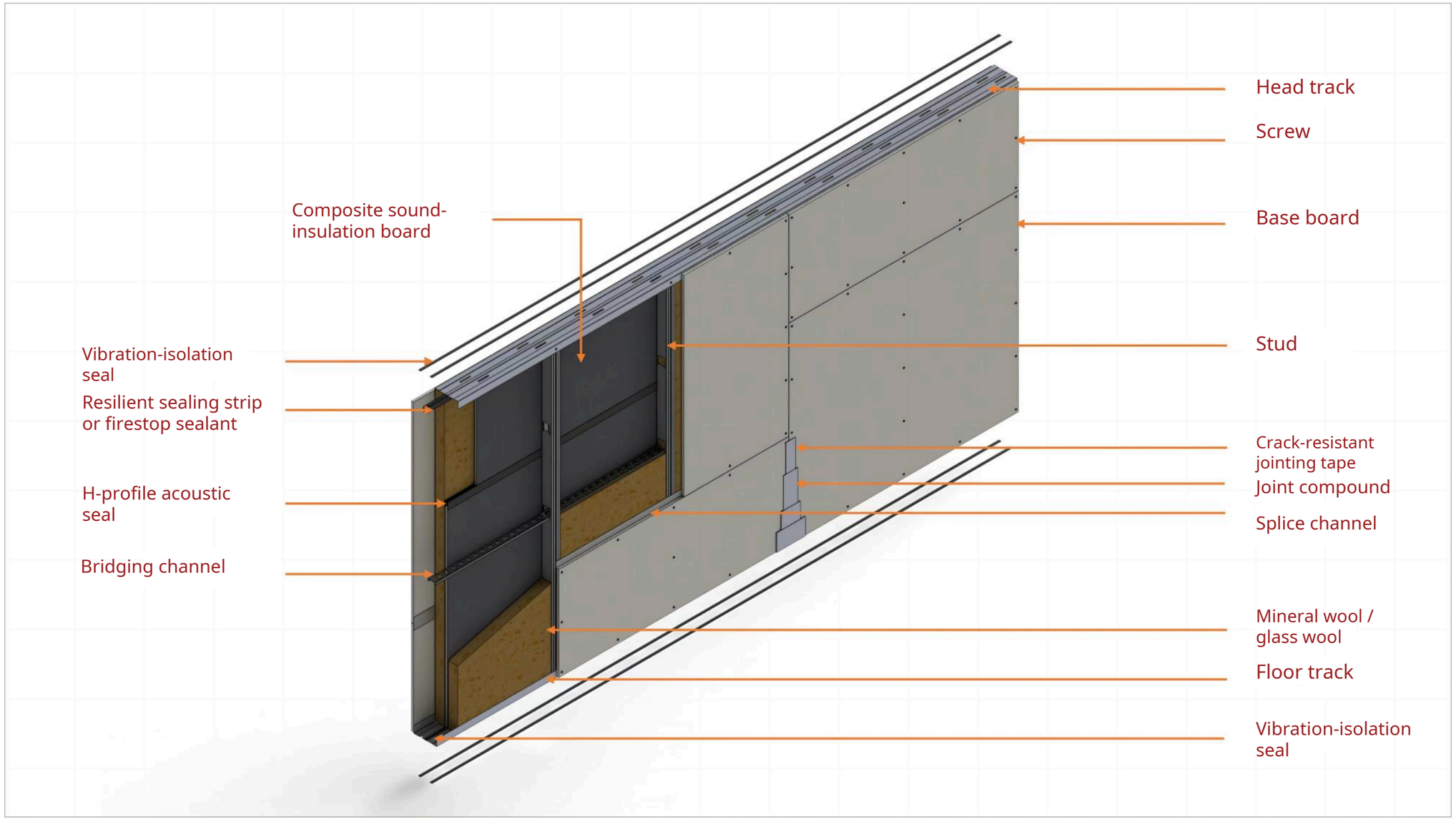
Trim System

The decorative metal trim system provides edge transitions, coordinated skirting and linings for doorless openings. Carefully designed details are especially important in today’s varied interior environments. Skirting creates a harmonious transition from wall to floor. Edge trims and internal and external corner profiles cover joints around openings and wall surfaces. Doorless-opening and window linings protect the edges while adding depth and visual interest to the space. These stainless-steel products offer improved results, faster installation and easier handling, making them attractive as a modern material choice.

PREFABRICATED ACOUSTIC PARTITION WALL SYSTEM

The LMC DECO prefabricated acoustic partition wall system uses double-cavity studs, head/floor tracks, reinforcing horizontal channels and bridging channels to form the partition frame. Damping sound-insulation boards are inserted within the frame to create a multi-cavity, multifunctional acoustic construction. Each face is clad with one or two layers of substrate board; joints are treated with jointing tape and joint compound. The surface can receive a range of decorative finishes or directly supported decorative wall panels. The result is a reinforced, prefabricated, non-loadbearing partition system integrating the wall, building services and finishes.

The system uses standardised prefabricated construction. Preformed service holes facilitate the routing of water pipes and electrical conduits, addressing electrical-box installation and sound leakage. Its characteristics include high acoustic insulation, fire resistance, environmental performance, seismic and vibration resistance, low self-weight, a high degree of standardisation, fast installation and no need to chase the wall for services.



EIGHT KEY ADVANTAGES

01 Integrated Services

The wall, services and finishes are integrated. Service installation allows greater tolerance and avoids positioning difficulties.

02 High Acoustic Insulation

The four-cavity acoustic wall construction incorporates[1] diatomaceous-earth ecological sound-insulation board. It integrates services and prevents sound leakage, with a weighted sound reduction index of 55 dB or more.

03 Shorter Construction Period

Standardised factory prefabrication and integrated on-site installation improve efficiency, substantially shorten the construction period and reduce labour costs. The entirely dry construction process supports environmental performance.

04 Strong Fastener Holding

A built-in 12 mm custom sound-insulation board improves the wall's overall acoustic performance. The stated single-point fastener-holding force is 40 N. The board is Class A non-combustible, formaldehyde-free and moisture-resistant.

05 Space Saving

A wall thickness of no more than 165 mm maximises usable space, reducing thickness by approximately 25% compared with the referenced autoclaved aerated concrete block wall.

06 Seismic and Vibration Resistance

The flexible, safe construction prevents wall cracking and provides superior seismic and vibration resistance.

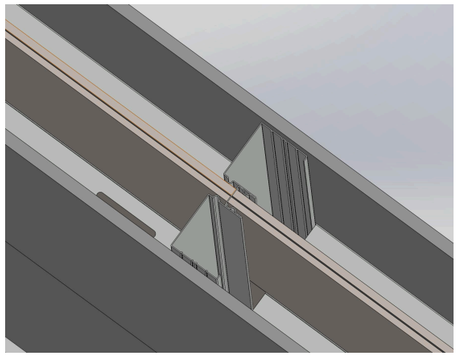
07 Lower Structural Loads

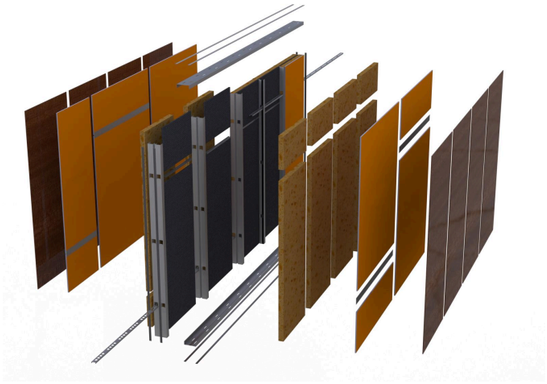
The lightweight wall substantially reduces building loads, with approximately 80% less weight than the referenced autoclaved aerated concrete block wall. Glass-wool or rock-wool infill provides thermal insulation, energy savings and excellent fire performance. *A 145 mm wall weighs approximately 37 kg/m^2.

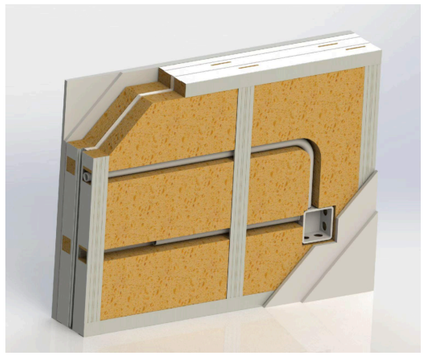
08 Less Waste

The wall framing uses high-quality galvanised steel. It is easy to assemble and dismantle and can be reused, reducing construction-waste removal and disposal costs and conserving resources.

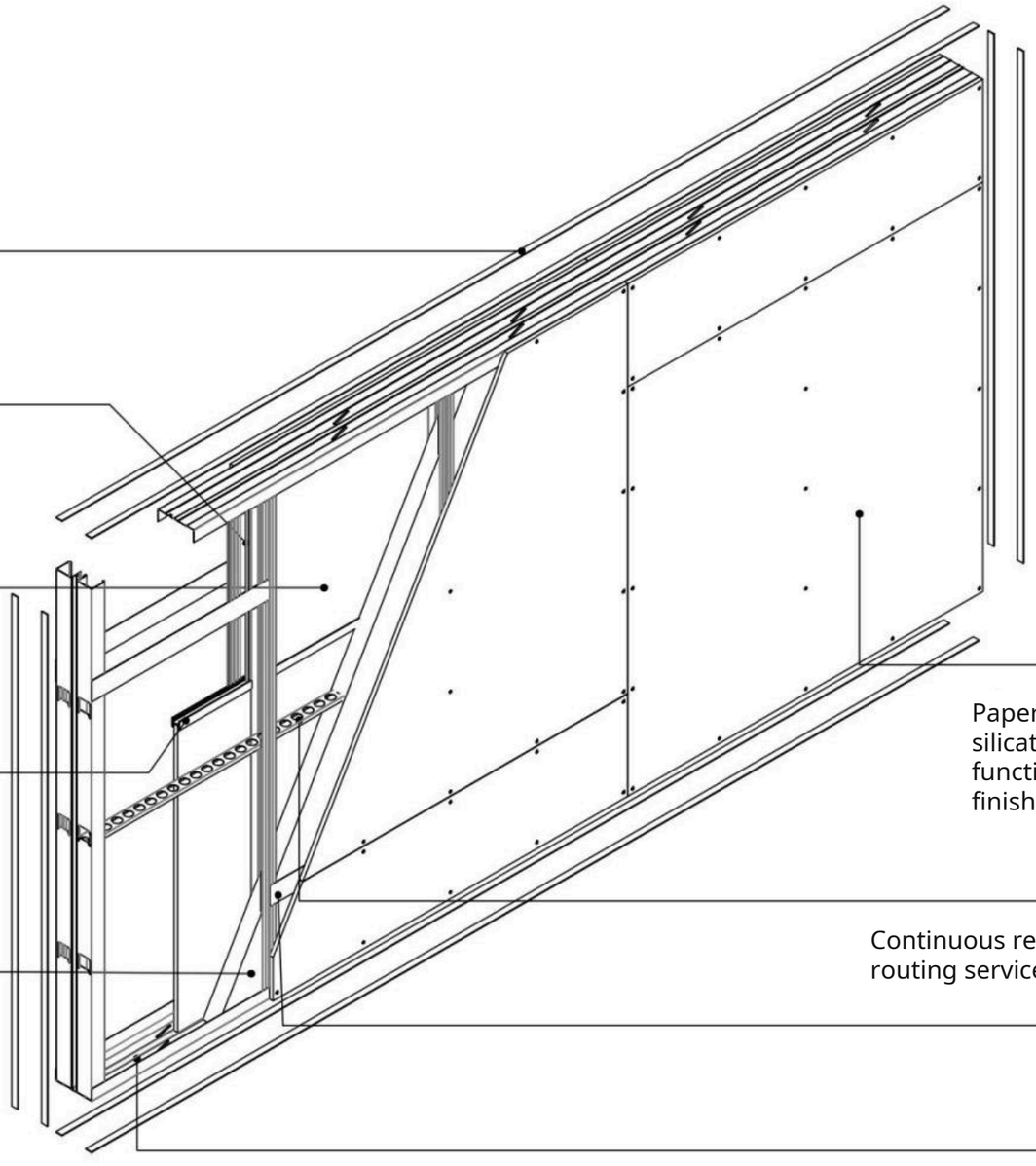
Comparison basis: 190 mm autoclaved aerated concrete blocks with 15 mm plaster on each face.







SYSTEM STRUCTURE



Vibration-isolation seal

Seals structural joints and sound-insulation board overlaps to reduce vibration and sound transmission.

Stud

Multi-cavity profile with shaped stiffening ribs limits sound leakage, prevents screw slippage and strengthens the frame.

Sound-insulation board

High sound insulation, strong fastener holding and Class A fire classification.

H-profile acoustic seal

Limits sound leakage at joints between sound-insulation boards.

Cavity insulation

Glass wool / mineral wool fills both cavities to improve overall partition sound absorption and fire performance.

Base board

Paper-faced gypsum board, autoclaved calcium silicate board, flat fibre cement board or other functional boards, selected for building needs and finishing methods.

Bridging channel

Continuous reinforcement with preformed service holes for routing services through the partition.

Splice channel

Strengthens transverse stud connections and base-board fixings.

Floor track

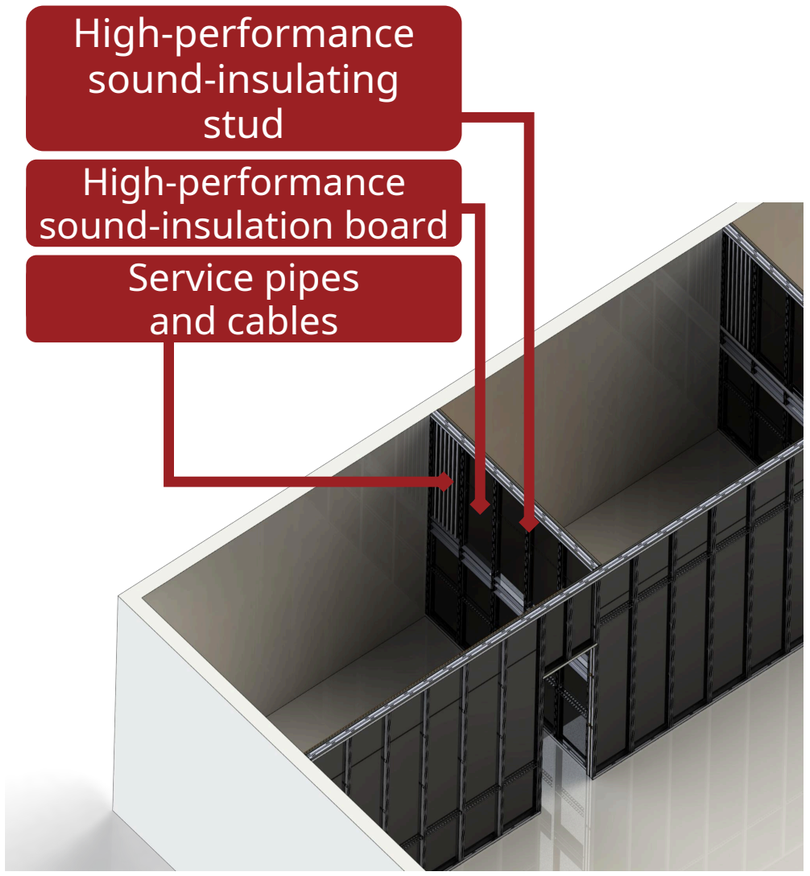
Connects to the floor structure to guide and anchor the wall.

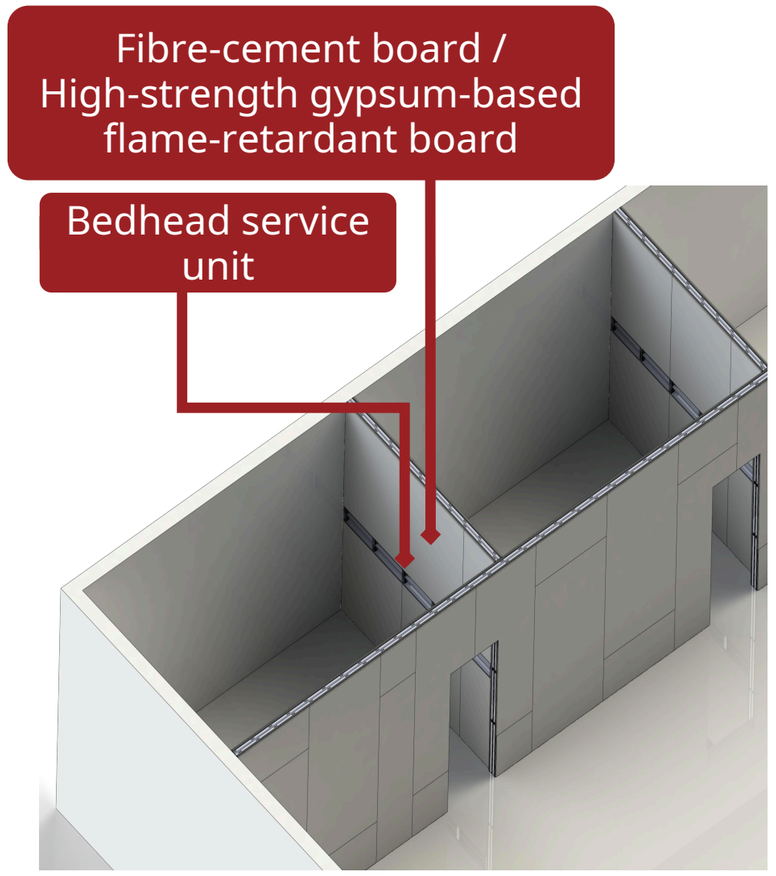
LMC DECO Prefabricated Acoustic Partition - System Structure

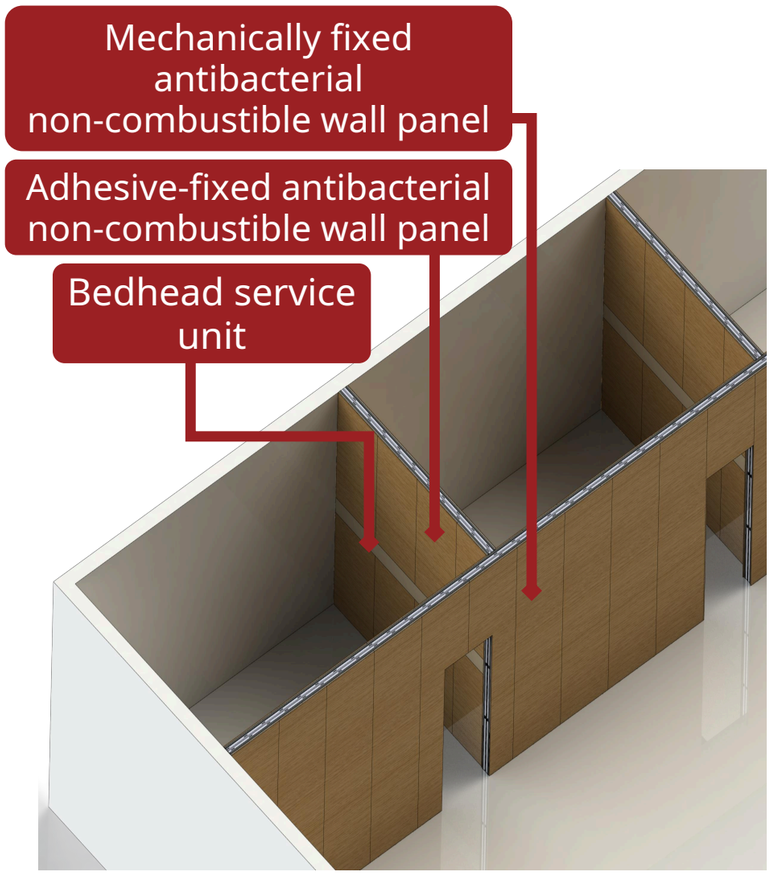
SERVICES AND FINISHES INTEGRATION

The reinforced acoustic partition wall system uses double-cavity studs, head/floor tracks, reinforcing horizontal channels and bridging channels to form the partition frame. Damping sound-insulation boards are inserted within the frame to create a multi-cavity, multifunctional acoustic construction. Each face is clad with one or two layers of substrate board. Joints are treated with jointing tape and joint compound, and the surface can receive a range of decorative finishes or directly supported decorative wall panels. The result is a reinforced, prefabricated, non-loadbearing acoustic partition integrating the wall, services and finishes.

The system uses standardised prefabricated construction. Preformed service holes facilitate the routing of water pipes and electrical conduits, addressing electrical-box installation and sound leakage. Its characteristics include high acoustic insulation, fire resistance, environmental performance, seismic and vibration resistance, low self-weight, a high degree of standardisation, fast installation and no need to chase the wall for services.





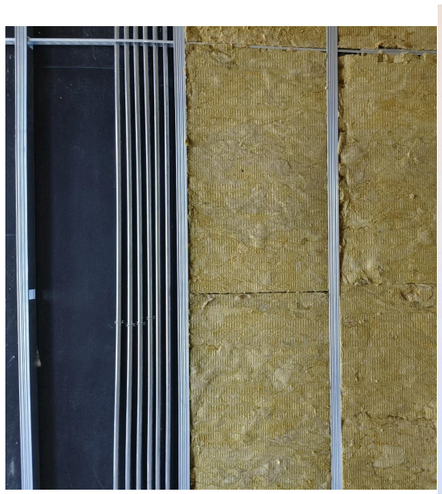


INSTALLATION COMPARISON

Integrated installation: medical-equipment services run within the wall.



Separated services and dry construction simplify installation and shorten the programme.

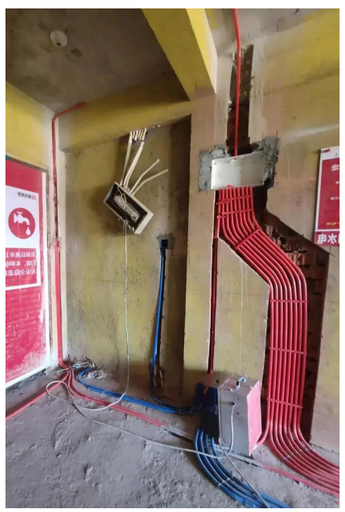




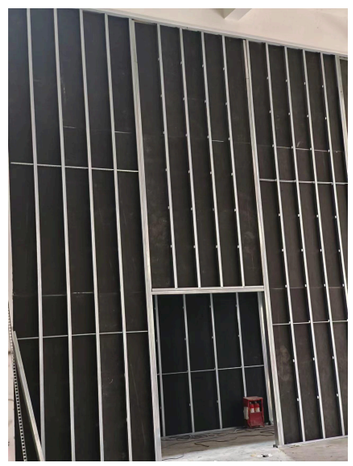
Conventional installation occupies interior space and involves complex site work.



Conventional wet construction entails higher construction and environmental-management costs.

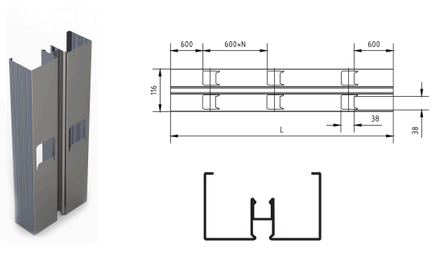






Extra-high walls up to 7.6 m — exceptionally robust construction.

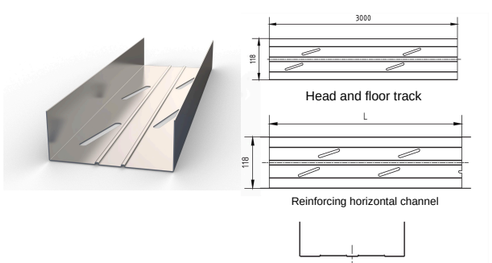
122 / 118 / 114 SERIES — FRAME PROFILES



Stud

120 × 45 × 0.7 / 0.6 mm | 116 × 45 × 0.7 / 0.6 mm | 112 × 45 × 0.7 / 0.6 mm

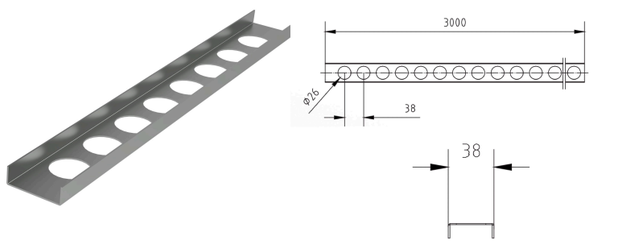
- Double-cavity construction with a central H-shaped slot for rapid board insertion.
- Anti-slip positioning features on both sides; forms the partition framework together with the head/floor tracks.



Head/Floor Track / Reinforcing Horizontal Channel

122 × 35 × 0.7 / 0.6 mm | 118 × 35 × 0.7 / 0.6 mm | 114 × 35 × 0.7 / 0.6 mm

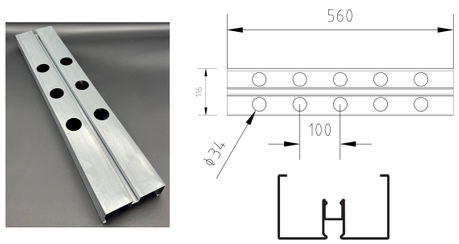
- U-shaped profile.
- Twin central ribs; forms the partition framework together with the studs.



Bridging Channel

38 / 36 × 11 × 0.7 / 0.6 mm

- Preformed holes facilitate service routing.
- Connects with the studs to reinforce the partition framework.



Horizontal Stud (Optional)

116 × 45 × 0.7 / 0.6 mm | 112 × 45 × 0.7 / 0.6 mm

- Double-cavity construction with a central H-shaped slot for rapid board insertion.
- Forms a reinforced partition framework together with the studs.



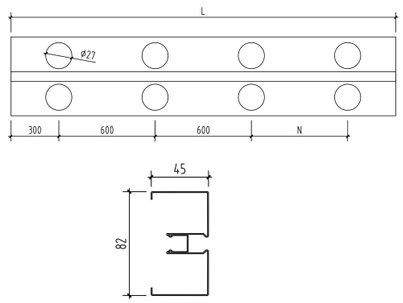
H-Profile Acoustic Seal (Optional)

H12 / 580 mm / 370 mm

- H-shaped profile for rapid joining of upper and lower sound-insulation boards.
- Improves acoustic insulation.

84 SERIES — FRAME PROFILES

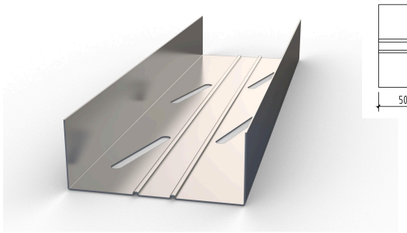


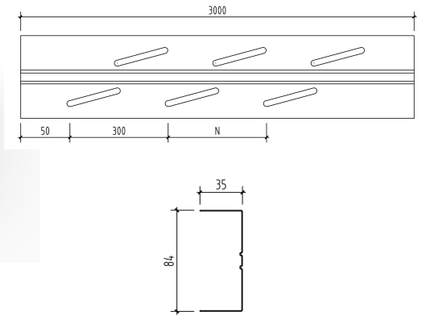


Stud

82 × 45 × 0.7 / 0.6 mm

- Double-cavity construction with a central H-shaped slot for rapid board insertion.
- Anti-slip positioning features on both sides; forms the partition framework together with the head/floor tracks.
- Circular holes facilitate service routing.



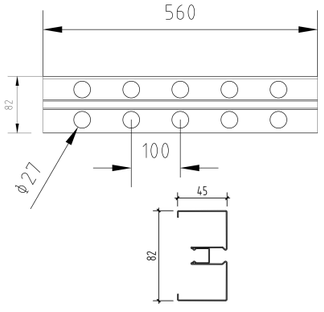


Head/Floor Track / Reinforcing Horizontal Channel

84 × 35 × 0.7 / 0.6 mm

- U-shaped profile.
- Twin central ribs; forms the partition framework together with the studs.



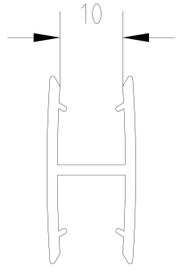


Horizontal Stud (Optional)

82 × 45 × 0.7 / 0.6 mm

- Double-cavity construction with a central H-shaped slot for rapid board insertion.
- Forms a reinforced partition framework together with the studs.





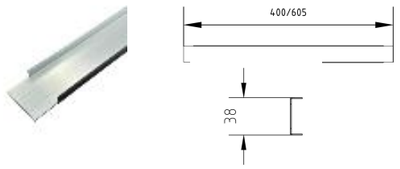
H-Profile Acoustic Seal (Optional)

H10 / 580 mm / 370 mm

- H-shaped profile for rapid joining of upper and lower sound-insulation boards.
- Improves acoustic insulation.

ACCESSORIES AND TEST REPORTS

Splice Channel



38 / 36 × 11 × 0.7 / 0.6 mm

- Joins upper and lower substrate boards.
- Connects with the studs to reinforce the partition framework.

Resilient Sealing Strip



20 × 10000 × 2 mm

- Provides vibration isolation and sealing where the framing connects to the supporting structure.
- Good elasticity, ageing resistance and durability.

Horizontal-Member Connector



46 × 45 × 5 mm

- Provides a rigid connection between horizontal members and studs.
- Increases the connection strength of the wall system.

Certification by National-Level Testing Institutions



The framing system meets the requirements of GB/T 11981-2008 (light-gauge steel framing for buildings).



Wall-system acoustic testing to GB/T 19889.3-2005: weighted sound reduction index of 51 dB.



Wall-system fire testing to GB/T 9978.1-2008: fire resistance ≥2 h.

WALL CONFIGURATIONS — 122 / 118 / 114 SERIES

122 / 118 / 114 Series Acoustic Partition Wall Configurations and Comparison with Conventional Walls

Category	Construction / layer sequence	Thickness (mm)	Self-weight (kg/m²)	Weighted sound reduction (dB)	Fire resistance (h)	Maximum height (m)	Application
52 dB acoustic partition system	12 mm high-strength gypsum-based flame-retardant board Acoustic framing with 12 mm internal sound-insulation board and 80 kg/m³ rock wool on both sides 12 mm high-strength gypsum-based flame-retardant board	142	55	52	≥2	7.6	Areas with higher fire-resistance requirements
51 dB acoustic partition system	12 mm standard paper-faced gypsum board Acoustic framing with 12 mm internal sound-insulation board and 48 kg/m³ glass wool on both sides 12 mm standard paper-faced gypsum board	142	42	51	≥1	6.8	Dry areas
58 dB acoustic partition system	9.5 mm + 12 mm double-layer paper-faced gypsum board Acoustic framing with 12 mm internal sound-insulation board and 48 kg/m³ glass wool on both sides 9.5 mm + 12 mm double-layer paper-faced gypsum board	161	56	58	≥2	7.6	Quiet dry areas
Fire-resistant partition	Single layer of 12 mm fibre cement board Acoustic framing with 12 mm internal sound-insulation board and 100 kg/m³ rock wool on both sides Single layer of 12 mm fibre cement board	138	56	52	≥3	7.6	Fire-resistant walls
Conventional wall comparison	75 mm conventional U-shaped framing filled with 48 kg/m³ glass wool, clad with a single layer of 10 mm high-strength gypsum-based flame-retardant board	100, 120, 150	62.5–72.5	15–25	≥1		
Conventional wall comparison	Autoclaved aerated concrete wall panels	100, 120, 150	62.5–72.5	35–43			
Conventional wall comparison	190 mm autoclaved aerated concrete blocks with 15 mm plaster on each face	220	259	47			
Conventional wall comparison	Lightweight aggregate (ceramsite) concrete wall panels	85, 100, 120	90–120	45			
Conventional wall comparison	Hollow concrete wall panels	100, 120, 180	90–100	35–44			
Conventional wall comparison	Reinforced concrete wall	150, 200	375, 480	52, 57			

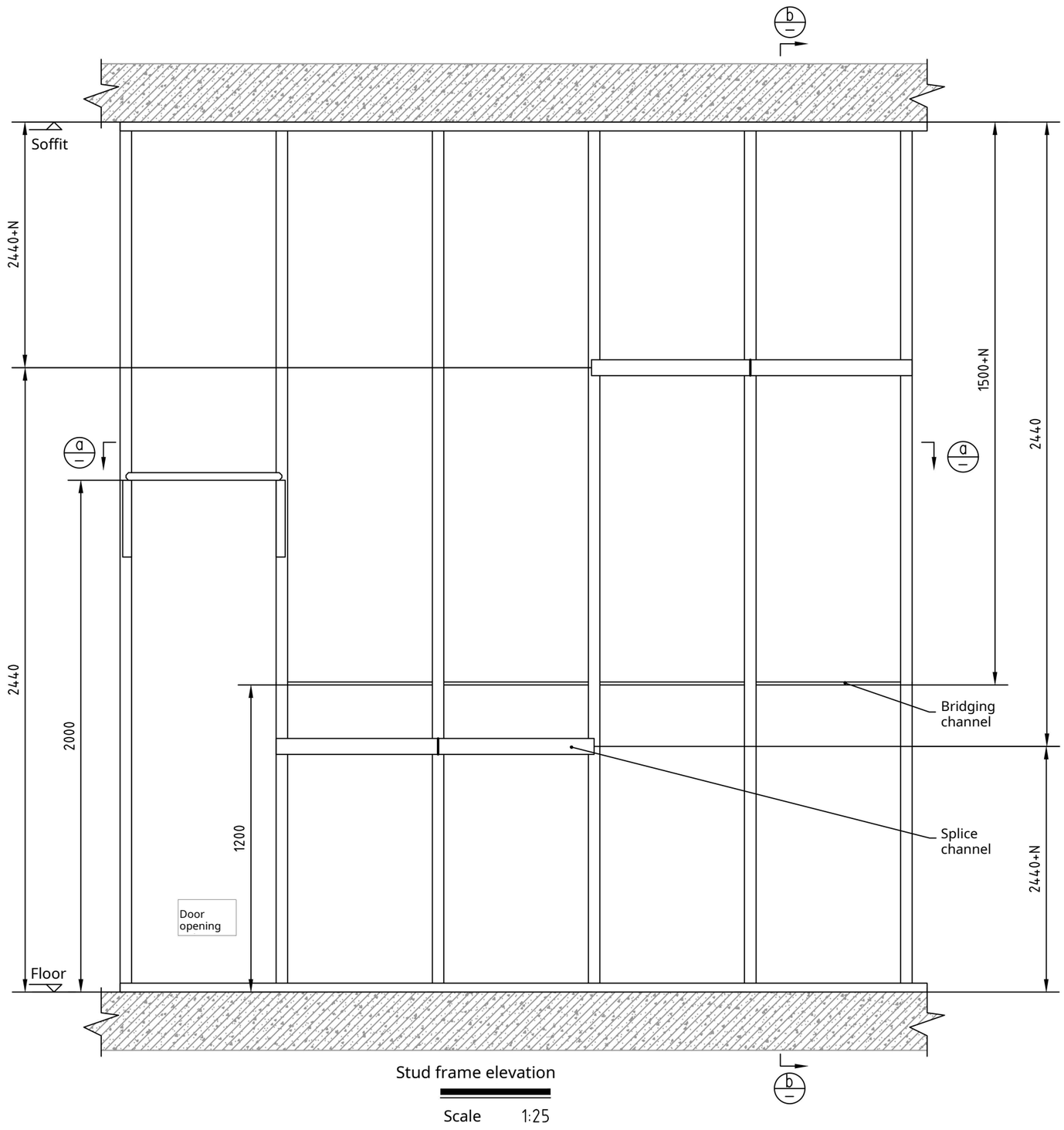
At the same acoustic performance (weighted sound reduction of 52 dB), the partition system weighs only 15% as much as a conventional brick wall and reduces the load by more than 80%. Wall thickness is reduced by 5%, saving space.

WALL CONFIGURATIONS — 84 SERIES

84 Series Acoustic Partition Wall Configurations

No.	System	Construction / layer sequence	Thickness (mm)	Self-weight (kg)	Weighted sound reduction (dB)	Fire resistance (h)	Application
1	Partition 82-01	Single layer of 12 mm high-strength gypsum-based flame-retardant board + 82 prefabricated acoustic framing (with 10 mm internal composite sound-insulation board and 80 kg/m³ rock-wool infill on both sides) + single layer of 12 mm high-strength gypsum-based flame-retardant board	108	53	49	≥2.0	Areas with higher fire-resistance requirements
2	Partition 82-02	Single layer of 12 mm standard paper-faced gypsum board + 82 prefabricated acoustic framing (with 10 mm internal composite sound-insulation board and 48 kg/m³ glass-wool infill on both sides) + single layer of 12 mm standard paper-faced gypsum board	108	40	48	≥1.0	Dry areas
3	Partition 82-03	Double layer of 9.5 mm + 12 mm standard paper-faced gypsum board + 82 prefabricated acoustic framing (with 10 mm internal composite sound-insulation board and 48 kg/m³ glass-wool infill on both sides) + double layer of 9.5 mm + 12 mm standard paper-faced gypsum board	127	54	55	≥2.0	Dry areas
4	Partition 82-04	Single layer of 10 mm fibre cement board + 82 prefabricated acoustic framing (with 10 mm internal composite sound-insulation board and 100 kg/m³ rock-wool infill on both sides) + single layer of 10 mm fibre cement board	104	54	49	≥3.0	Fire-resistant walls and fire compartment partitions

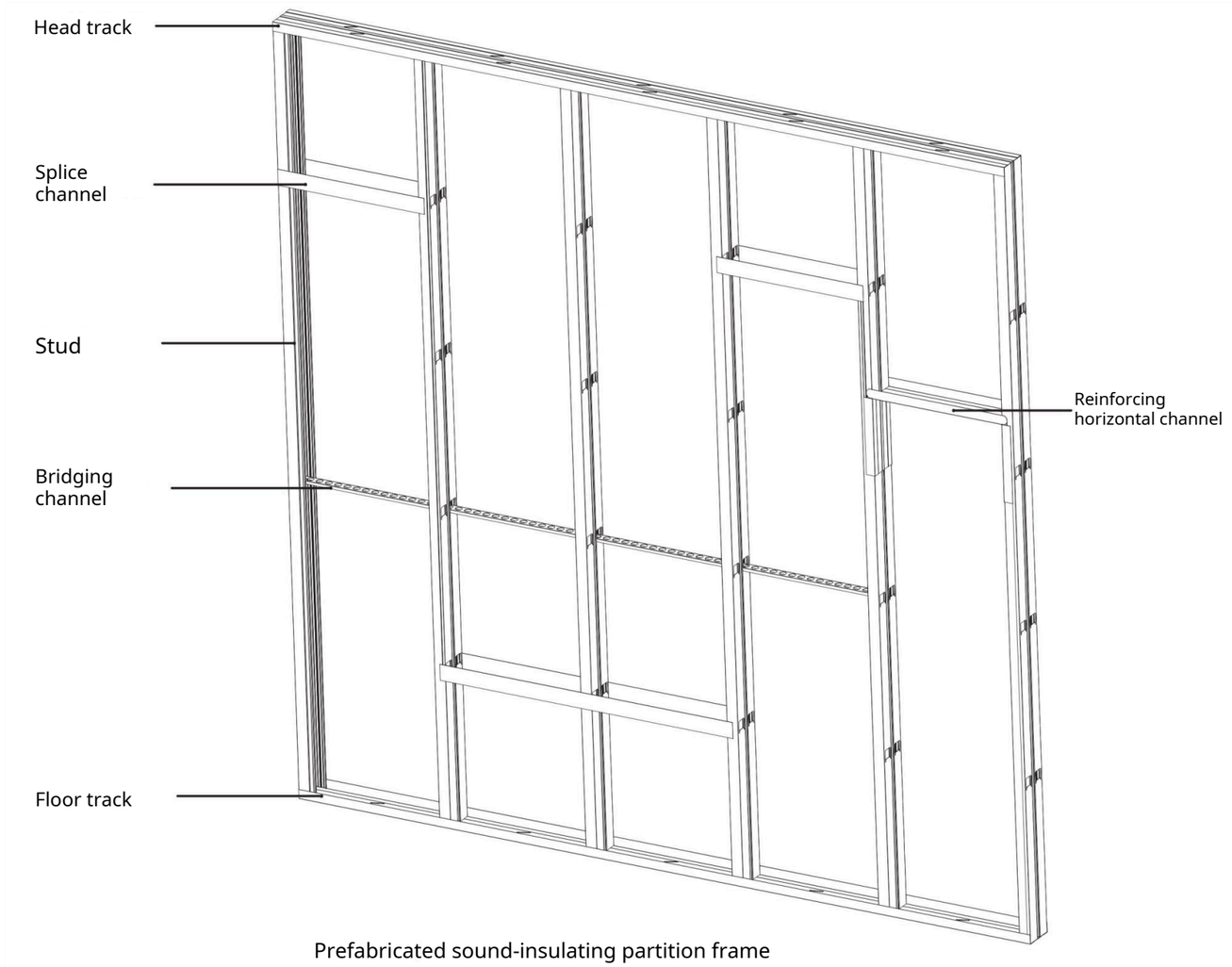
FRAME ELEVATION



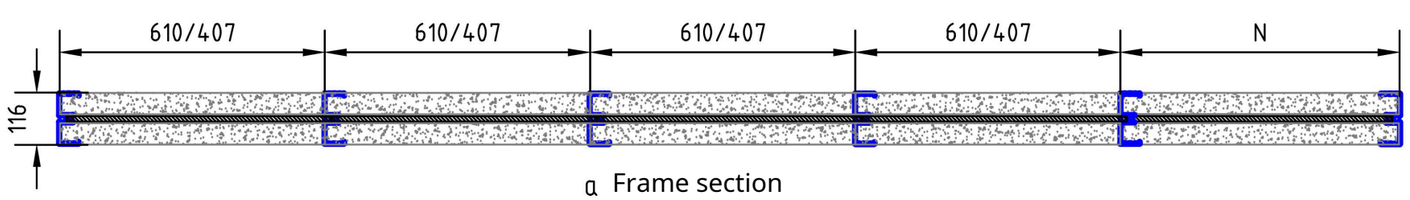
Stud frame elevation

Scale 1:25

FRAME AXONOMETRIC AND SECTIONS

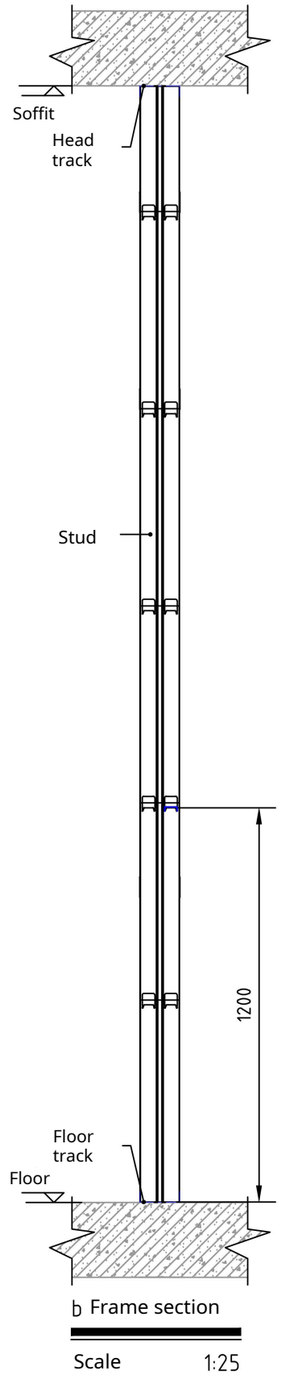


Prefabricated sound-insulating partition frame



a Frame section

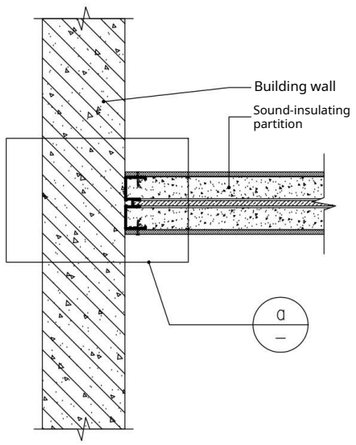
Scale 1:25



b Frame section

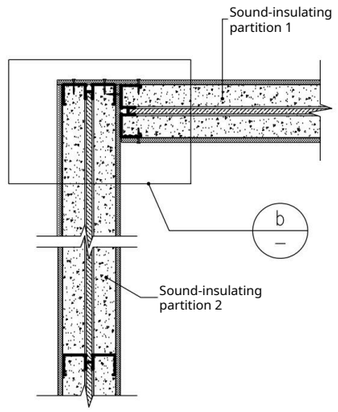
Scale 1:25

WALL JUNCTIONS



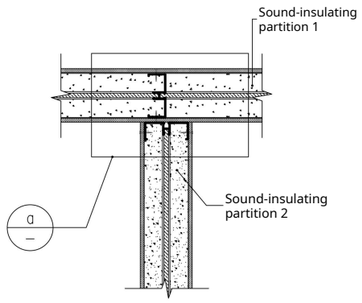
Wall junction

Scale 1:12



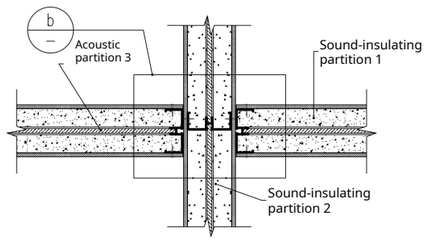
L-junction

Scale 1:12



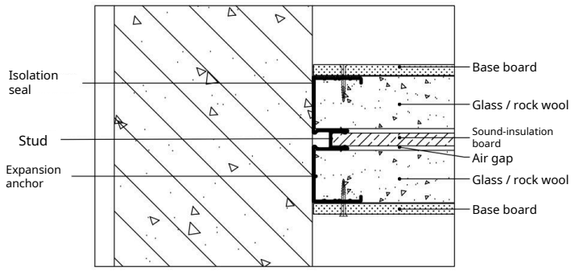
T-junction

Scale 1:12



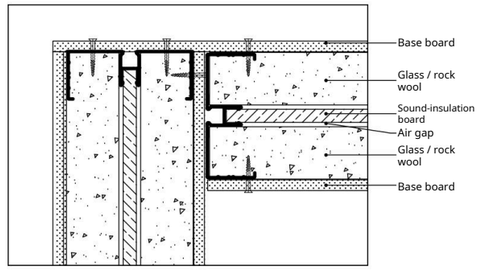
Cross-junction

Scale 1:12



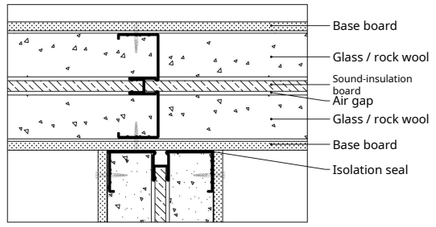
a Wall junction detail

Scale 1:5



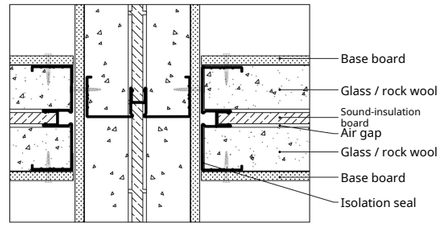
b L-junction detail

Scale 1:5



a T-junction detail

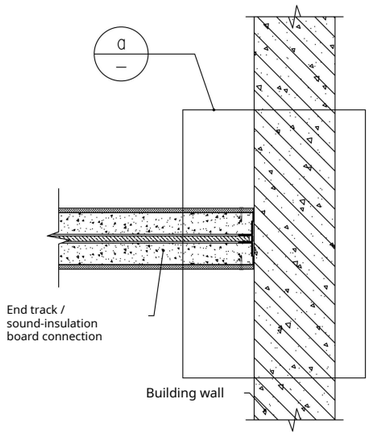
Scale 1:5



b Cross-junction detail

Scale 1:5

CONNECTION DETAILS / 01

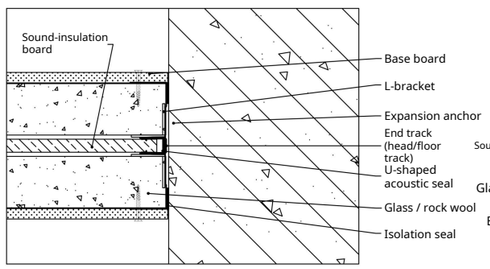


Wall-end junction

Scale 1:12

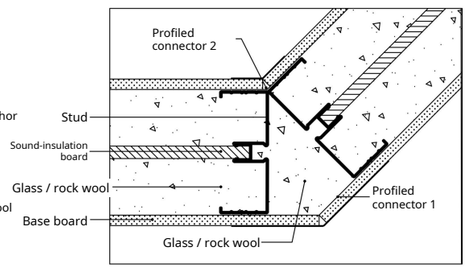
135° wall junction

Scale 1:12



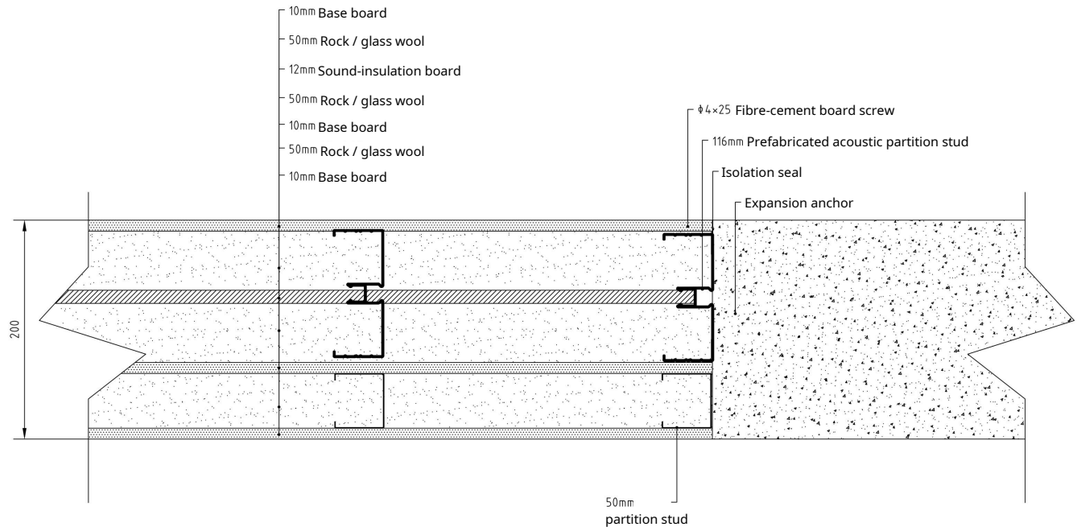
a Wall-end junction detail

Scale 1:5



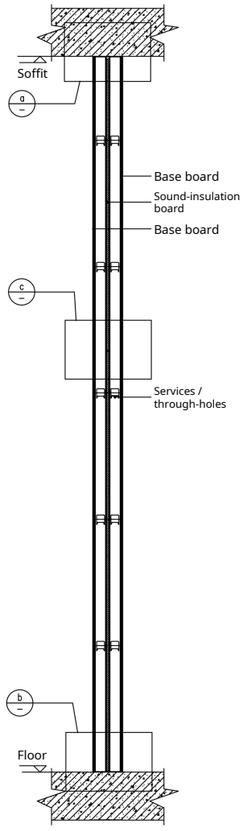
b Connection detail

Scale 1:5



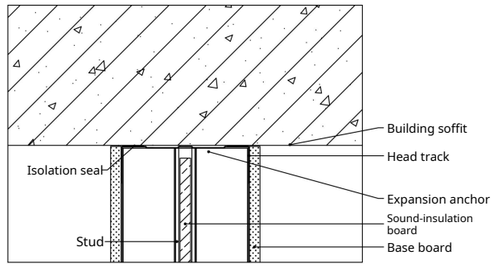
200 mm prefabricated acoustic partition junction

CONNECTION DETAILS / 02



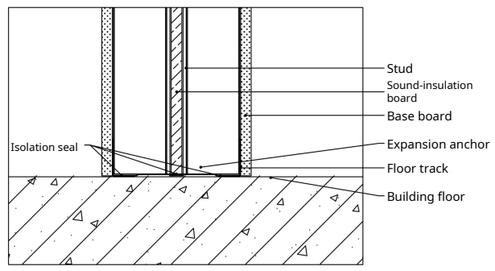
Head and base junctions

Scale 1:25



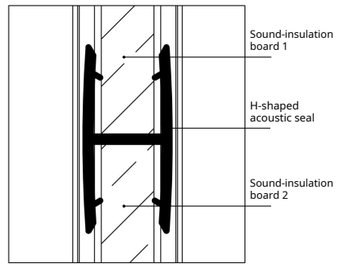
a Head junction detail

Scale 1:5



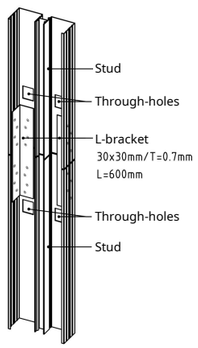
b Base junction detail

Scale 1:5



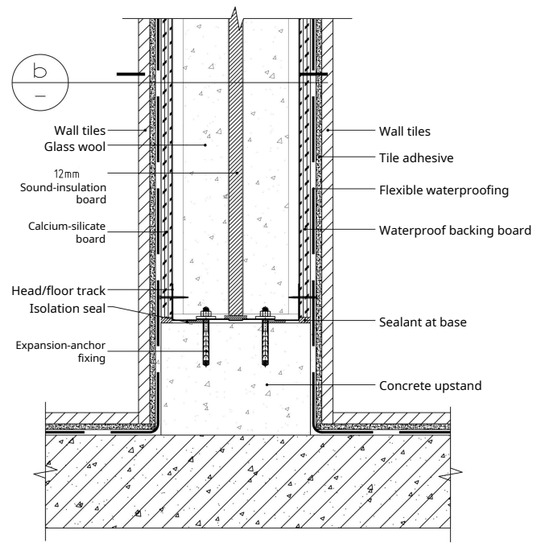
c Board butt-joint detail

Scale 1:1

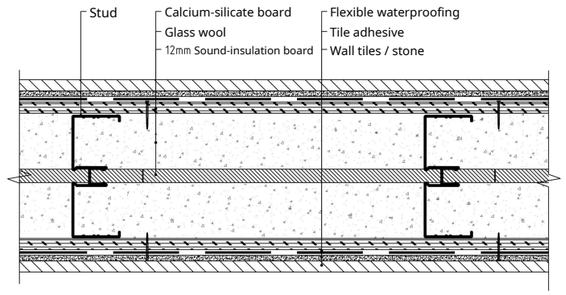


Stud splice detail

Scale 1:16

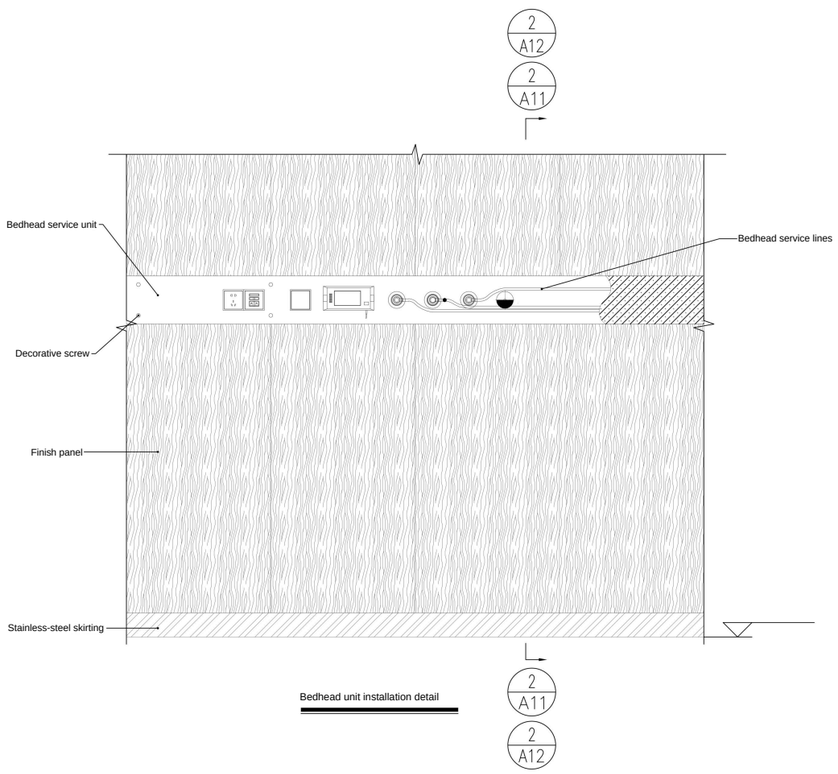


Double-sided waterproof wall assembly

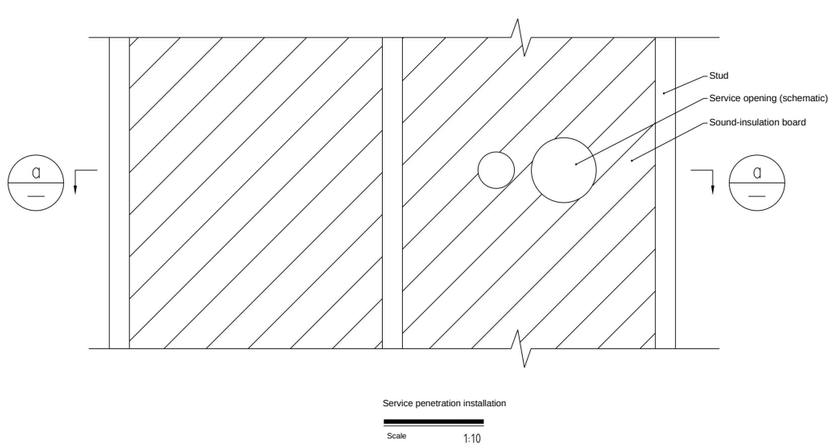


b. Double-sided waterproof wall assembly

CONNECTION DETAILS / 03

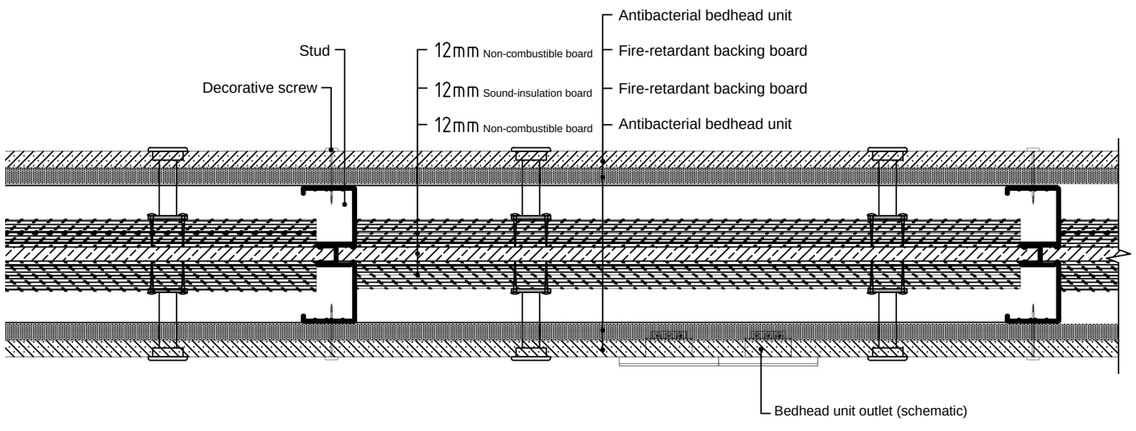


Bedhead unit installation detail

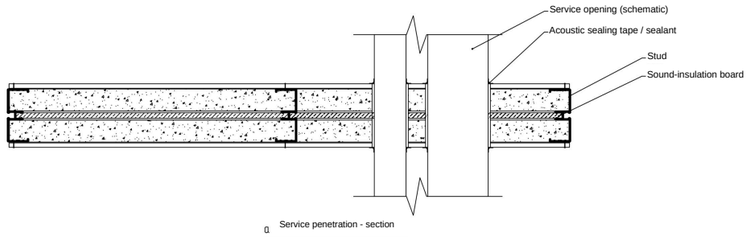


Service penetration installation

Scale 1:10



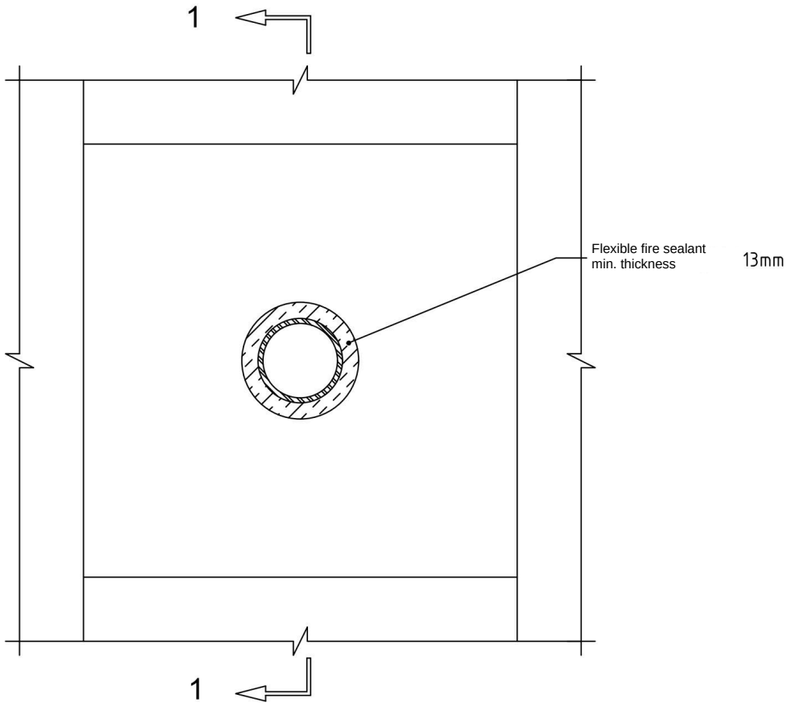
Bedhead unit installation - dry-hung wall panels

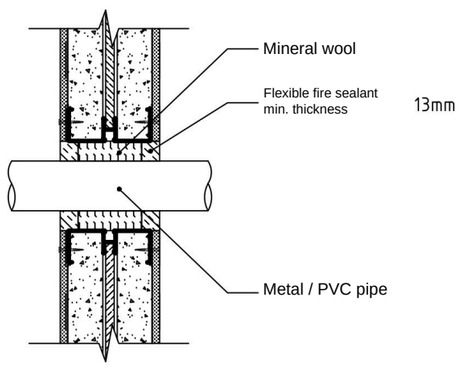


a Service penetration - section

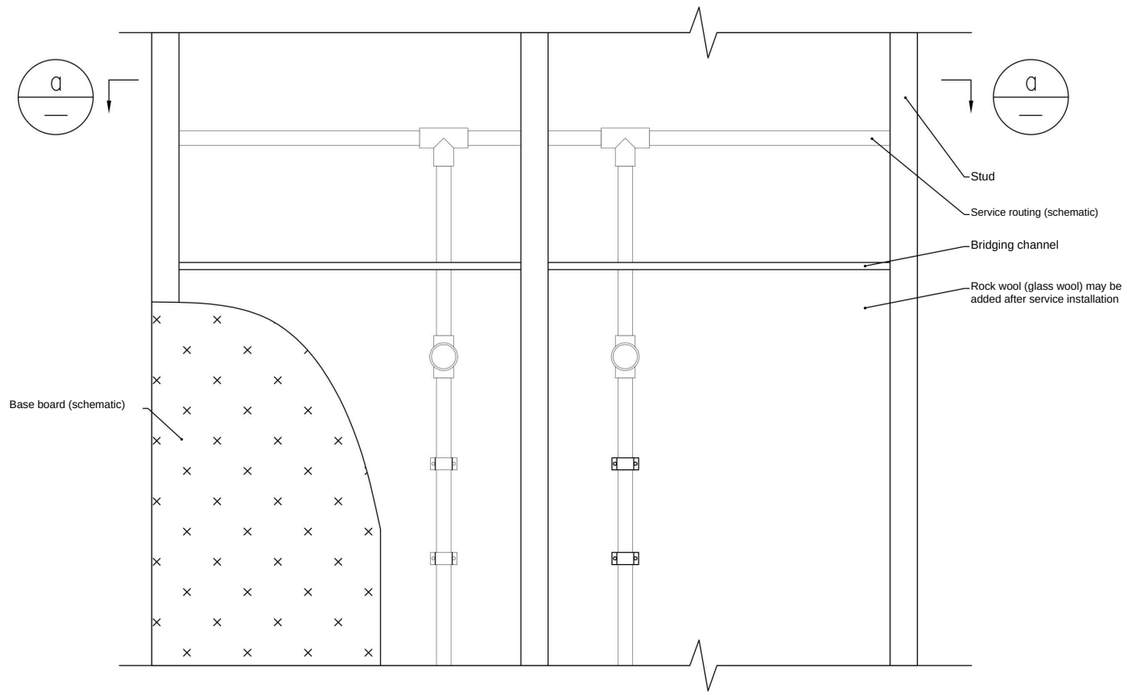
Scale 1:10

CONNECTION DETAILS / 04



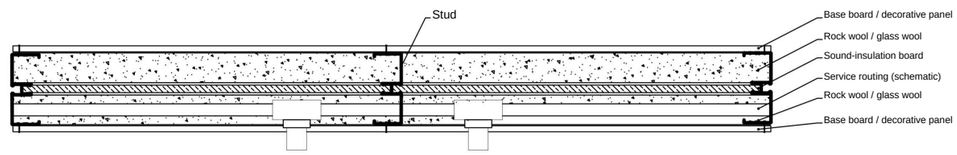


1—1



Service routing layout

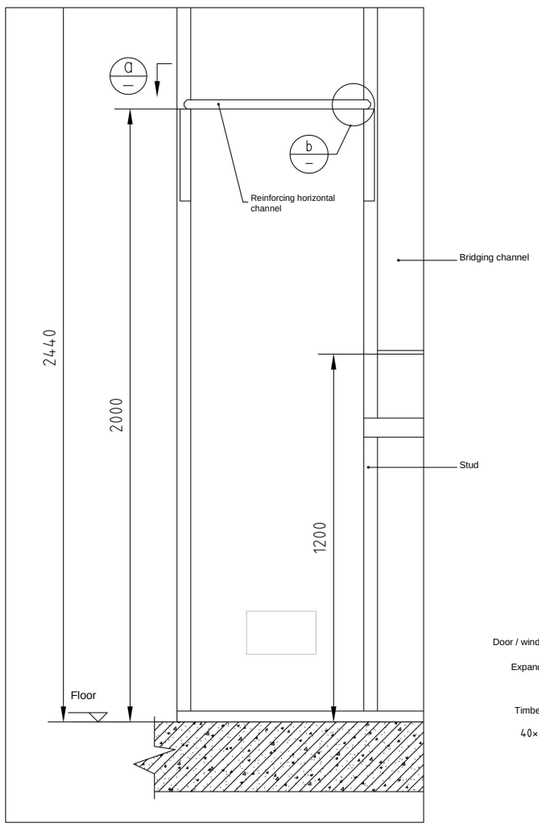
Scale 1:10

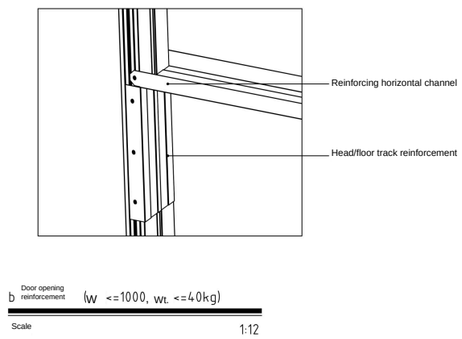


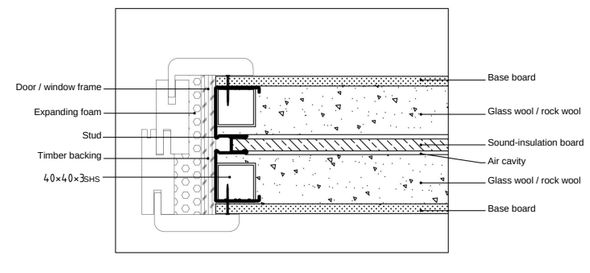
a Service routing - section

Scale 1:10

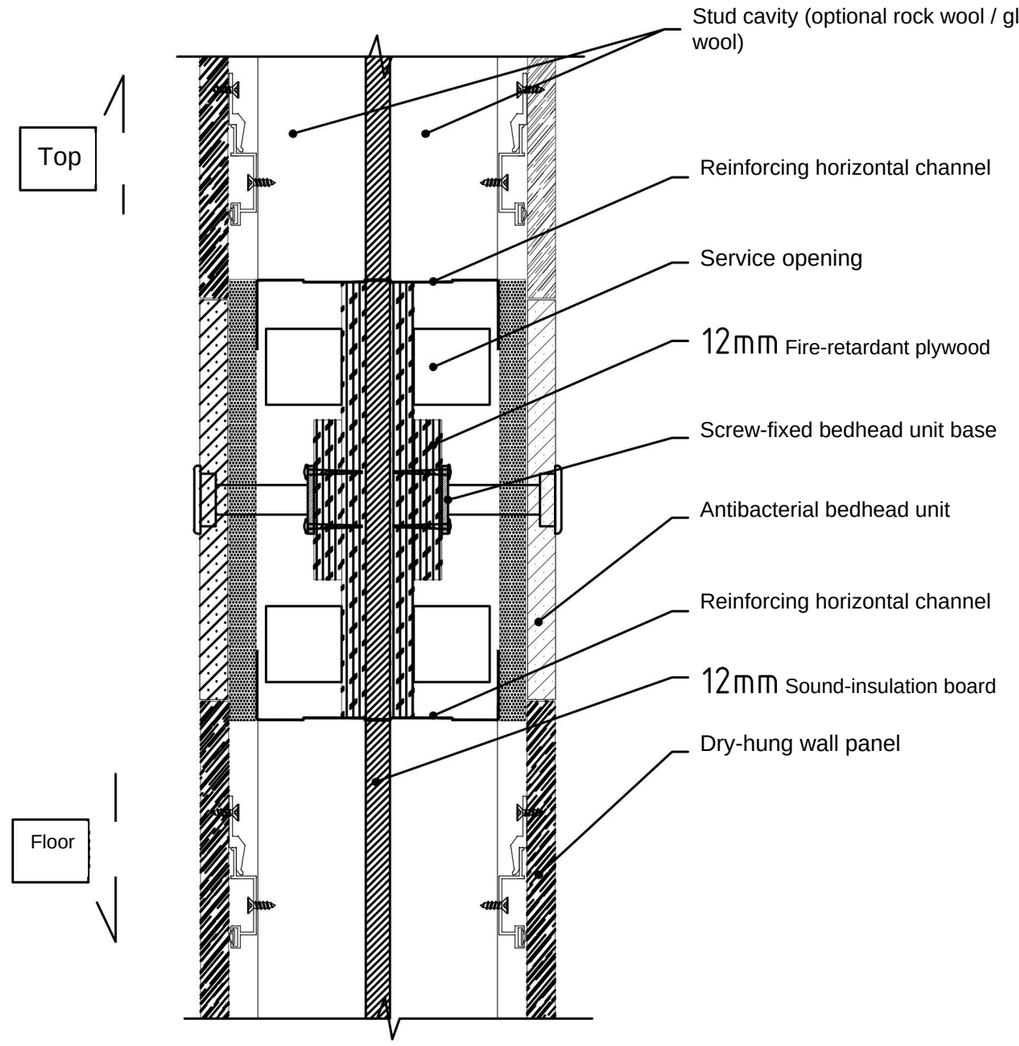
CONNECTION DETAILS / 05







W = width; Wt. = weight; SHS = square hollow section.



Bedhead unit installation - dry-hung wall panels

PARTITION WALL BOARDS



High-Strength Sound-Insulation Board

Custom thickness: 12 mm / 10 mm

- The microporous, textured surface diffuses sound waves; sound absorption coefficient of 0.6 or more.
- Density: 1.1–1.2 g/cm³; fastener-holding force of 80 N or more.
- Thermal conductivity below 0.169 W/(m·K), improving the wall's fire performance.
- Inorganic material; formaldehyde-free, moisture-resistant and mould-resistant.



Composite Sound-Insulation Board

Custom thickness: 12 mm / 10 mm

- Composite construction incorporating flame-retardant nonwoven fabric; single-board sound reduction of 35 dB or more.
- High-density substrate; fastener-holding force of 40 N or more.
- Class A non-combustible, improving the wall's fire performance.
- Inorganic material; formaldehyde-free, moisture-resistant and mould-resistant.



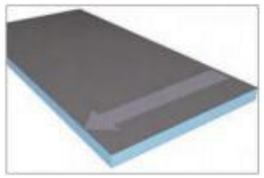
Calcium Silicate Board

Custom thickness: 12 mm / 10 mm

- Composed of reinforcing fibres, calcareous materials such as cement and hydrated lime, siliceous materials such as quartz sand and fly ash, and auxiliary materials. Density: 1.1–1.4 g/cm³.
- Class A non-combustible, improving the wall's fire performance.
- Fire-resistant, impact-resistant, moisture-resistant and mould-resistant.

WATERPROOF INSULATING BACKER BOARD



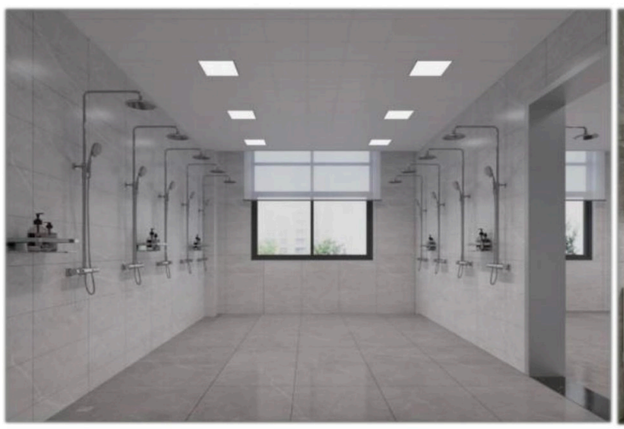




- Waterproof and mould-resistant
- High strength and durability
- Greater efficiency and lower cost
- Easy installation
- Lightweight and easy to handle
- Flexible customisation
- Green and low carbon
- Acoustic and thermal insulation

XPS is a lightweight, high-strength board material. At a density not exceeding 35 kg/m^3, its compressive strength can reach 350 kPa or higher, providing good impact resistance in buildings. Once the mortar coating on the surface of the Hengli backer board has hardened, it further increases the overall compressive strength of the material. According to routine test records, a standard 12 mm backer board has an average compressive strength of ≥400 kPa, described in the source as equivalent to withstanding 40 T of pressure per square metre.

Application Photographs





BACKER BOARD COMPARISON AND APPLICATIONS

Multifunctional Waterproof Insulating Board



VS

Gypsum board / OSB / Fibre cement board

Backer board

- The surface has a special composite coating.
- Fully compatible with tile adhesives.
- Supports 85 kg of tiles per square metre; pressure greater than 500 kPa.

Gypsum Board



Limitation: Tiles can detach easily, and the board itself has relatively low strength.

Backer board

- Resists deformation after tiling.
- Excellent thermal insulation and waterproofing help prevent damage to tiles from thermal expansion and contraction.
- The board weighs only 3 kg per square metre, reducing transport and labour costs.

OSB (Oriented Strand Board)



Advantage: Excellent fastener-holding performance.

Limitation: Not suitable for damp locations; swells when soaked and is prone to mould.

Backer board

- A sealing level of over 99%, together with resistance to water, mould, moisture and insects.

Fibre Cement Board



Advantage: Excellent rigidity.

Limitation: Prone to deformation after tiling.

External Wall and Roof Waterproofing and Thermal Insulation





Negative-Side Basement Waterproofing





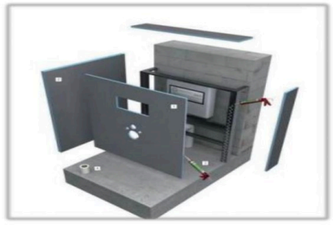
Ceiling Substrate







Modular Bathrooms

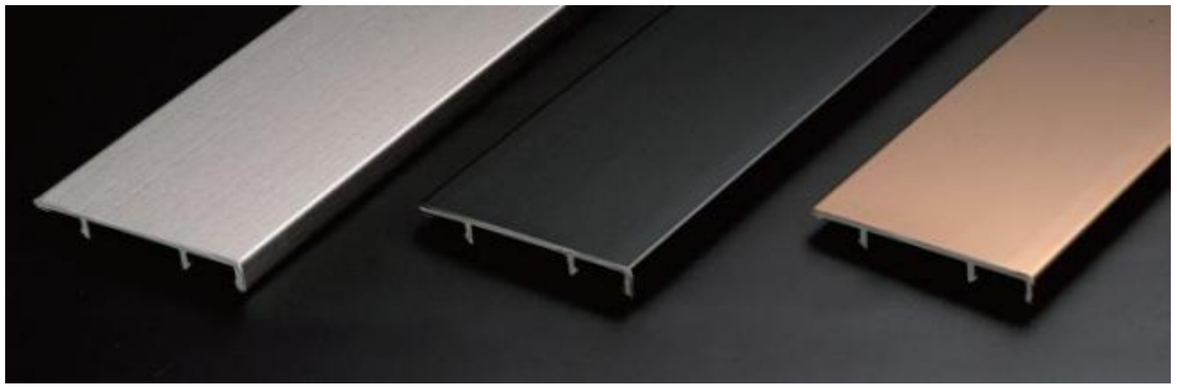






DECORATIVE METAL TRIM SYSTEMS

The decorative metal trim system provides edge transitions, coordinated skirting and linings for doorless openings. Carefully designed details are especially important in varied interior environments. Skirting creates a harmonious transition between walls and floors; edge trims and internal and external corner profiles cover joints around openings and wall surfaces. Doorless-opening and window linings provide protection while adding depth and aesthetic value. These products offer improved results, faster installation, easier handling and greater appeal.



201 / 304 Stainless-Steel Skirting

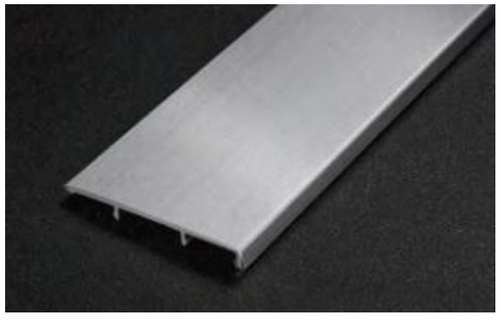




Brushed Gold Stainless Steel



Brushed Black Stainless Steel



Brushed Silver Stainless Steel



Polished Silver Stainless Steel

SKIRTING PROFILES AND ACCESSORIES

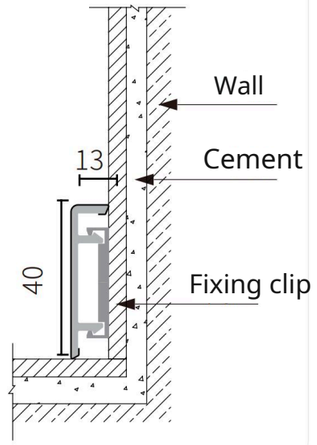


Skirting without a separate backing 40 / 50 / 60 / 80 / 100 Series

Specification: 0.5 × 13 × 40 × 2440 / 3050

Colour

- Brushed black titanium
- Brushed rose gold
- Brushed natural finish
- Brushed antique bronze
- Matt black
- Matt grey



Accessories



External corner



Straight connector



End cap



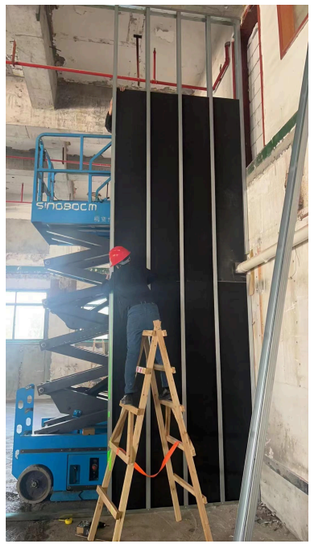
Fixing clip

COMMERCIAL APPLICATION REFERENCES

Changsha, Hunan

Changsha Liaison Office of a Central State-Owned Defence Enterprise

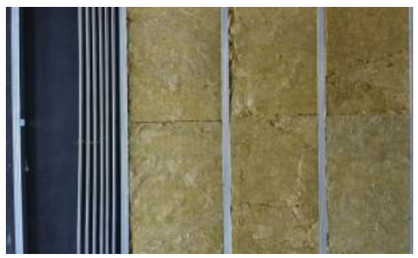




Changsha, Hunan

Xin Hunan Building







Hefei, Anhui

Wanneng Intelligent Management and Control Center







Qixia District, Nanjing

Hampton by Hilton



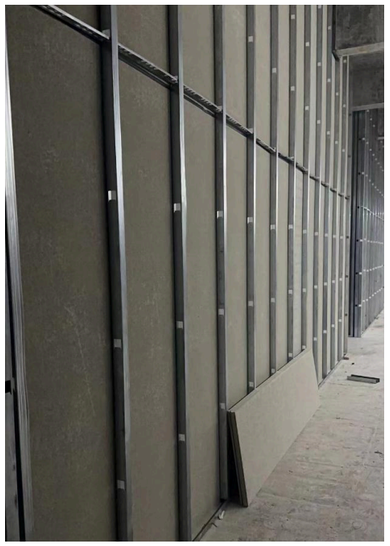


Project names and photographs are reproduced from the original product manual as application references.

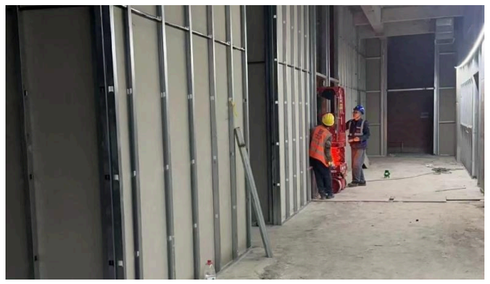
HEALTHCARE AND SENIOR LIVING REFERENCES

Yubei District, Chongqing

Xiehe Hospital







Changshou District, Chongqing

Luping Senior Care Home







Beijing

Northern Haidian Medical Center





Chengdu

Western Theater Command Orthopaedic Hospital





Project names and photographs are reproduced from the original product manual as application references.

PREFABRICATED PARTITION WALLS

ACOUSTIC SYSTEMS / TECHNICAL DETAILS / PROJECT REFERENCES

WEBSITE

lmcdeco.com

EMAIL

info@lmcdeco.com

WHATSAPP

+86 181 2673 5886

LMC DECO ONLINE

