viroc
by Investwood

Walls
Fact Sheets

Partition Walls and Walls Cladding

Perforated Board

Sandwich Board

Please consult **Viroc Technical File** available at www.viroc.pt, on EN language, on Downloads page.
Other **Viroc Recommended Solutions files,** organized by type of application, available on request.

Partition Walls and Walls Cladding

Walls Fact Sheet

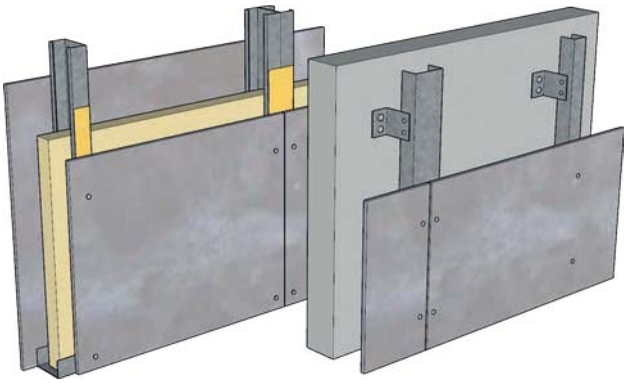
Application: Indoors

Support structure: Wood or Metal

Fastening: Screws / rivets

Thickness:
10 mm (3/8") for dry indoors
12 mm (1/2") for moist indoors and outdoors

Board maximum size:
3000 x 1250 mm (118,11" x 49,21")



1. Description

Viroc is a cement bonded particle board. It is a composite material, composed by a compressed and dry mixture of pine wood particles and cement.
Its appearance is not homogeneous. A natural characteristic of the product is to have patches of various shades.
The Viroc panel is produced in different colours.

2. Relative humidity effect

Viroc boards have small size variations due to the air relative humidity.
The expected maximum size variation of the board for indoors would be +0.5‰ to -1.0 ‰.
The fastening system near the edges will have to take into account those size variations.

3. Application Conditions

Before installation, the board must be exposed for 48 hours to the relative humidity of the location where it will be applied and should be left in a dry location out of direct sunlight.
It is the installer's responsibility to check the support structure conditions (distance between supports and respective width) for the correct application.

4. Support structure

Treated dry pine beams or metallic profiles of galvanized steel can be used to support the boards.
The distance between profiles should never exceed 625mm (24½").
The structure that will support Viroc boards must be aligned and leveled and the board cannot be warped.

5. Fastening

The boards are fixed with screws or rivets, simple galvanized elements can be used.
The distance between the holes to the edges is 35 x 50 mm (1½" x 2"), minimum.

6. Surface treatment

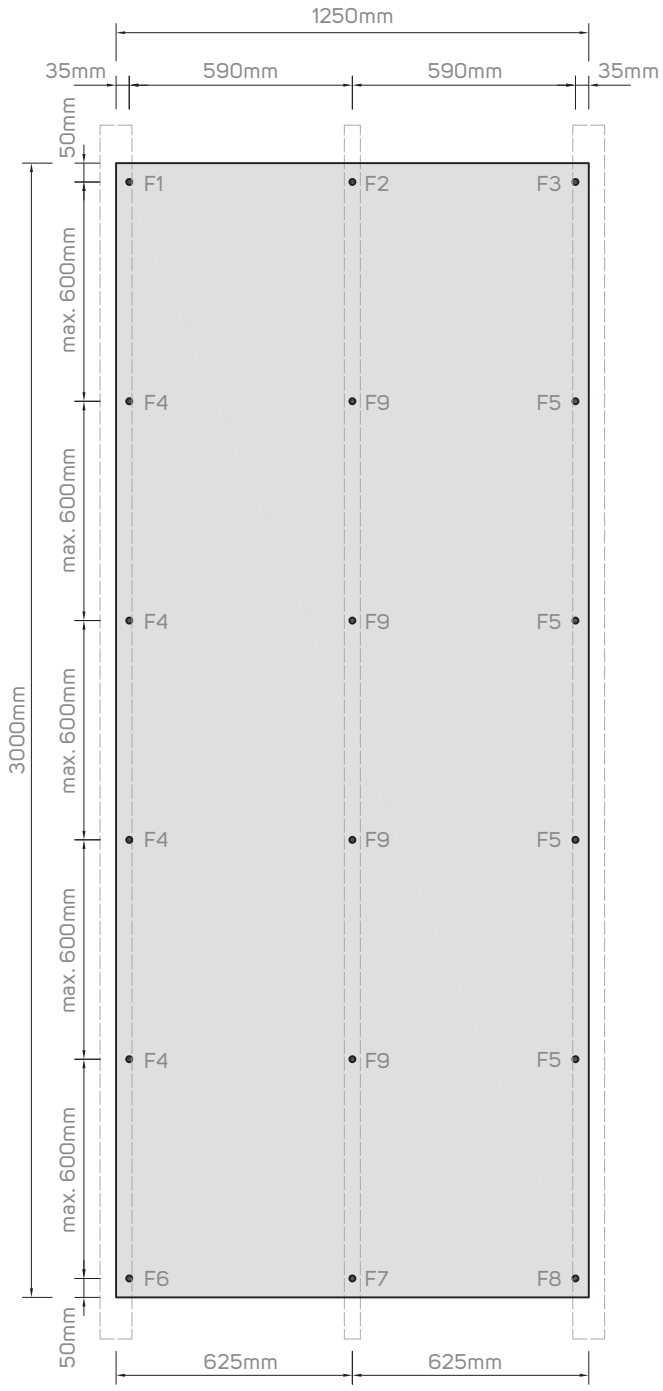
Viroc boards may be protected with paint or varnish. Before applying varnish the panel surfaces must be completely clean and dry, free from grease, dust or surface salts. The surface should be cleaned by polishing with a cleaning disc.
Viroc S.A. has suitable cleaning discs available that can be supplied on request.
The first coat must cover both sides and edges of the board. The other coats need only to be applied on exposed face and edges.
For more information, see the application of paints and varnishes procedures.

Notes & recommendations

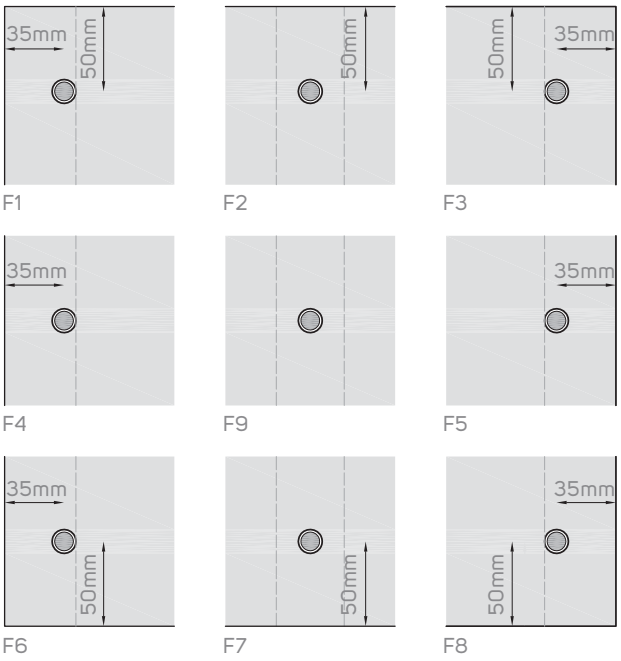
Please consult Viroc Product Data Sheet to know the board tolerances and properties.
Always check standard safety procedures and local legislation requirements.
Please contact the finishing suppliers for application procedures.

7. Partition walls

7.1 Board fastening

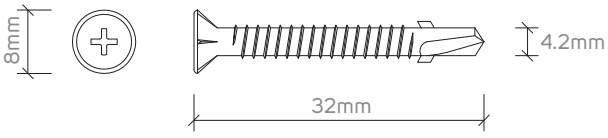


7.2 Distance of the screws to the edges

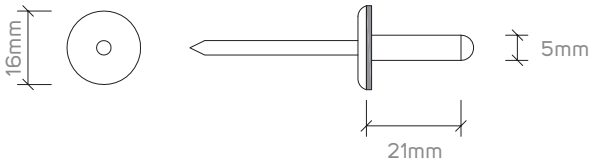


7.3 Fastening elements for metallic structure

IMET C8-4.2x32

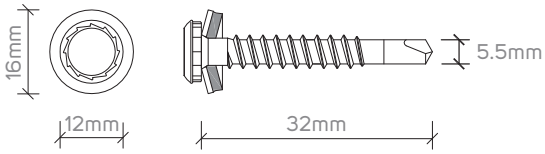


Rivet C16-5x21

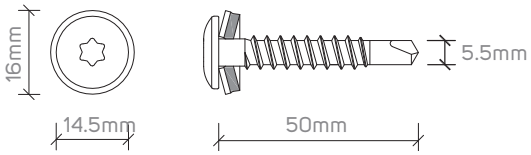


Alternative screws for metallic structure

EMET V12-A16-5.5x32

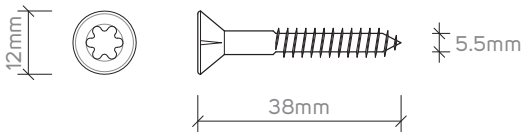


EMET C14-A16-5.5x50



7.4 Fastening elements for wood structure

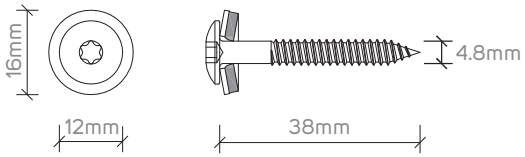
IMAD C12-5.5x38



NAIL 1x35

Alternative screw for wood structure

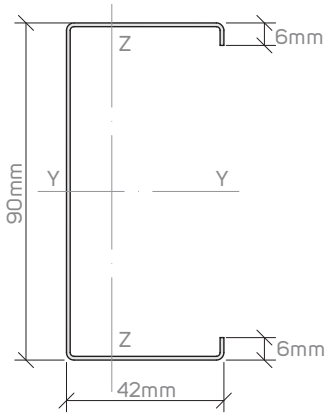
EMAD C12-A16-4.8x38



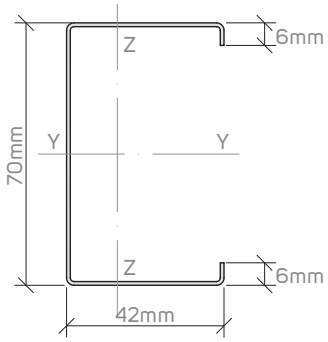
7.5 Profiles

Steel: Profile thickness should be 1mm minimum, galvanized a according to Standard EN10326 Class Z 275 minimum.

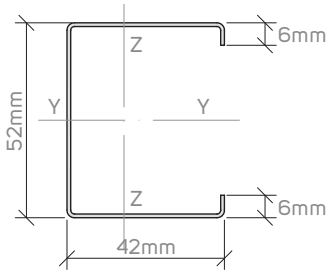
Profile MT90



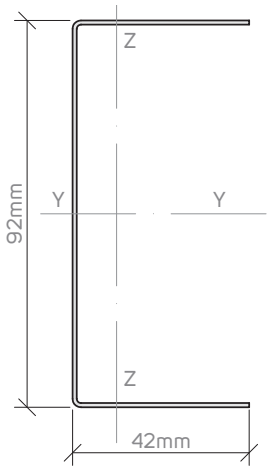
Profile MT70



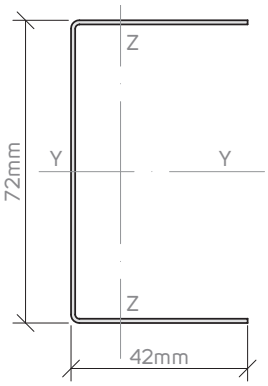
Profile MT52



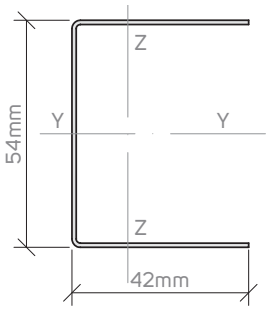
Profile CN92



Profile CN72

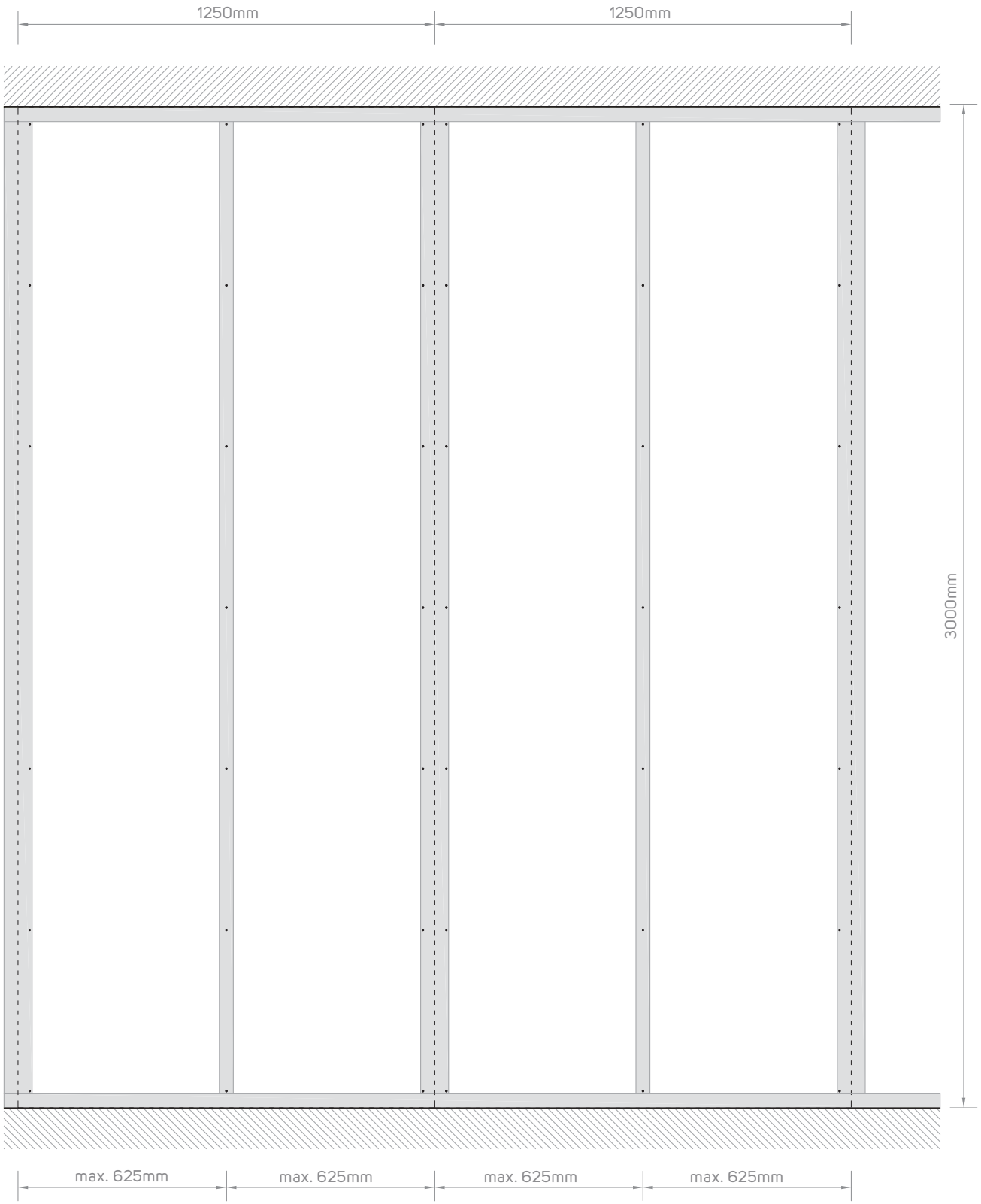


Profile CN54



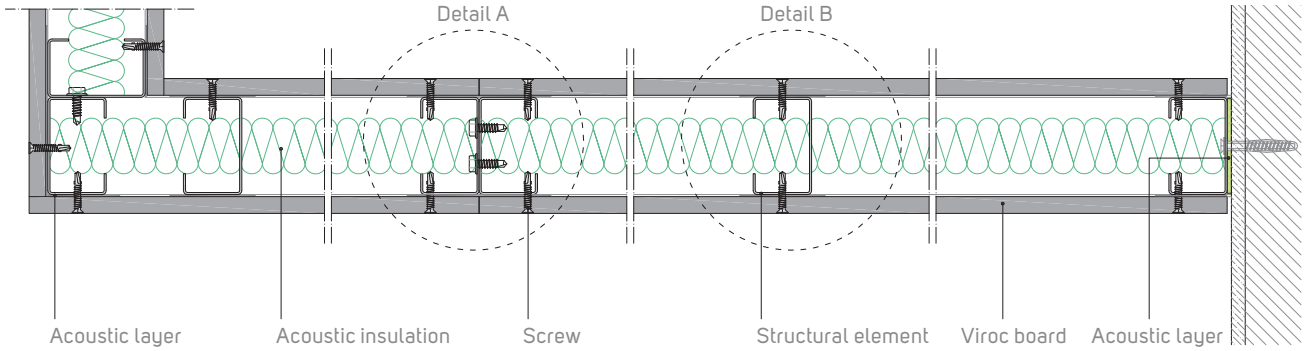
Wood: Class resistance C18 according to Standard EN338.

7.6 Support structure

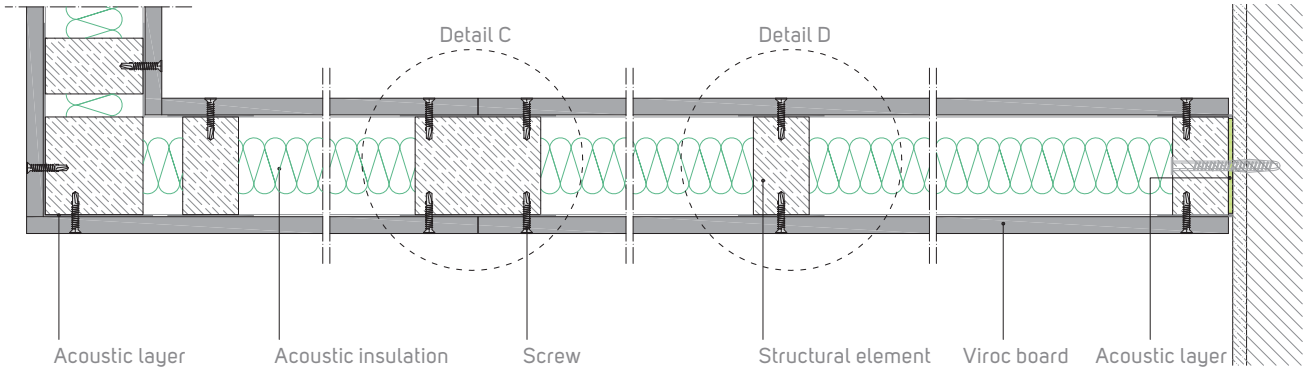


7.7 Horizontal sections

Metallic structure

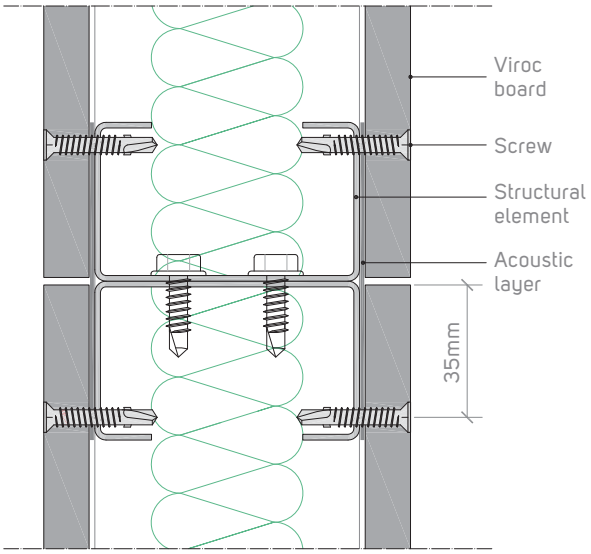


Wood structure

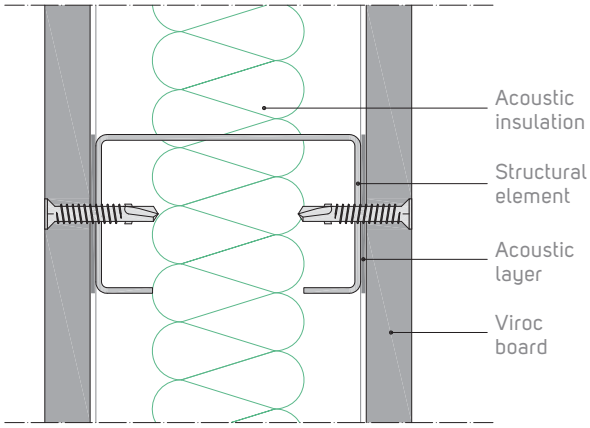


7.8 Horizontal sections (details)

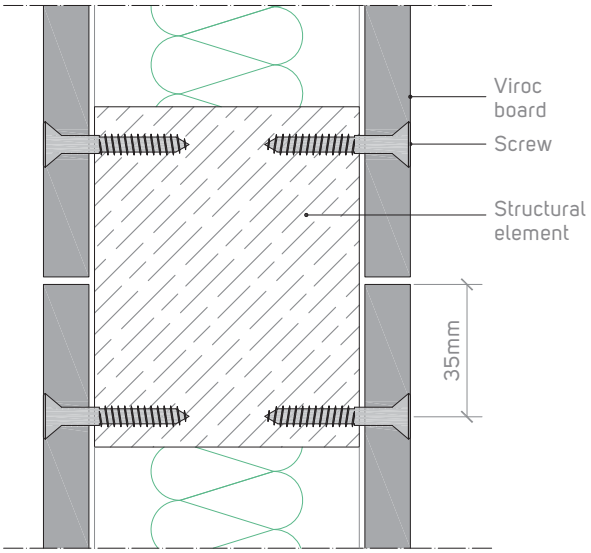
Detail A - Metallic structure
Fastening joints between boards



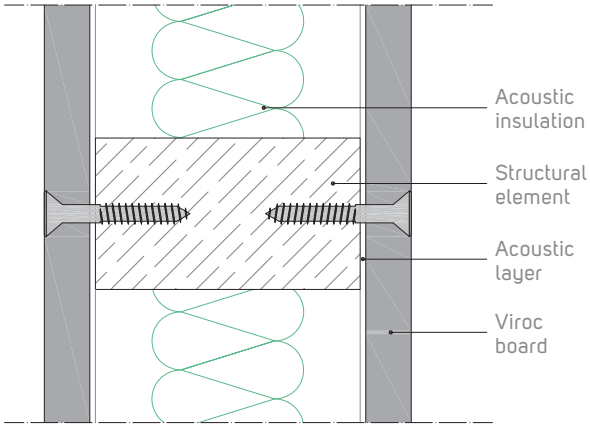
Detail B - Metallic structure
Fastenings in board central zone



Detail C - Wood structure
Fastening joints between boards

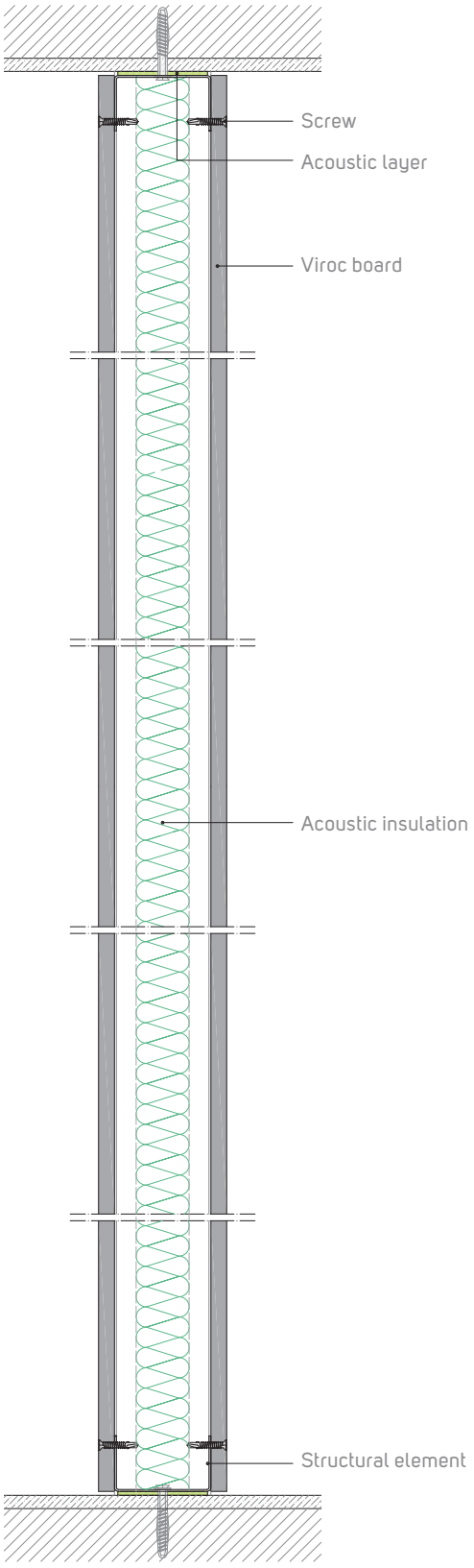


Detail D - Wood structure
Fastenings in board central zone

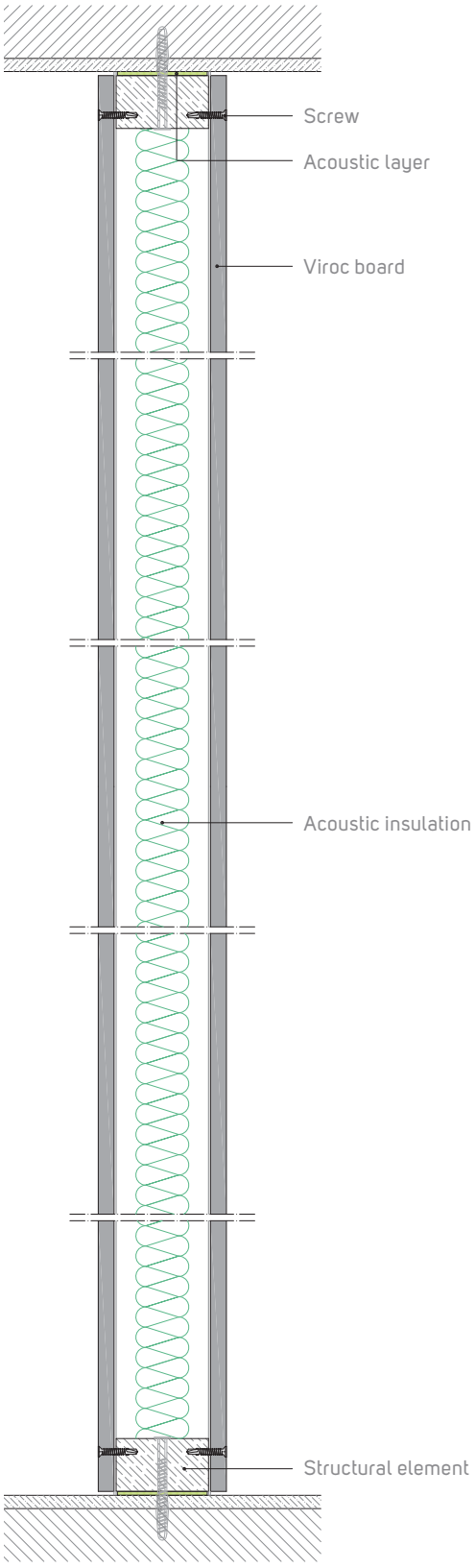


7.9 Vertical section

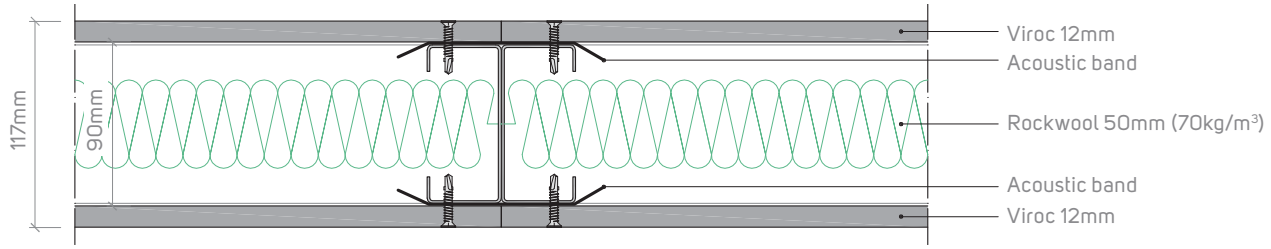
Metallic structure



Wood structure

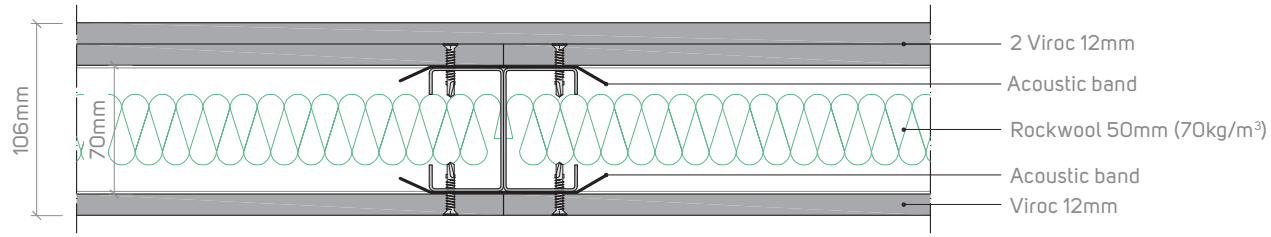


8. Sound insulation



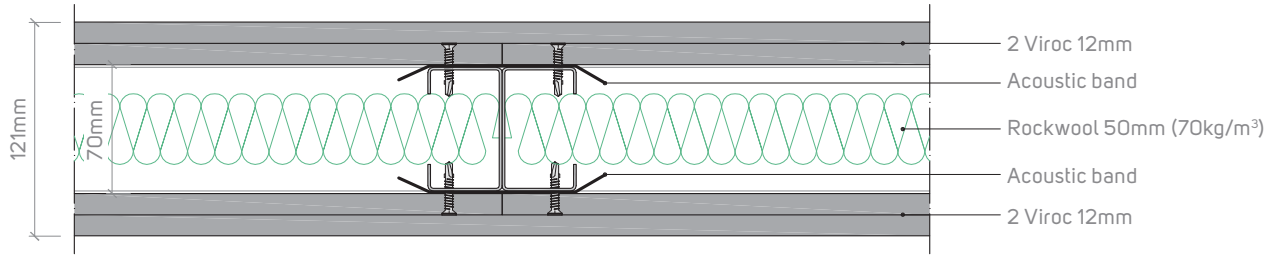
Airborne sound insulation index: Rw (C; Ctr) = **47** (-4; -11) dB - EN ISO 140-3

f (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	17.5	25.3	36.2	39.7	39.3	39.9	45.4	47.0	48.0	49.7	51.2	49.7	49.1	47.5	49.1	56.7	58.8	58.5



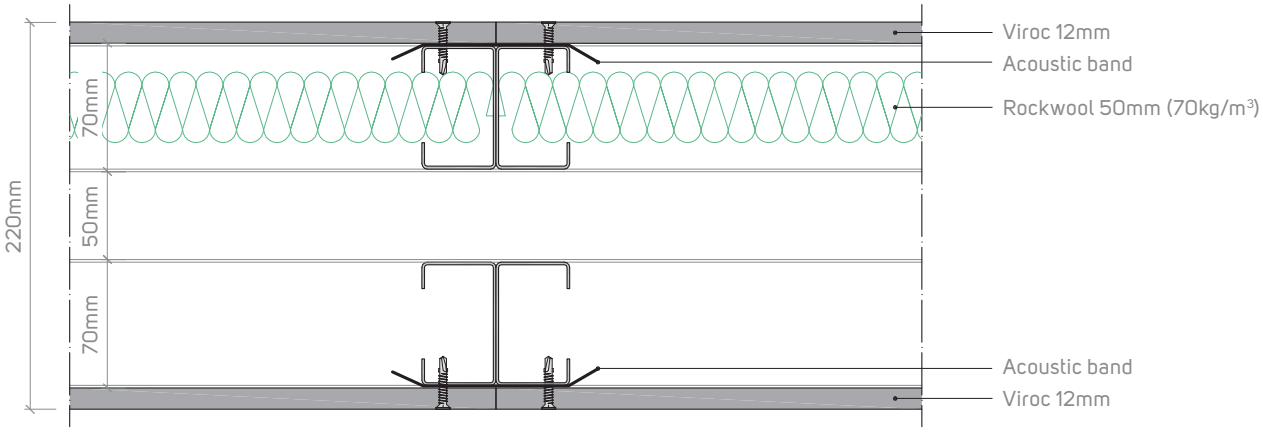
Airborne sound insulation index: Rw (C; Ctr) = **47** (-1; -1) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	17.5	25.3	36.2	39.7	39.3	39.9	45.4	47.0	48.0	49.7	51.2	49.7	49.1	47.5	49.1	56.7	58.8	58.5	47.5	48.1	50.8



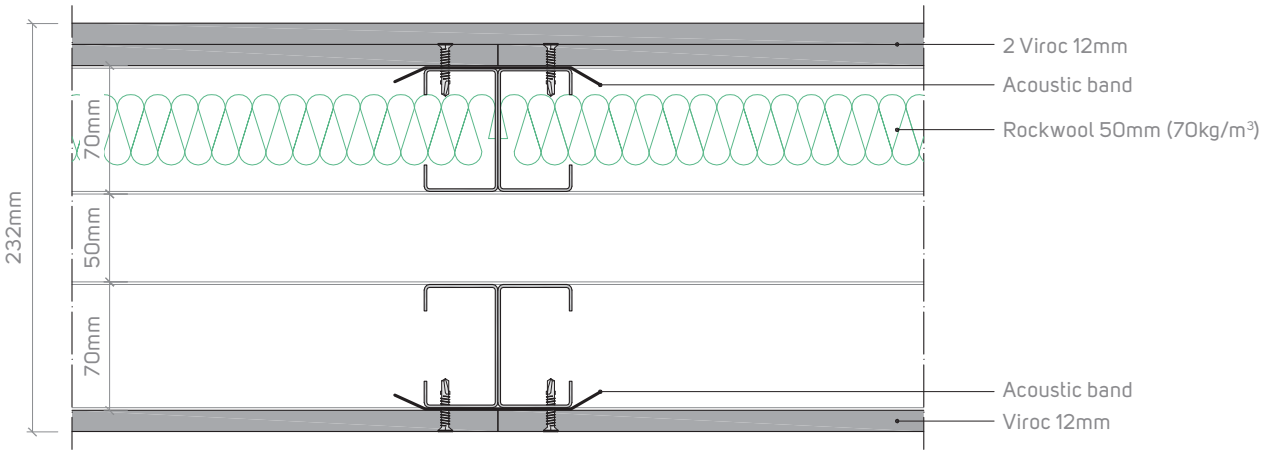
Airborne sound insulation index: Rw (C; Ctr) = **55** (-1; -5) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	27.2	20.6	24.0	34.6	42.5	44.5	46.8	48.1	50.6	51.8	51.1	53.0	54.4	55.2	55.8	56.6	56.2	54.1	57.0	56.4	56.2



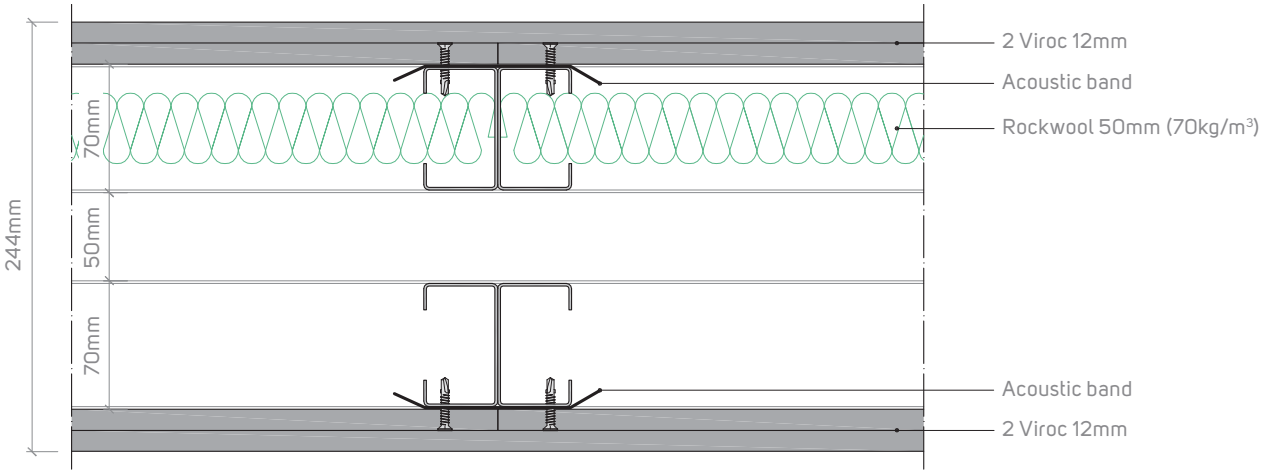
Airborne sound insulation index: Rw (C; Ctr) = **52** (-4; -13) dB - EN ISO 140-3

f (Hz)	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	19.4	32.0	34.3	38.2	44.9	45.9	49.4	54.3	56.0	58.1	62.0	62.4	63.1	59.5	60.3	61.9	60.8	58.0



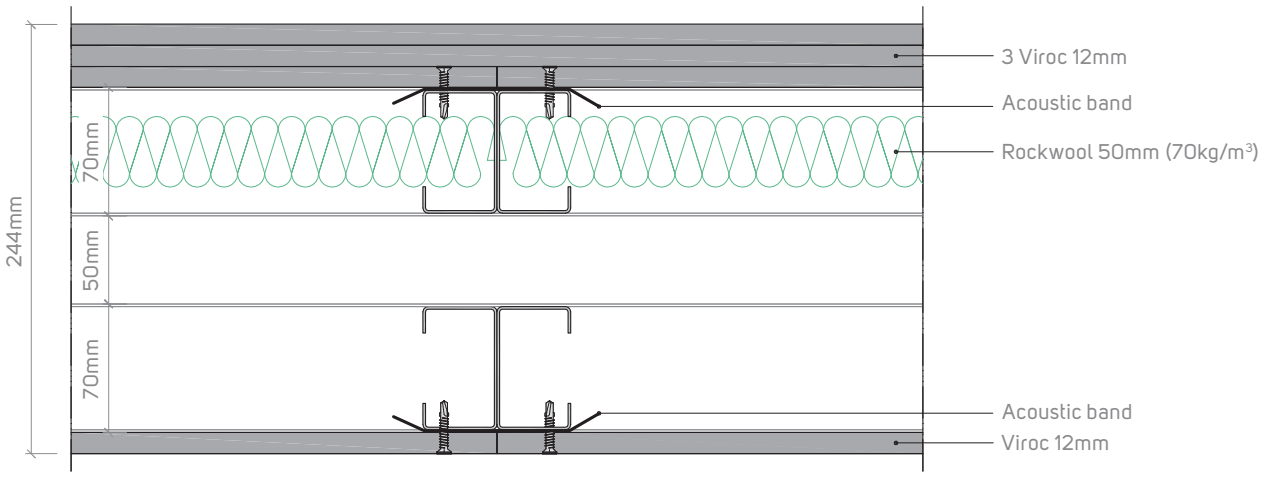
Airborne sound insulation index: Rw (C; Ctr) = **59** (-3; -11) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	28.2	22.9	33.1	29.1	40.7	43.7	46.4	50.7	53.3	56.8	57.3	60.3	63.4	66.5	68.8	69.2	67.2	62.4	64.2	65.4	65.2



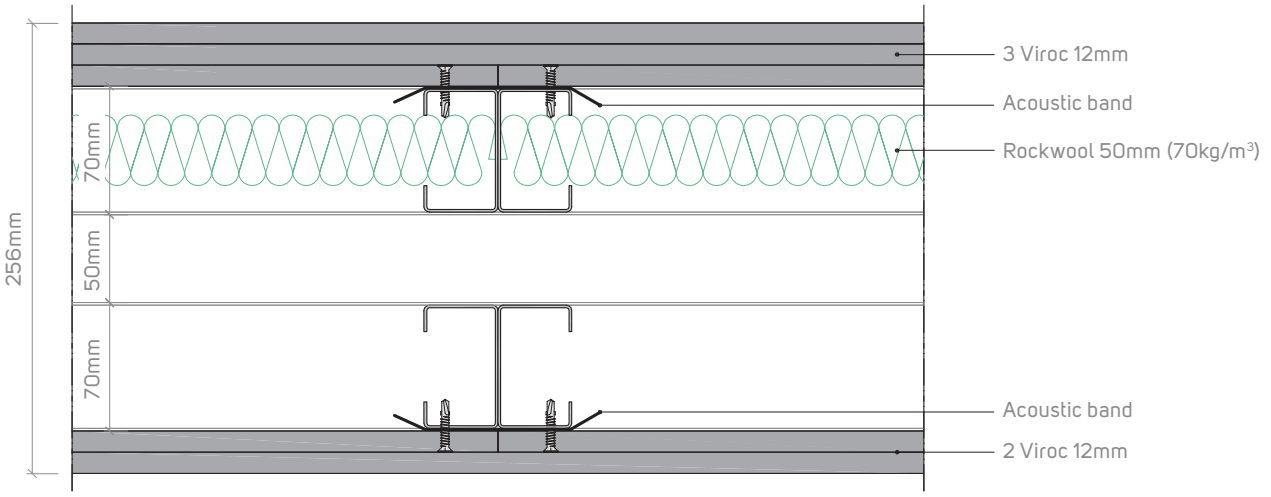
Airborne sound insulation index: Rw (C; Ctr) = **62** (-2; -7) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	26.6	27.6	33.4	36.9	45.1	47.5	50.8	52.9	55.9	58.8	57.6	60.4	63.9	66.7	70.7	71.7	71.9	68.6	70.4	71.2	68.7



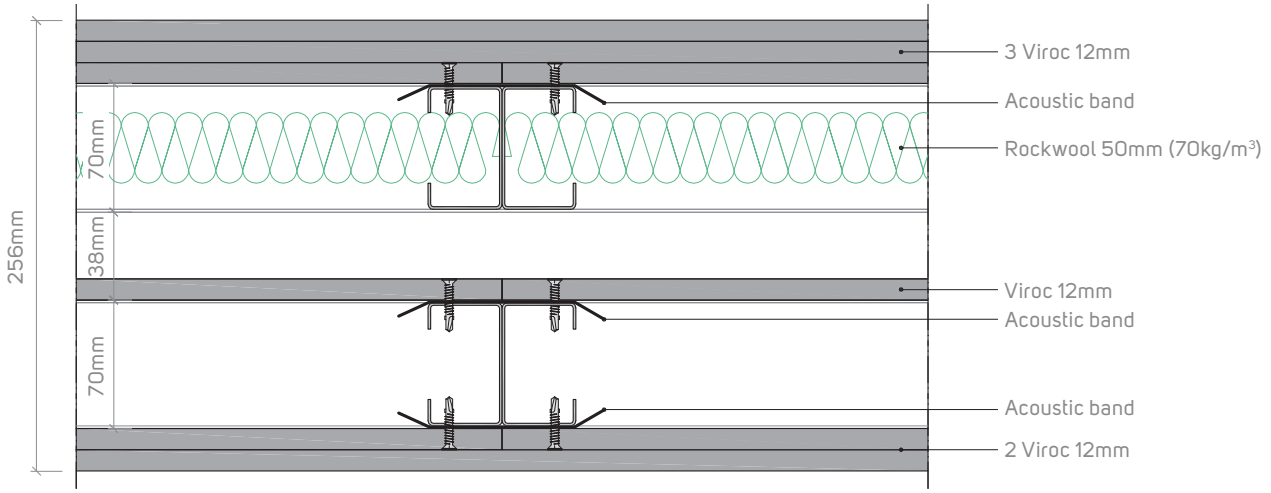
Airborne sound insulation index: Rw (C; Ctr) = **61** (-4; -11) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	29.2	26.9	34.9	31.6	41.3	46.0	49.6	52.0	54.3	56.9	57.4	60.5	63.6	66.8	70.3	70.9	70.1	65.1	66.9	67.2	65.5



Airborne sound insulation index: Rw (C; Ctr) = **64** (-2; -7) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	36.0	34.8	40.9	40.6	46.9	50.4	52.9	53.7	55.9	59.3	58.4	61.1	64.1	67.2	71.8	73.0	73.9	70.8	72.2	71.9	69.4



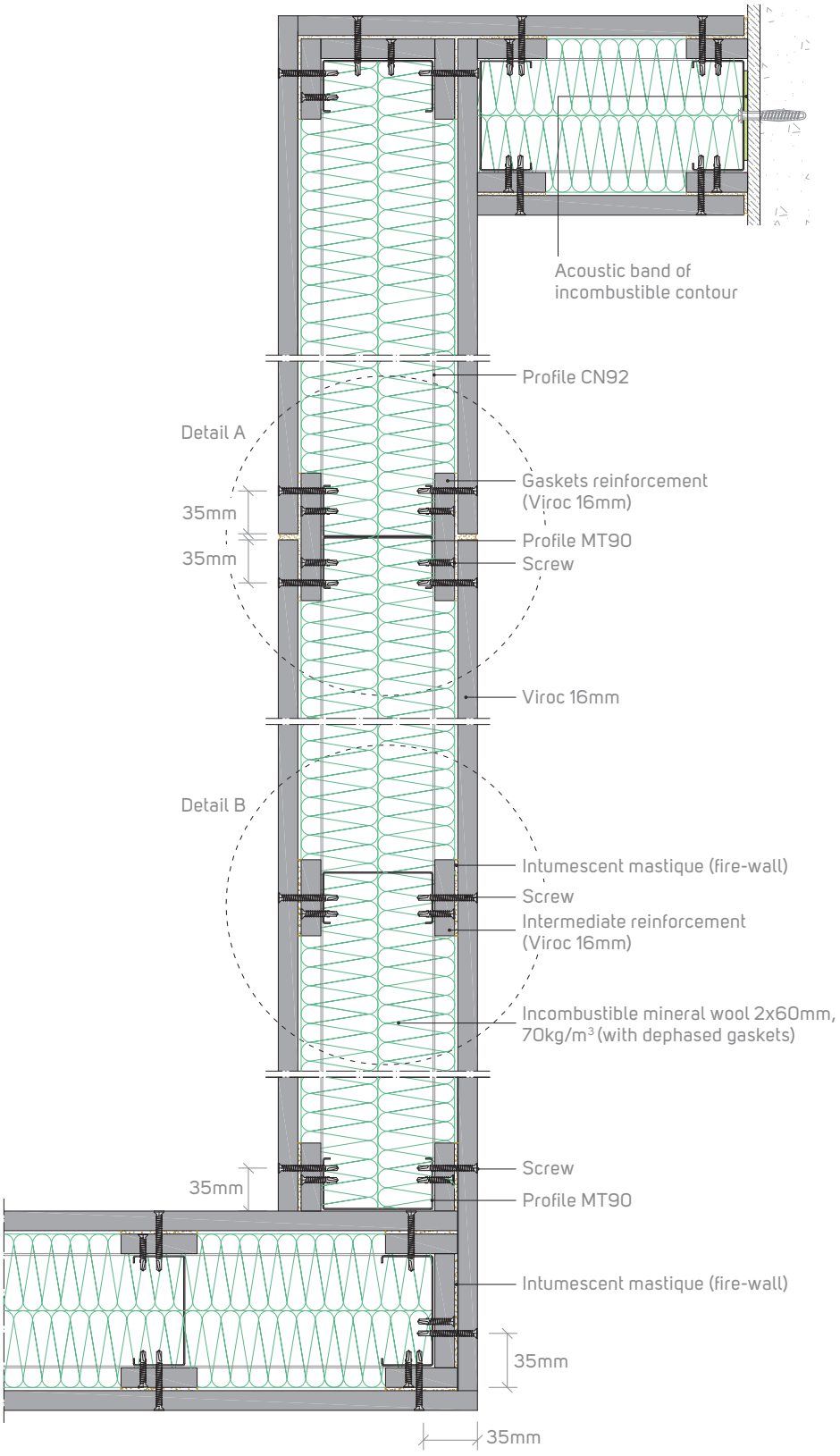
Airborne sound insulation index: Rw (C; Ctr) = **65** (-2; -7) dB - EN ISO 140-3

f (Hz)	50	63	80	100	125	160	200	250	315	400	500	630	800	1000	1250	1600	2000	2500	3150	4000	5000
R(dB)	32.8	28.8	32.6	41.7	46.5	51.0	54.6	55.4	57.6	59.5	58.4	61.8	64.8	67.2	71.8	73.0	73.3	73.5	73.6	71.3	68.2

9. Fire resistance - EI90 (EN 13501-2)

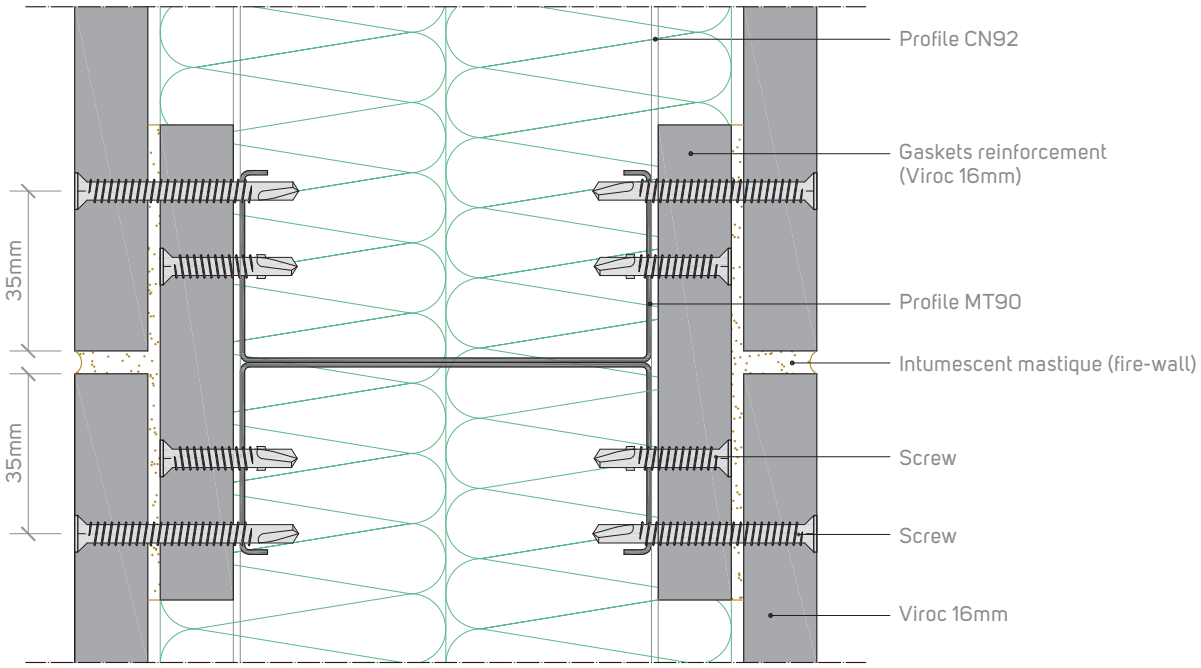
Solution	Sealing	Insulation
EI90	96 min.	96 min.

9.1 Plan section

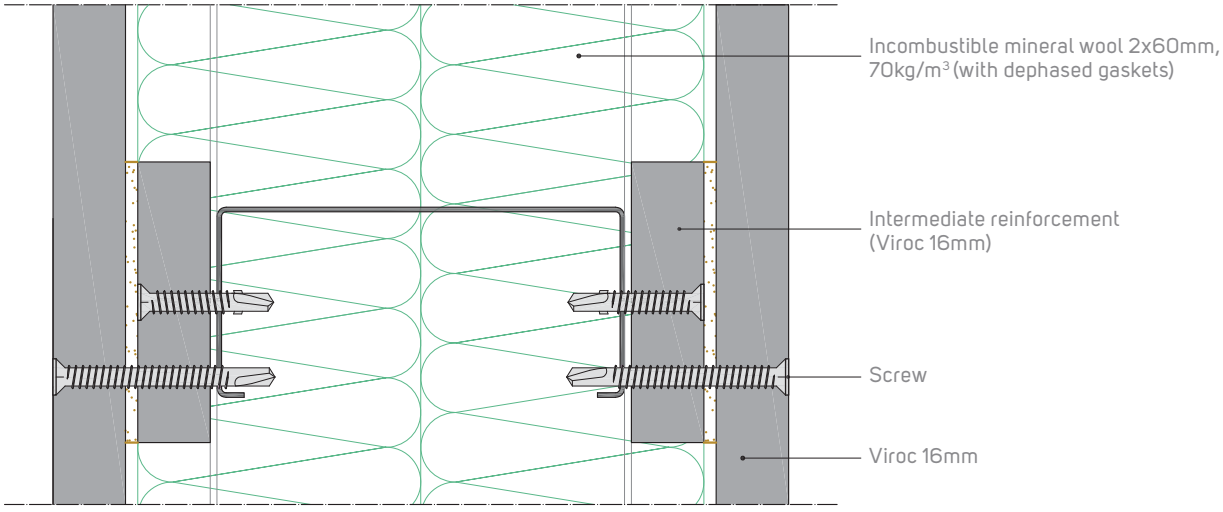


9.2 Plan section - Details

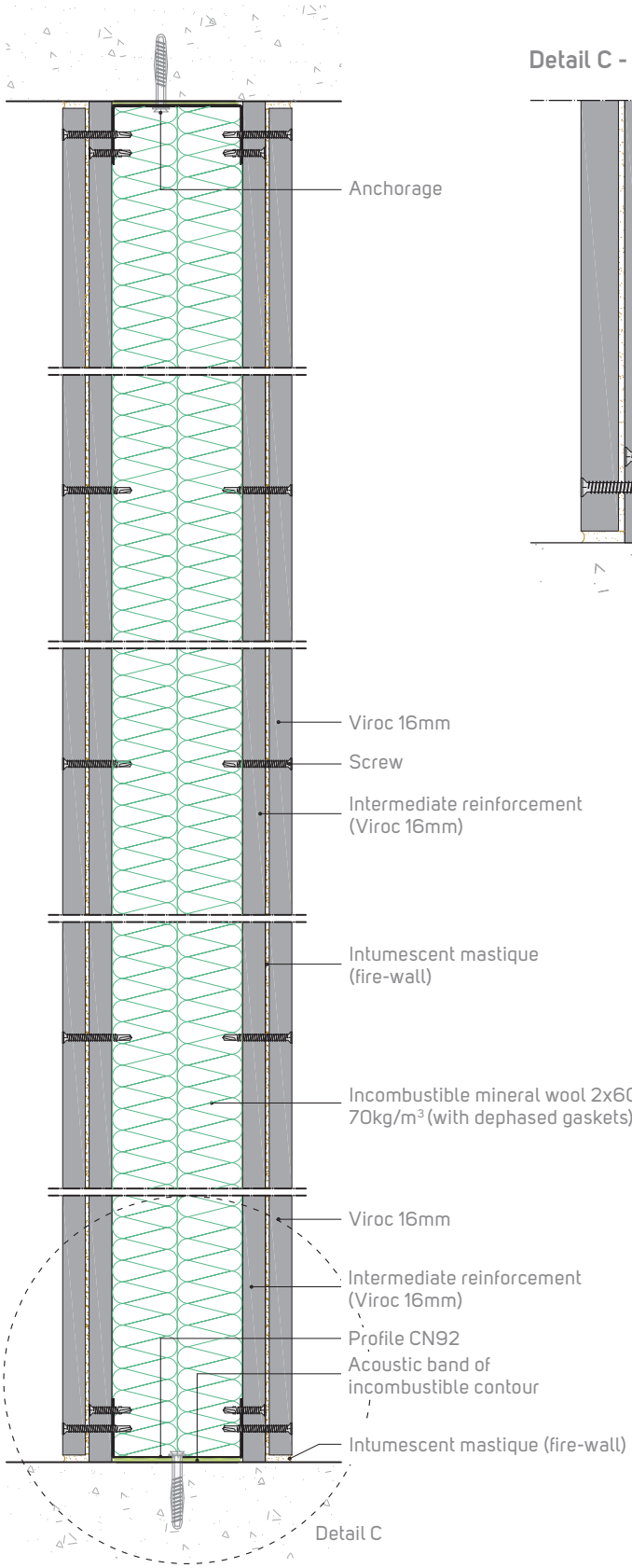
Detail A - Fastening joints between boards



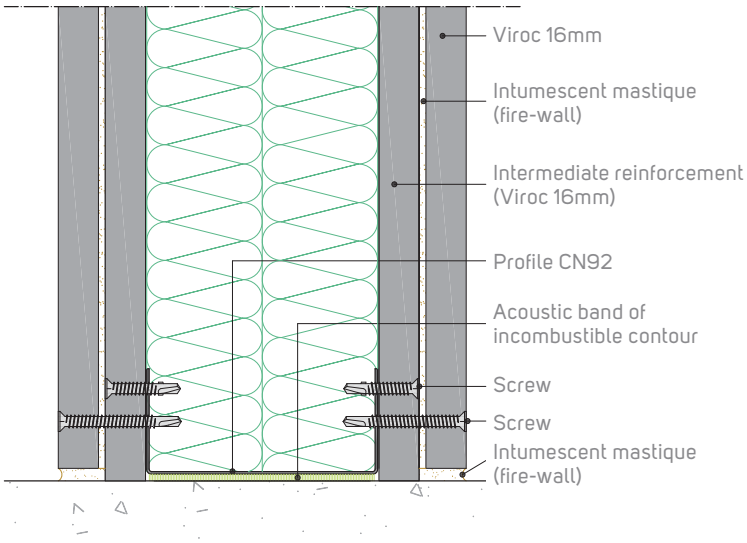
Detail B - Fastenings in the board central zone



9.3 Vertical section



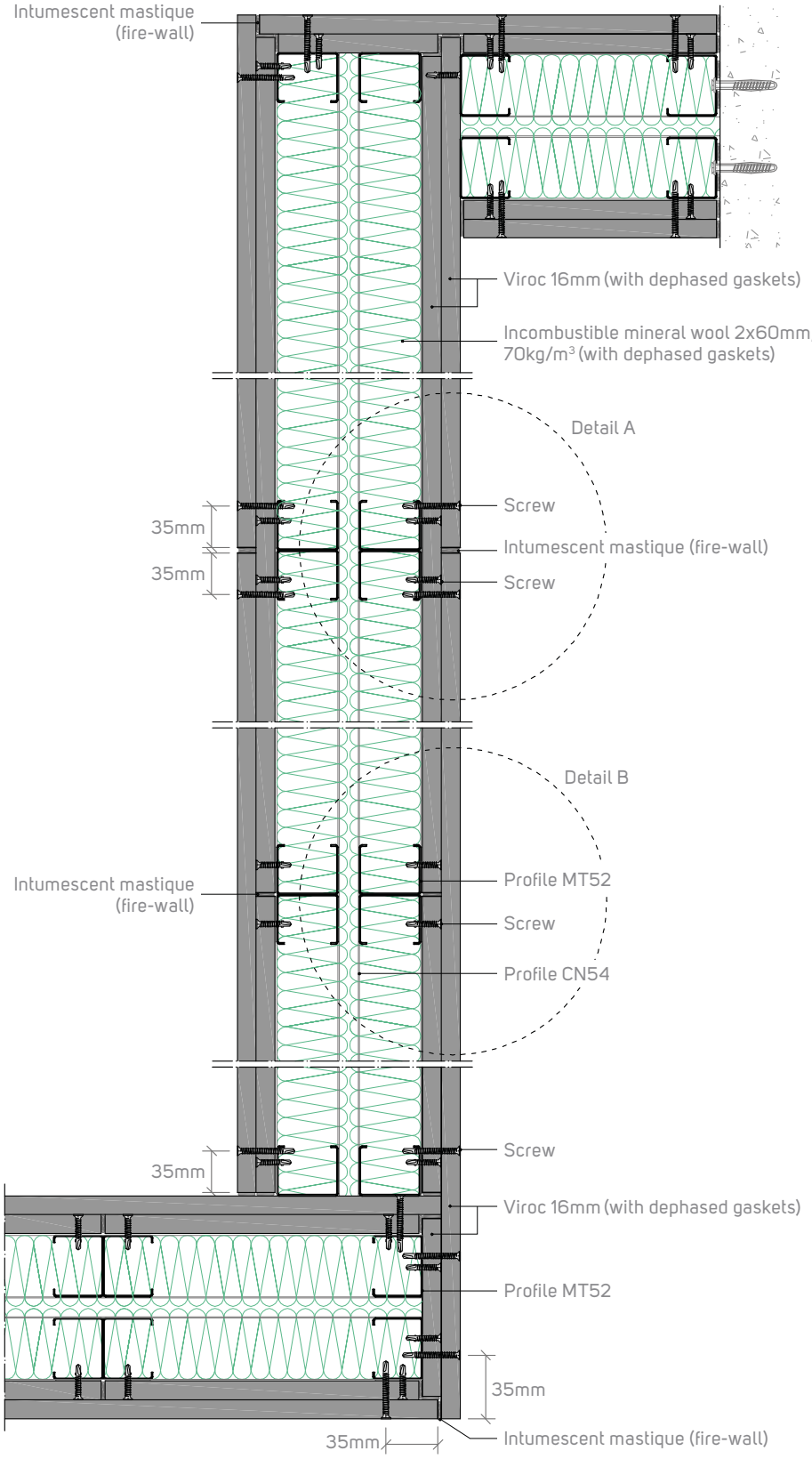
Detail C - Fastening of the board to the slab



10. Fire resistance - EI120 (EN 13501-2)

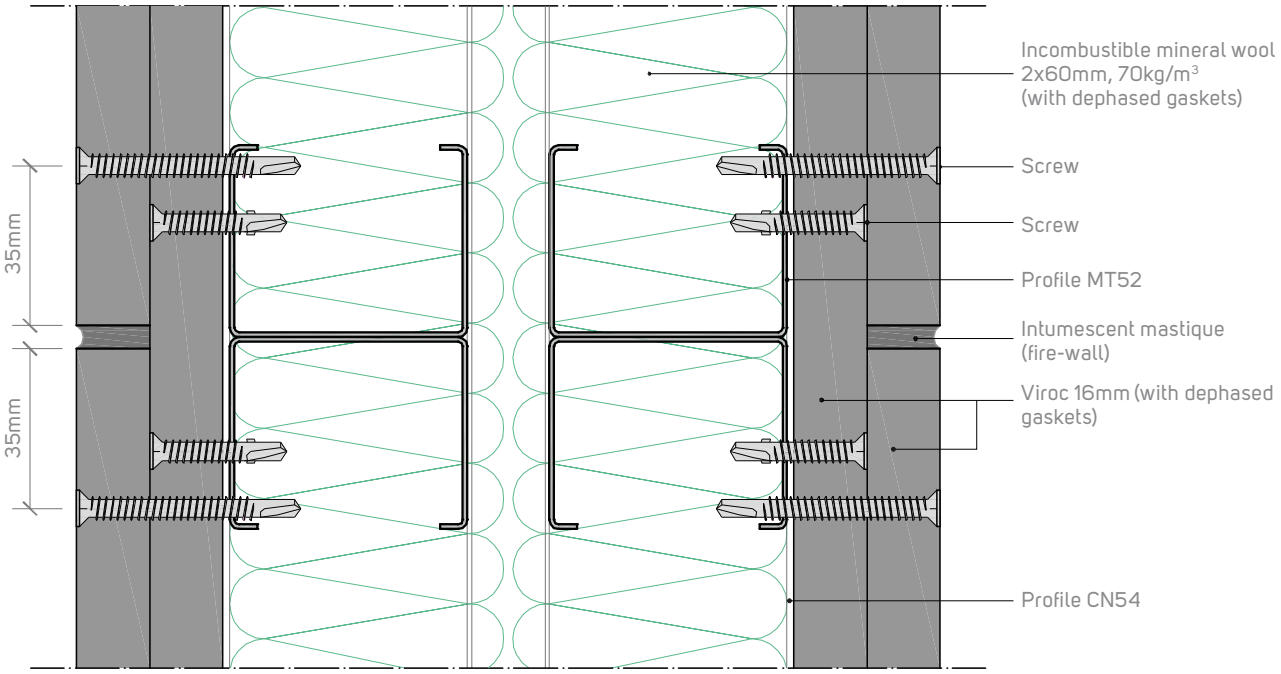
Solution	Sealing	Insulation
EI120	159 min.	159 min.

10.1 Plan section

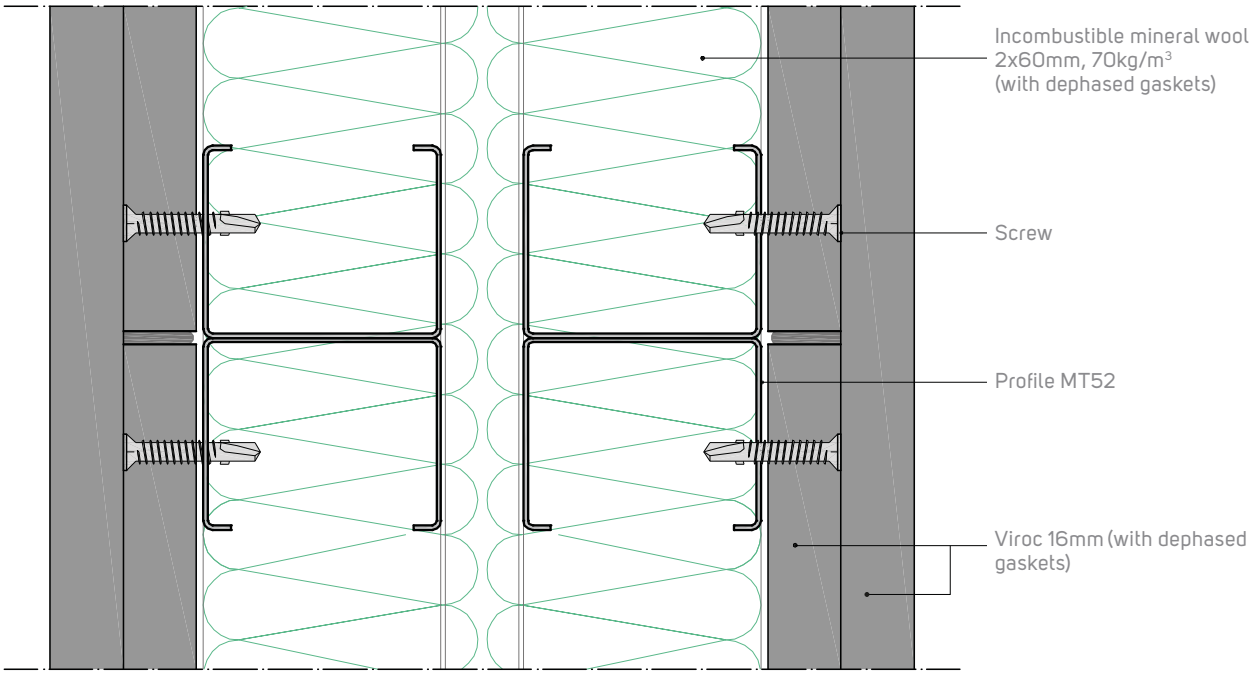


10.2 Plan section - Details

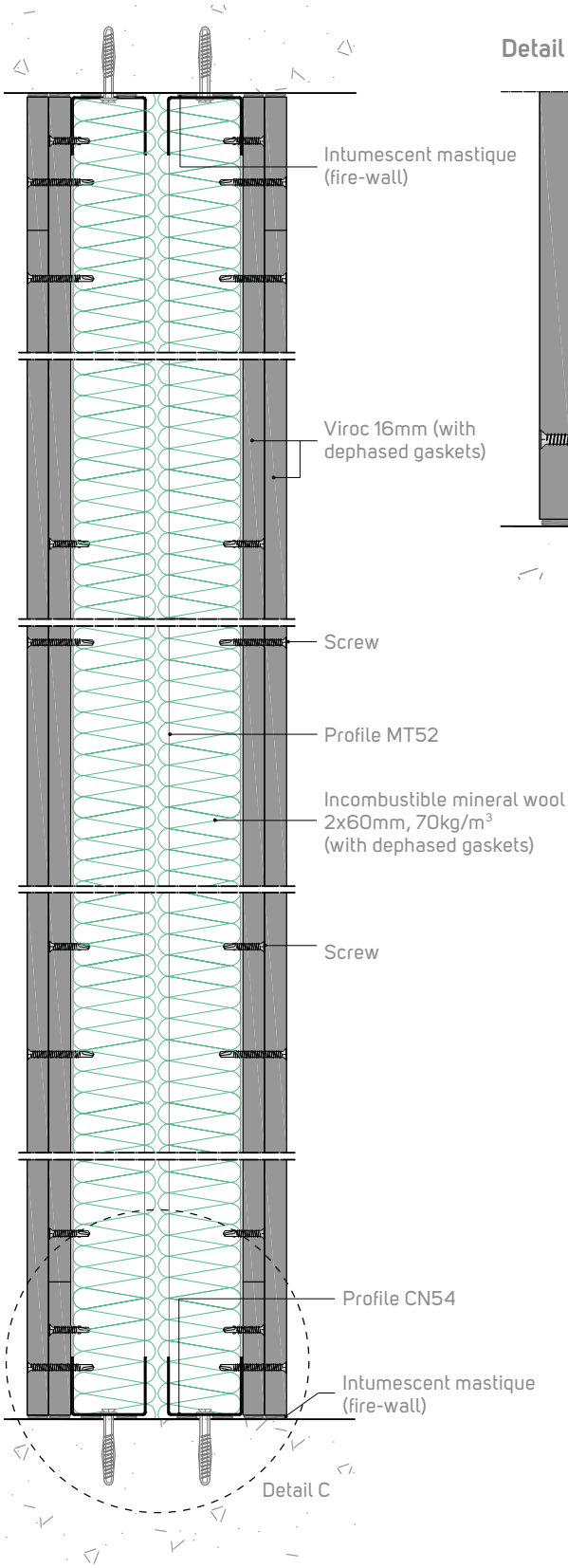
Detail A - Fastening joints between boards



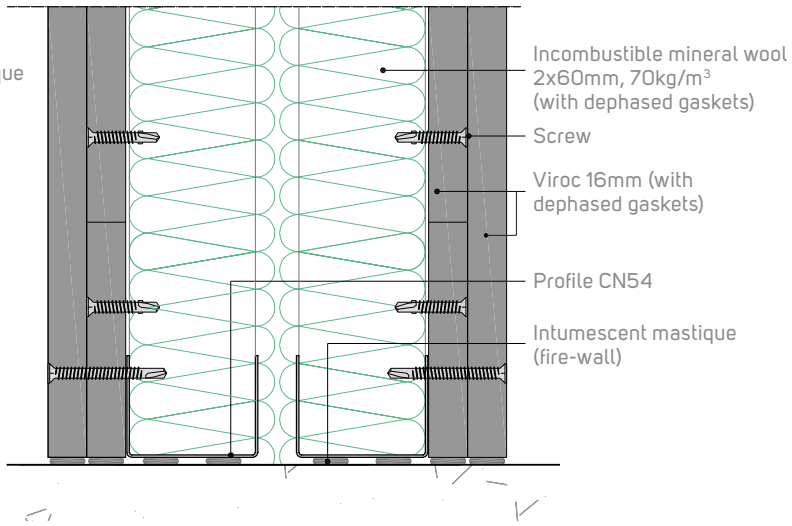
Detail B - Fastenings in the board central zone



10.3 Vertical section

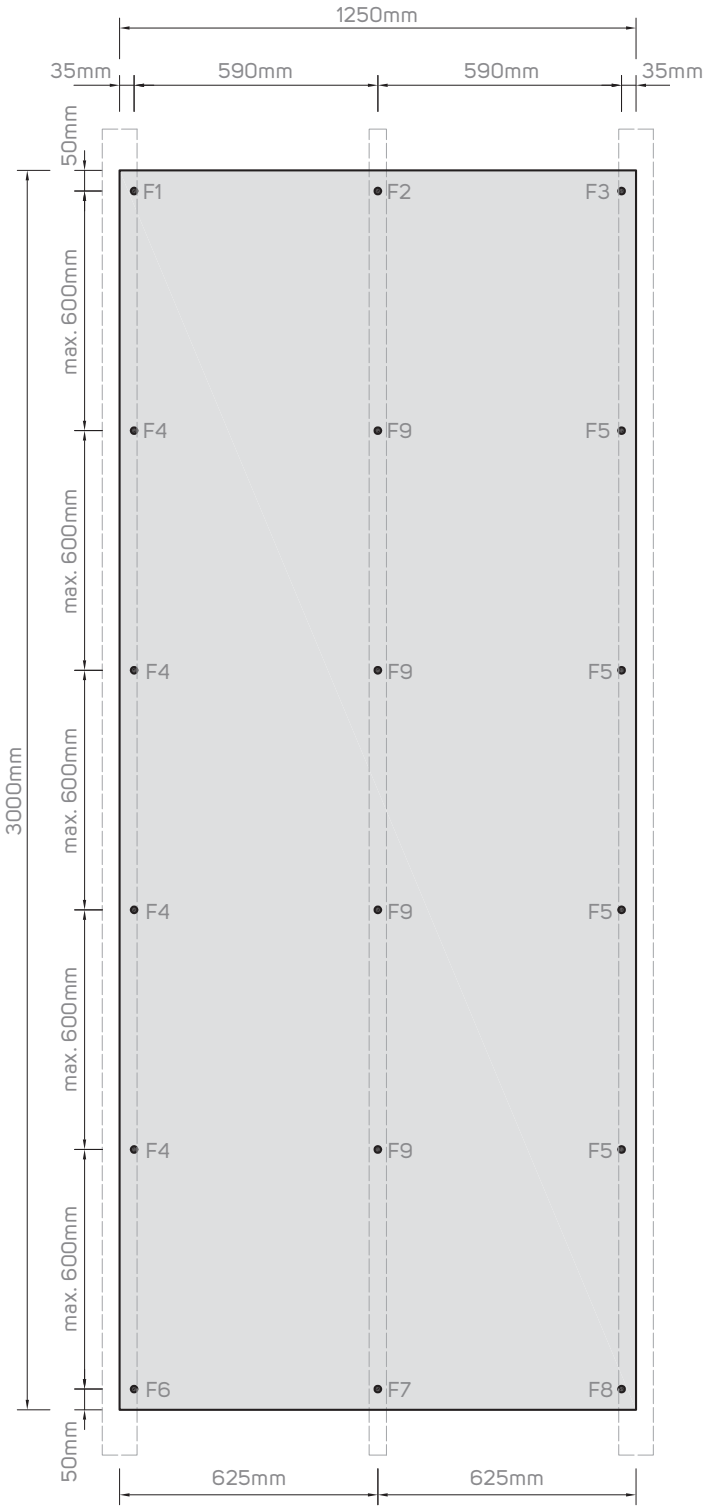


Detail C - Fastening of the board to the slab

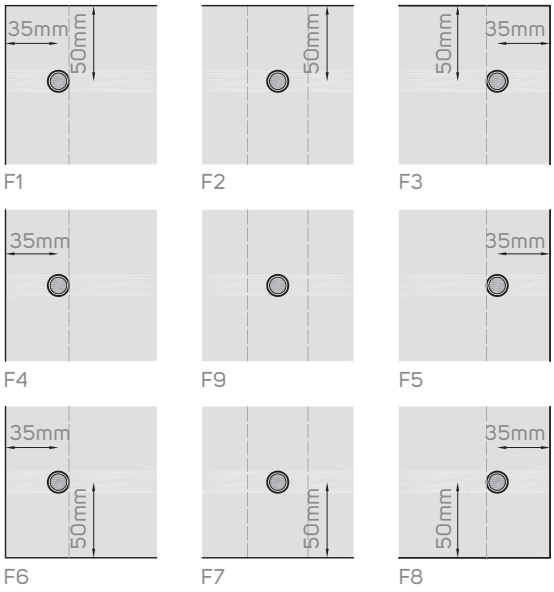


11. Walls cladding

11.1 Board fastening

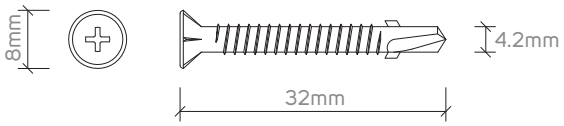


11.2 Distances to edges

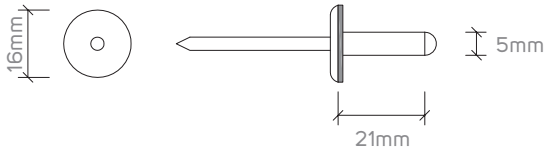


11.3 Fastening elements for metallic structure

IMET C8-4.2x32

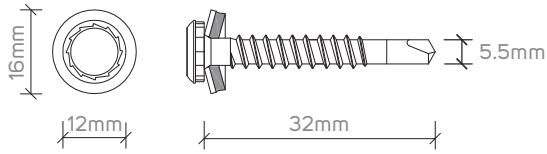


Rivet C16-5x21

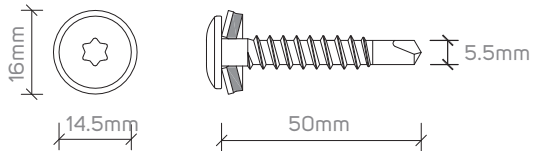


Alternative screws for metallic structure

EMET V12-A16-5.5x32

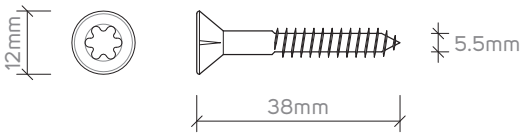


EMET C14-A16-5.5x50

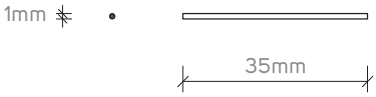


11.4 Fastening elements for wood structure

IMAD C12-5.5x38

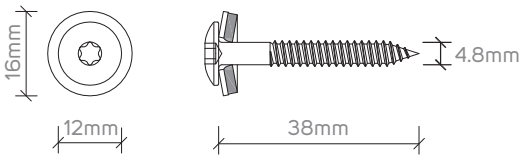


NAIL 1x35



Alternative screw for wood structure

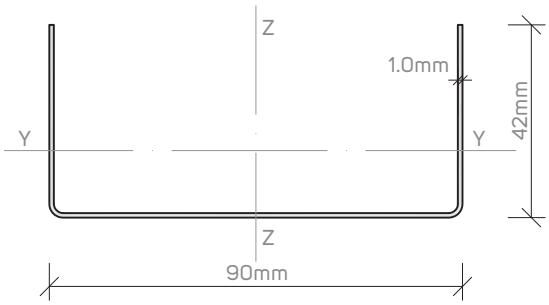
EMAD C12-A16-4.8x38



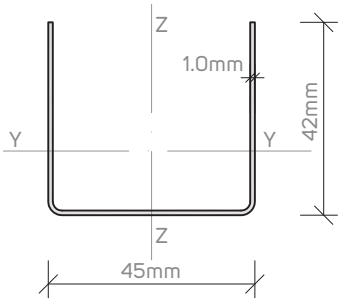
11.5 Profiles

Steel: Profile thickness should be 1mm minimum, galvanized a according to Standard EN10326 Class Z 275 minimum.

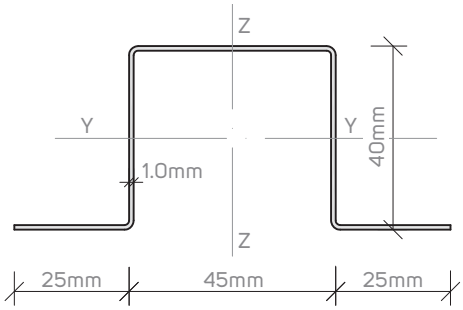
Profile U90 - 42x90x42



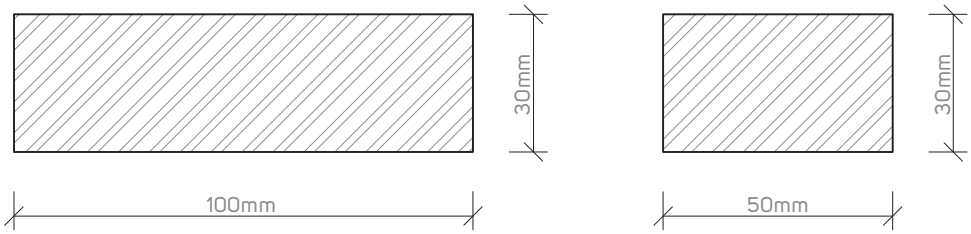
Profile U45 - 42x45x42



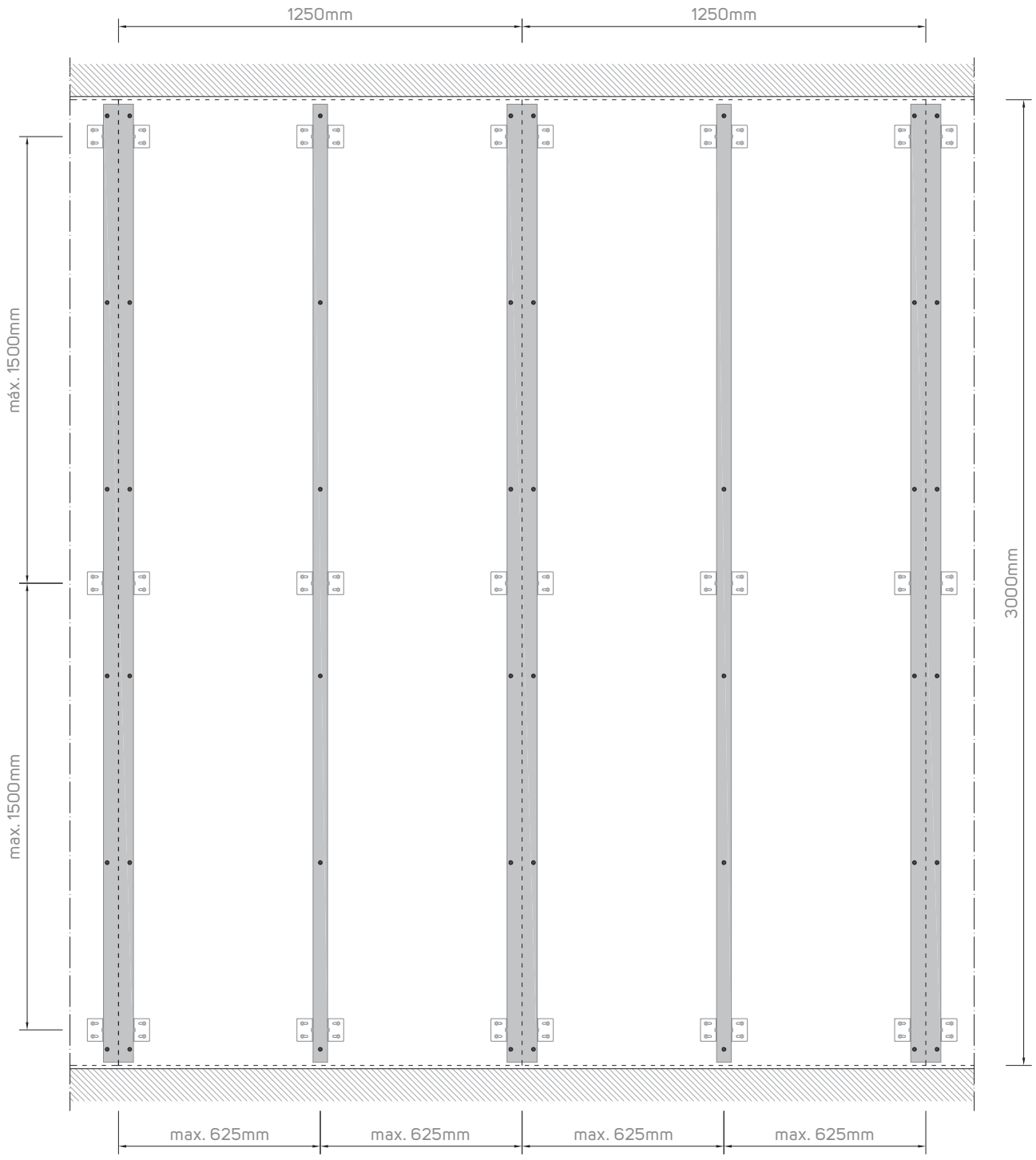
Profile Omega45 - 25x40x45x40x25



Wood: Class resistance C18 according to Standard EN338.

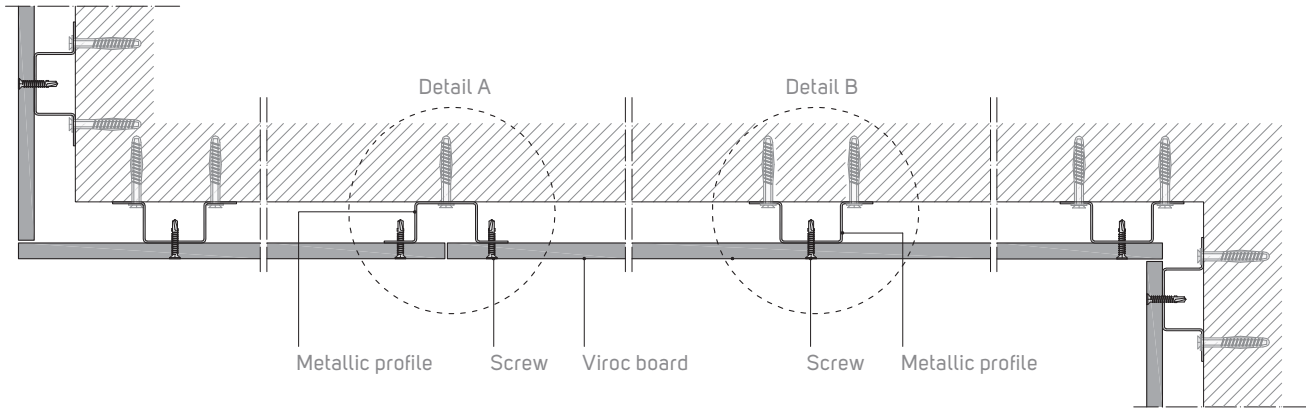


11.6 Support structure

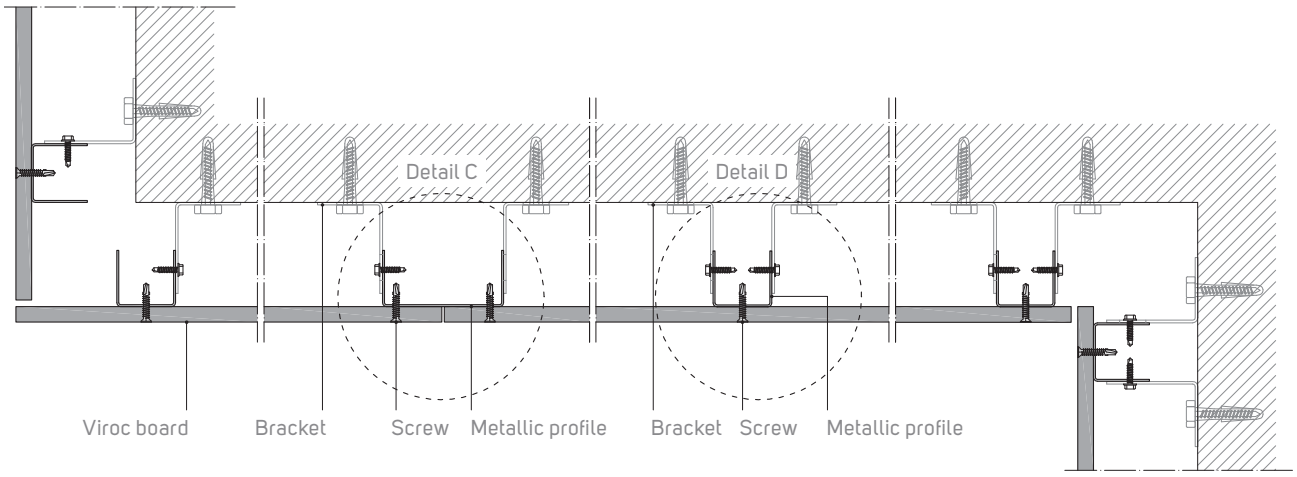


11.7 Horizontal sections

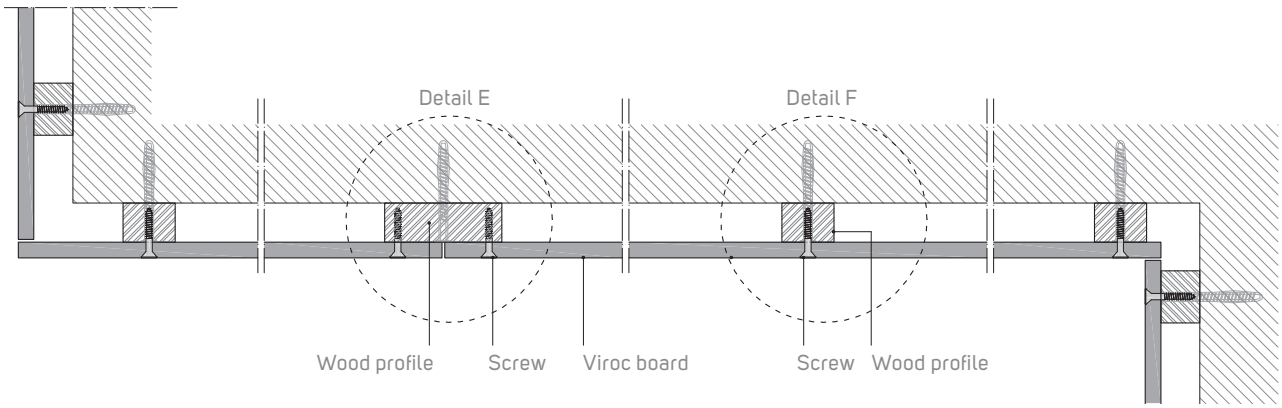
Steel structure



Steel structure (alternative)

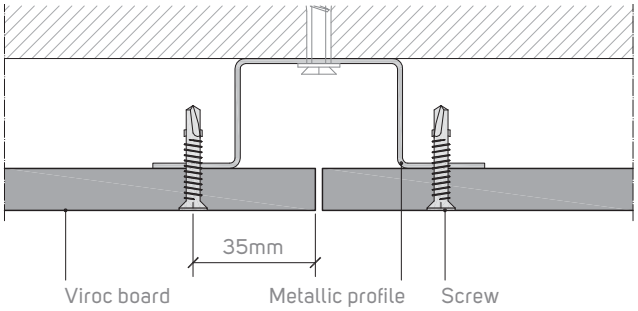


Wood structure

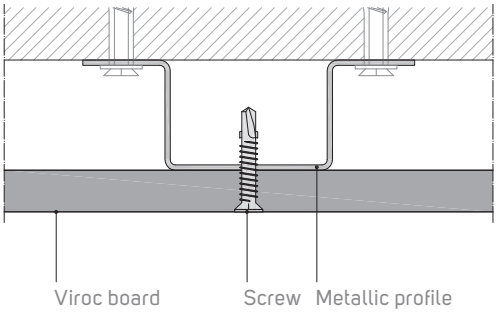


11.8 Horizontal sections (details)

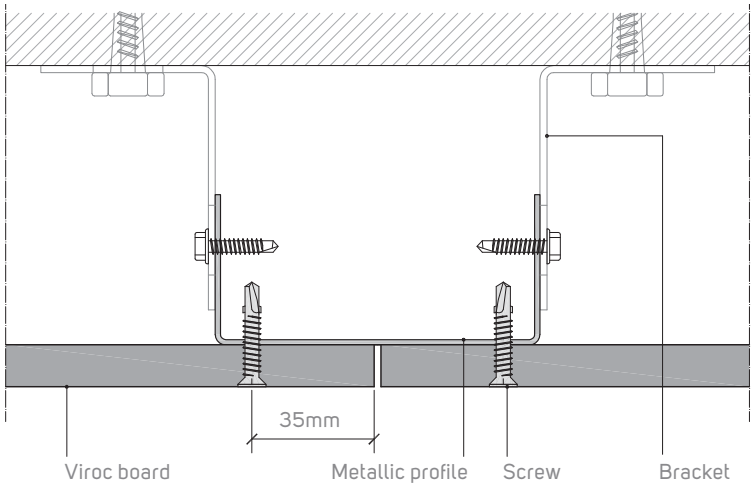
Detail A (steel structure)
Joints between boards



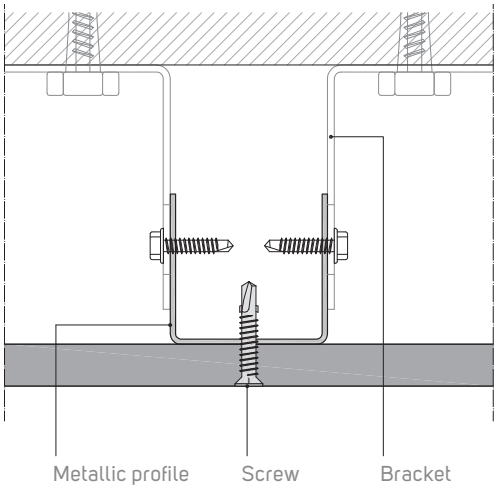
Detail B (steel structure)
Board central zone



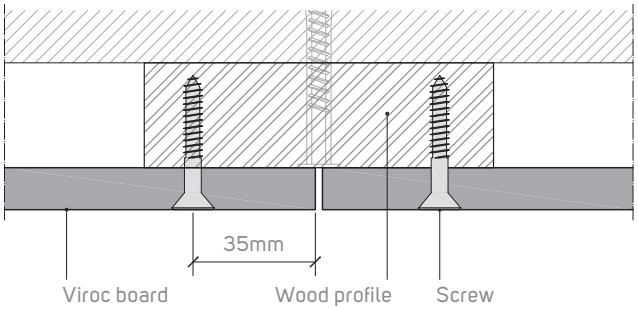
Detail C (steel structure, alternative)
Joints between boards



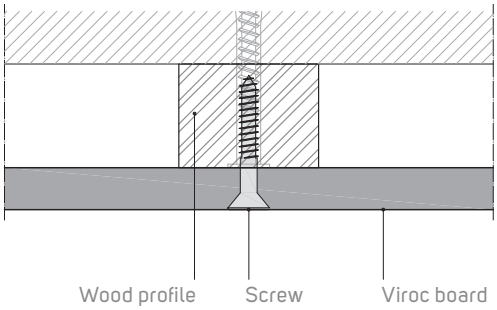
Detail D (steel structure, alternative)
Board central zone



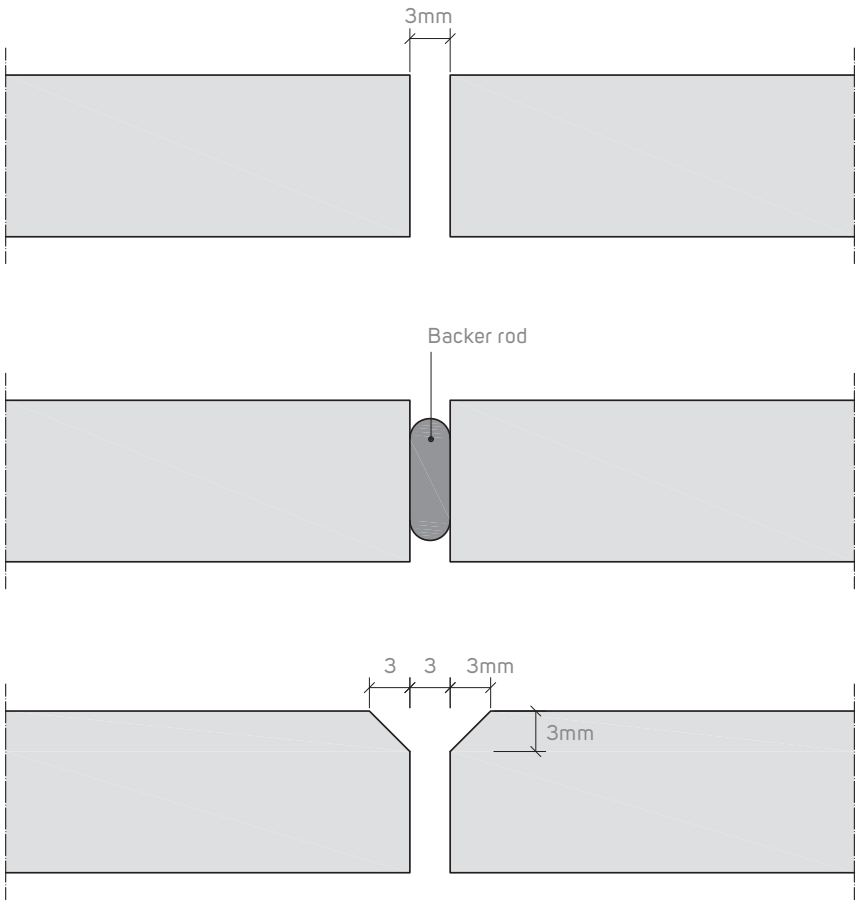
Detail E (wood structure)
Joints between boards



Detail F (wood structure)
Board central zone

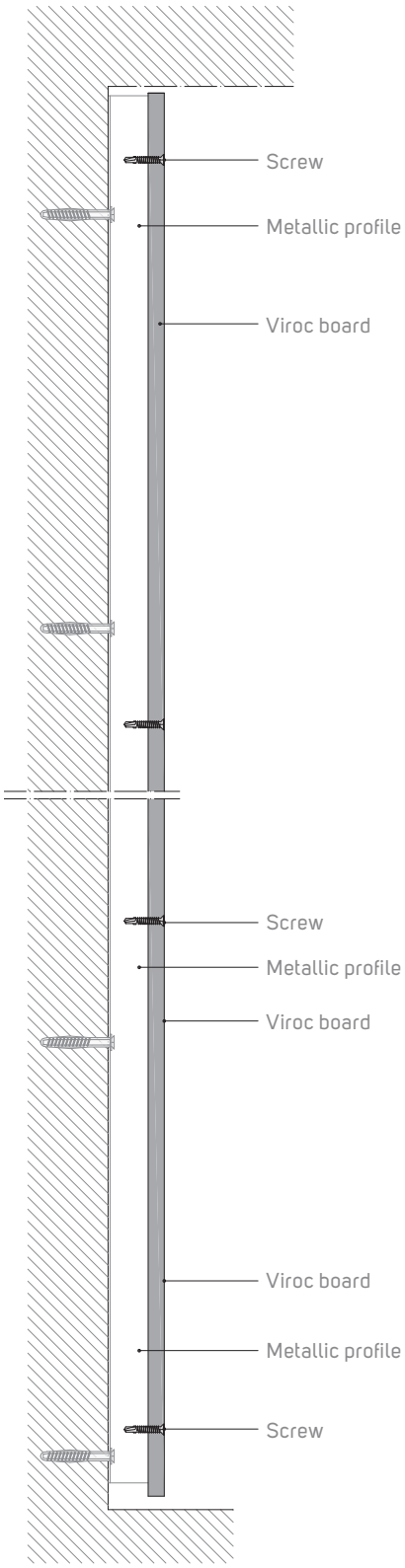


Detail of the joint

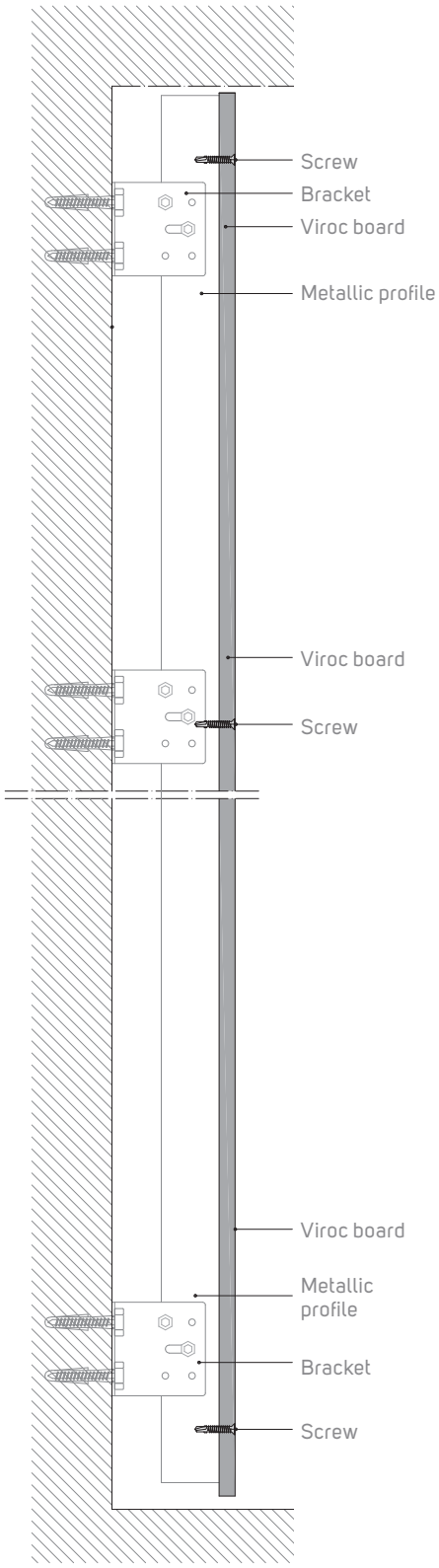


11.9 Vertical sections

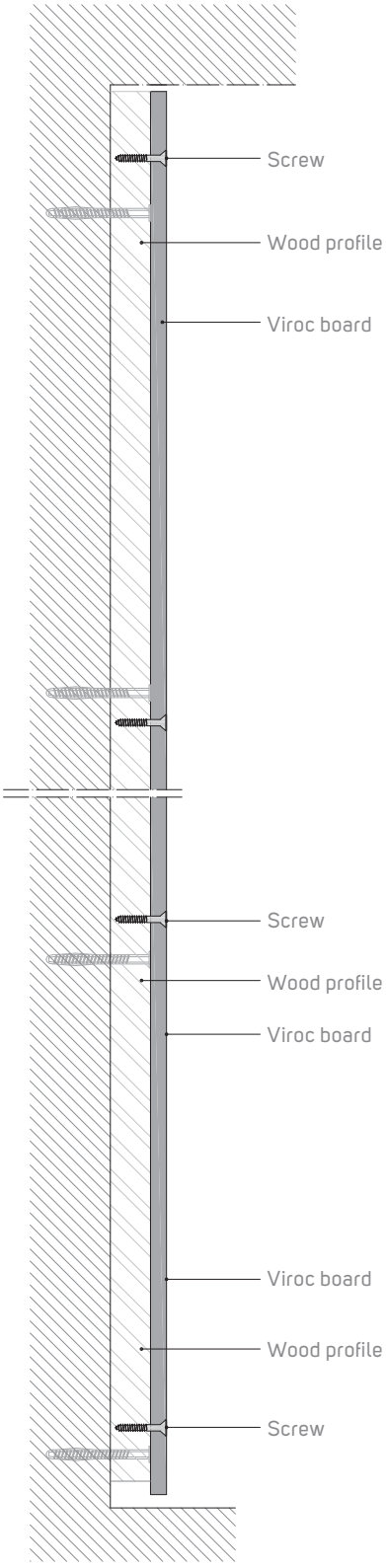
Steel structure



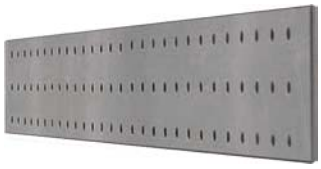
Steel structure (alternative)



Wood structure



Perforated Board



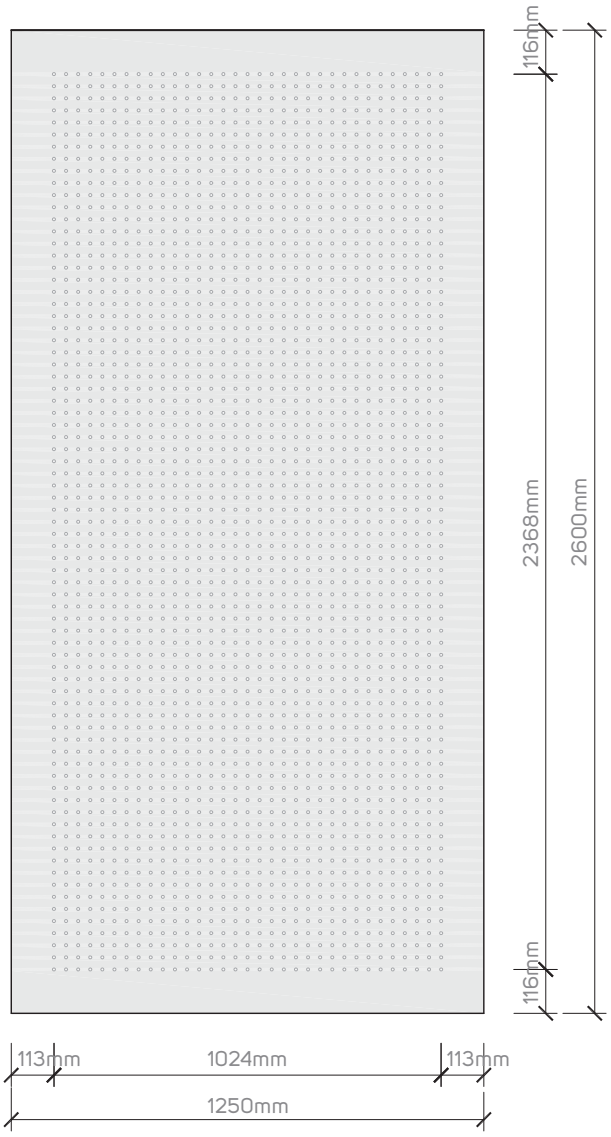
Dimension: 2600x1250mm

Holes: 2475

Diameters of holes: 8 mm

Wheelbase: 32 mm

Perforation rate: 3,83%



Perforated Board

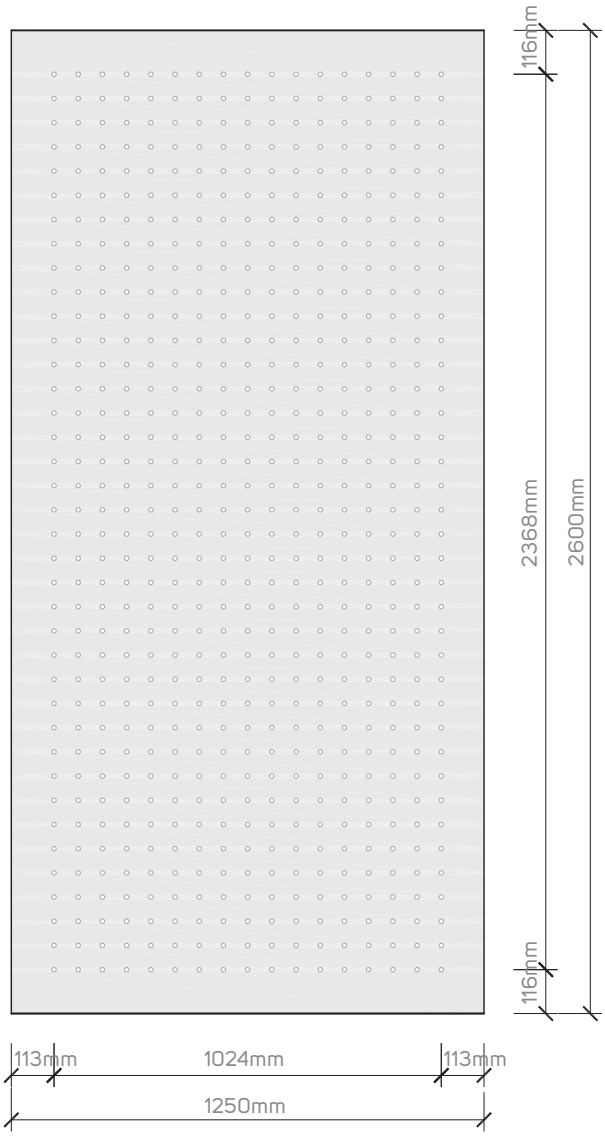
Dimension: 2600x1250mm

Holes: 646

Diameters of holes: 12 mm

Wheelbase: 64 mm

Perforation rate: 2,25%



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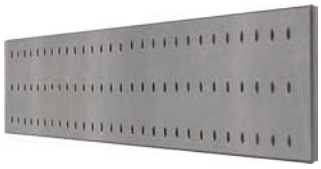
Perforated Board



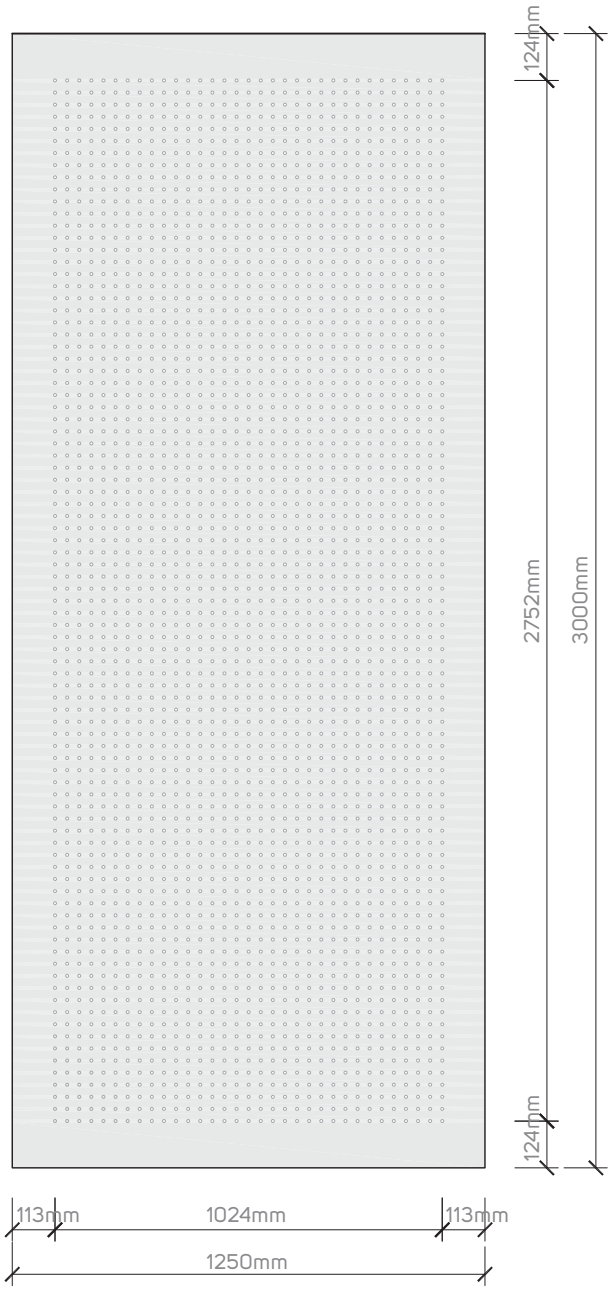
Dimension: 3000x1250mm

Holes: 2871

Diameters of holes: 8 mm

Wheelbase: 32 mm

Perforation rate: 3,85%



Perforated Board

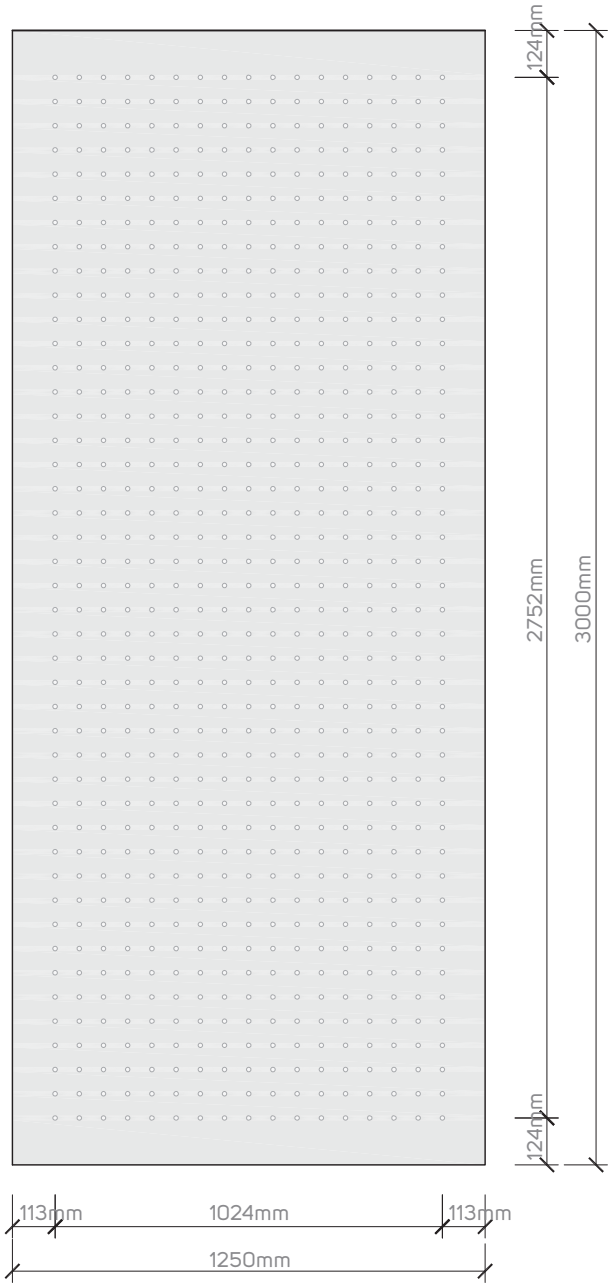
Dimension: 3000x1250mm

Holes: 748

Diameters of holes: 12 mm

Wheelbase: 64 mm

Perforation rate: 2,26%



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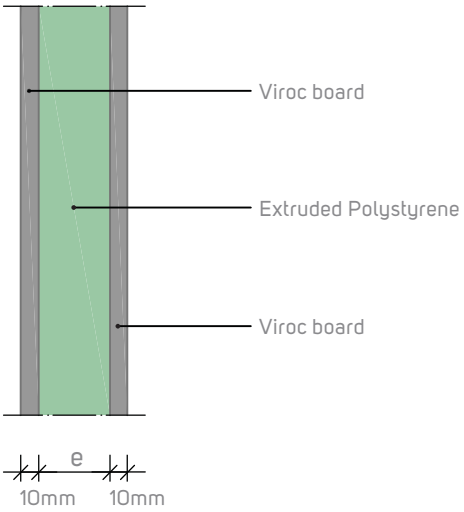
Sandwich Board



e (mm)	Board	Dimension	Weight (Kg)
40	10-40-10	2400x550x66 mm	29,40
50	10-50-10	2400x550x76 mm	29,70
60	10-60-10	2400x550x86 mm	30,10
80	10-80-10	2400x550x106 mm	30,80

Thermal properties

e (mm)	Designation	Kcal/h.m².ºC	W/m².ºC
40	10-40-10	0,45	0,52
50	10-50-10	0,37	0,44
60	10-60-10	0,32	0,38
80	10-80-10	0,25	0,29

Load for L/250 | Kg/m²

e (mm)	Designation	1200mm	800mm	600mm
40	10-40-10	464	1083	1170
50	10-50-10	496	1166	1440
60	10-60-10	680	1453	1600
80	10-80-10	740	1606	1893

Reaction to fire: B-s2, d0

Tests performed with CVXV Calister sandwich board