

METFRAME SYSTEM GUIDE

England and Wales

TRUST

MetWALL Perform, our 30 year wall performance warranty



Free CPD seminars



Minimum £5m professional indemnity insurance as standard



Collateral design warranty



Rapid installation



BIM level 2 compliant



Complex structures easily incorporated



Suitable for use with a variety of external finishes



NHBC/SCI approval for up to 15 storeys



Assembled in a controlled factory environment



Site inspections



Approved installer list



Multiple choice of plasterboard and sheathing board with test data



90 years experience



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INTRODUCTION

Overview

The purpose of this System Guide is to enable design teams to make informed choices for lining our Metframe system. These choices include fire and acoustic performance, through wall build-ups and junction detailing. We have a market leading choice of fire and acoustic laboratory data, but the systems identified in this guide are the ones most commonly chosen to meet client requirements and have the capacity to achieve building regulation requirements.

The systems backbone is a common 100mm wide stud for all loadbearing applications, suitable for up to 12 storeys of Metframe or our 120mm stud for up to 15 storeys subject to full design review.

ELEMENTS COVERED ARE AS FOLLOWS:

- » Off-site manufacturing to achieve factory level tolerances on-site
- » Metframe External wall
- » Metframe Party wall/Corridor
- » Metframe internal walls
- » Metframe internal floors
- » Metframe roofs
- » Metframe stairs
- » Metframe lift shafts
- » Metframe interaction with different ground bearing slabs or podiums by others
- » Metframe HR design
- » Metframe Balcony Support.

Where applicable, the above will have options for 60, 90 and 120 minute fire build-ups and also include targeted acoustics for building regulations.

Whilst all the information included is current at the time of review please visit our website at www.metsec.com to view the full and most up to date system choices, review our Introduction to Metframe Brochure, 3D interactive details or catch up with our latest animation of a Metframe in action at www.metsec.com/products/metframe/

To contact a Metframe representative and discuss your requirements in further detail visit: www.metsec.com/online-meeting-enquiry-metframe/

METFRAME EXTERNAL WALLS

Typical build-ups based on brickwork, rainscreen, timber cladding and insulated render façades. Each option uses either Rockwool, Rockwool Duo slab or K15 foil faced insulation to the external face and additional 50mm of mineral wool insulation to the cavity of the Metframe stud.



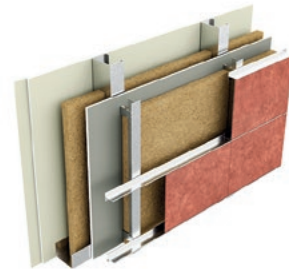
Option 1

Type EC1i: Two layers of Fire or Sound plasterboard, stud with mineral wool between, sheathing board, DuoSlab insulation, cavity, brickwork.



Option 2

Type EC1i: Two layers of Fire or Sound plasterboard, stud with mineral wool between, sheathing board, K15 insulation, cavity, brickwork.



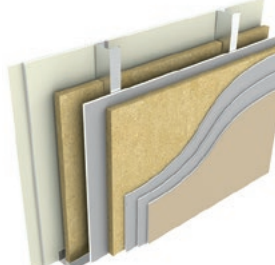
Option 3

Type EC2i: Two layers of Fire or Sound plasterboard, stud with mineral wool between, sheathing board, Rockwool insulation, ventilated rainscreen.



Option 4

Type EC3i: Two layers of Fire or Sound plasterboard, stud with mineral wool between, sheathing board, K15 insulation, battens, timber cladding.



Option 5

Type EC5i: Two layers of Fire or Sound plasterboard, stud with glass wool between, sheathing board, drainage cavity, Rockwool insulation, render.

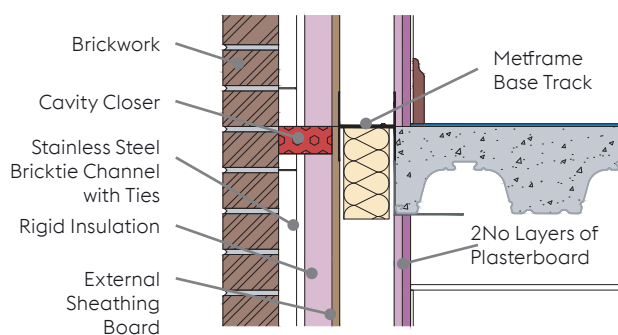
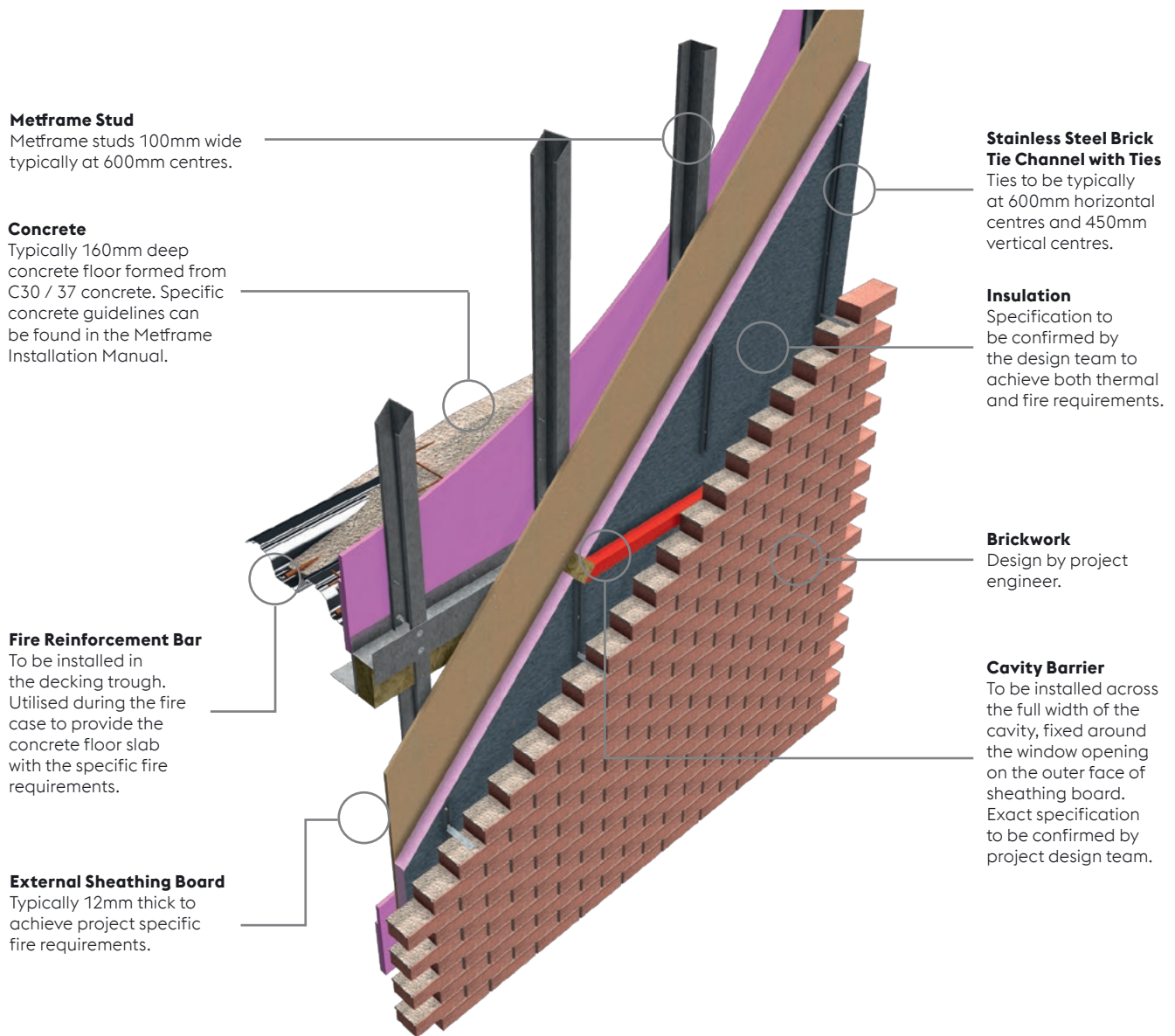
Examples of external insulation thickness based on **TARGET U VALUES 0.15, 0.20, 0.25**

	Option 1	Option 2	Option 3	Option 4	Option 5
U- Value Required	Duo Slab (mm)	K15 (mm)	Rockwool (mm) (Support brackets @ 900mm centres)	K15 (mm)	Duo Slab (mm)
0.25	50	40	100	85	90
0.20	75	60	150	110	130
0.15	150	95	230	170	190

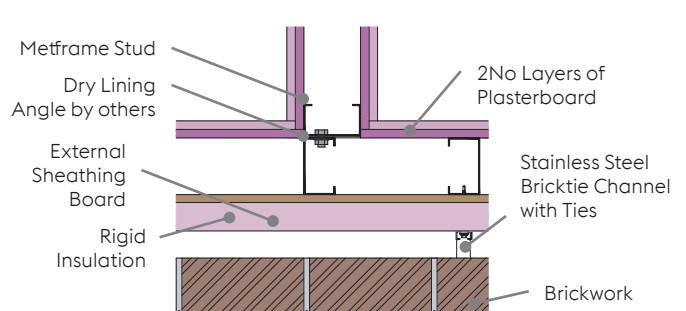
DETAIL MF003

EXTERNAL WALL WITH BRICKWORK AND CONCRETE FLOOR

(VIEWED EXTERNALLY)



Section at Floor Level



Plan on Junction

DETAIL MF001

WINDOW DETAIL

WITH BRICKWORK

(Viewed Externally)

Metframe Lintel Member

Location and tolerances to be agreed as per the Metframe standard tolerance sheets prior to project commencement. Adequate fire protection achieved through the internal boarding material.

Metframe Jamb Member

Location and tolerances to be agreed as per the Metframe standard tolerance sheets prior to project commencement. Adequate fire protection achieved through the internal boarding material.

Acoustic Quilt

Provided within Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Stainless Steel Brick Tie Channel with Ties

Ties to be typically at 600mm horizontal centres and 450mm vertical centres.

Cavity Barrier

To be installed across the full width of the cavity, fixed around the window opening on the outer face of sheathing board. Exact specification to be confirmed by project design team.

Brickwork

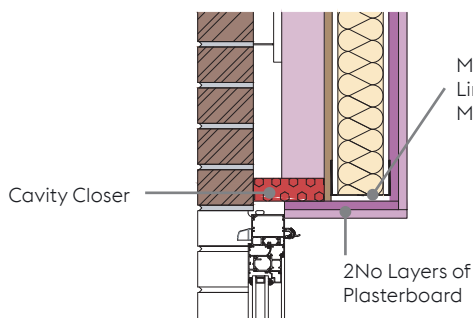
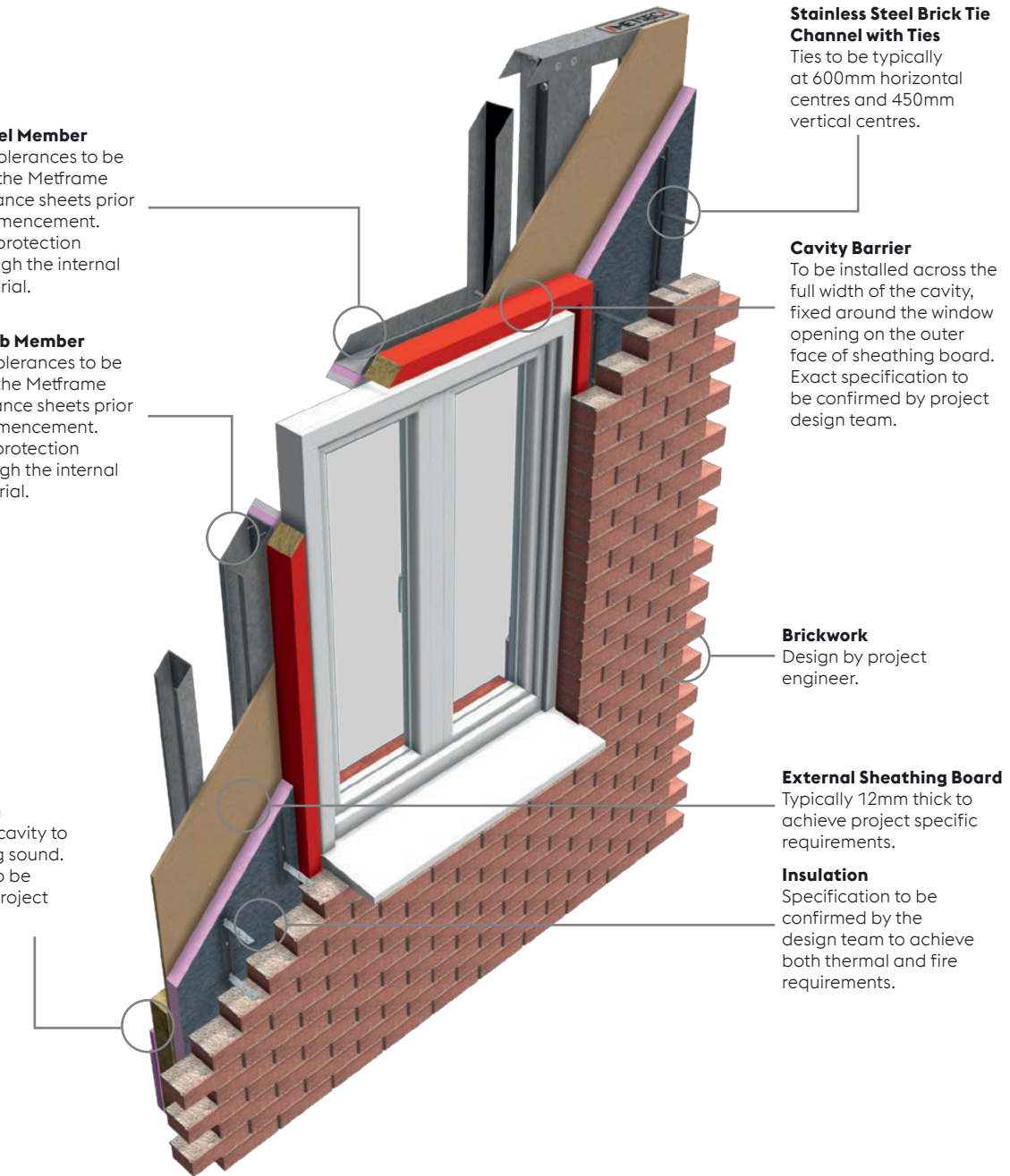
Design by project engineer.

External Sheathing Board

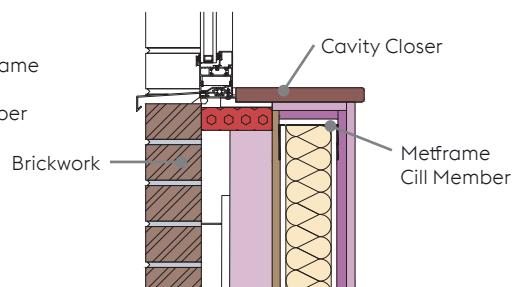
Typically 12mm thick to achieve project specific requirements.

Insulation

Specification to be confirmed by the design team to achieve both thermal and fire requirements.



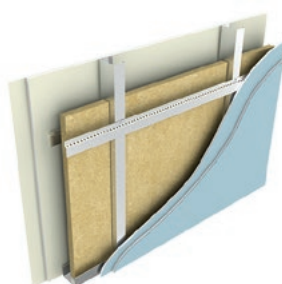
Section on Metframe Lintel



Section on Metframe Cill

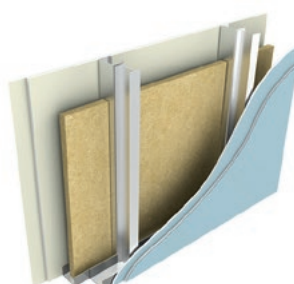
METFRAME PARTY WALL AND CORRIDOR WALL

Build-ups based on systems that have the capacity to achieve fire and acoustic performance standards. All figures quoted are laboratory results.



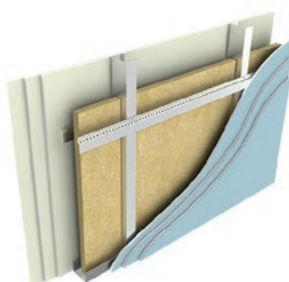
Option 1

2 x 15mm soundboard plasterboard each side, single 100mm stud with resilient bar both sides, 1 x 50mm quilt to cavity. O/A width 200mm.



Option 2

2 x 15mm soundboard plasterboard each side, single 100mm stud, 1 x 50mm quilt to cavity, independent 50mm I stud. Minimum width 240mm.



Option 3

3 x 15mm soundboard plasterboard each side, single 120mm stud with resilient bar both sides, 1 x 50mm quilt to cavity. O/A width 230mm.



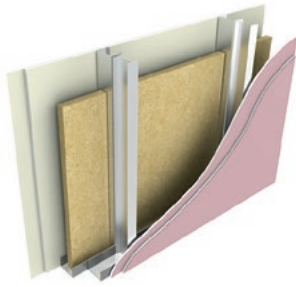
Option 4

3 x 15mm soundboard plasterboard each side, single 100mm stud, 1 x 50mm quilt to cavity, independent 50mm I stud. Minimum width 270mm.

Option	Plasterboard Lining	Overall Width	Minimum Stud Depth	Laboratory Acoustic Performance Rw dB (Rw & Ctr)
Fire Performance from Inside 60 MINUTES				
1	2x15mm Soundboard	200mm	100mm	64 (56)
2	2x15mm Soundboard	240mm	100mm	65 (59)
3	3x15mm Soundboard	230mm	120mm	68 (63)
4	3x15mm Soundboard*	270mm	100mm	69 (63)

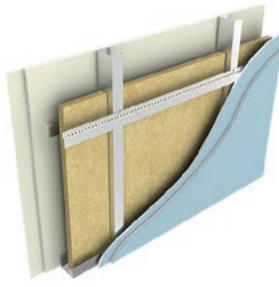
*Awaiting Fire Test

90 minute Fire Performance



Option 1

2 x 15mm fireboard plasterboard each side, single 100mm stud, 1 x 50mm quilt to cavity, independent 50mm I stud. Minimum width 240mm.

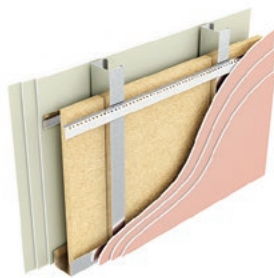


Option 2

2 x 15mm soundboard F plasterboard each side, single 100mm stud with resilient bar both sides, 1 x 50mm quilt to cavity. O/A width 200mm.

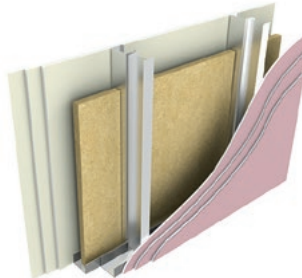
Option	Plasterboard Lining	Overall Width	Minimum Stud Depth	Laboratory Acoustic Performance Rw dB (Rw & Ctr)
Fire Performance from Inside 90 MINUTES				
1	2x15mm Fireboard	240mm	100mm	63 (56)
2	2x15mm Soundboard F	200mm	100mm	64 (56)

120 minute Fire Performance



Option 1

3 x 15mm fireboard plasterboard each side on single 120mm stud with res bar both sides, 1 x 50mm quilt to cavity. O/A width 250mm.



Option 2

3 x 15mm fireboard plasterboard each side on single 100mm stud, 1 x 50mm quilt to cavity, independent 50mm I stud.

Option	Plasterboard Lining	Overall Width	Minimum Stud Depth	Laboratory Acoustic Performance Rw dB (Rw & Ctr)
Fire Performance from Inside 120 MINUTES				
1	3x15mm Fireboard	250mm	120mm	66 (61)
2	3x15mm Fireboard	270mm	100mm	68 (61)

DETAIL MF005

INTERNAL PARTY WALL

WITH CONCRETE FLOOR

Resilient Bar

Installed on party walls to form separation of the plasterboard from the Metframe walls giving optimal acoustic performance.

Metframe Stud

Metframe studs 100mm wide typically at 600mm centres.

Acoustic Quilt

Provided with in Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Metframe Zed Member

Zed profile bolted at head of panels to support concrete floor.

Fire Reinforcement Bar

To be installed in the decking trough. Utilised during the fire case to provide the concrete floor slab with the specific fire requirements.

Steel Decking

Typically 80mm deep trapezoidal steel decking. Exact specification to be confirmed by Metframe on a project by project basis.

Internal Finishes

Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

Floor Finish

Exact floor finish to be confirmed by Design team.

Concrete

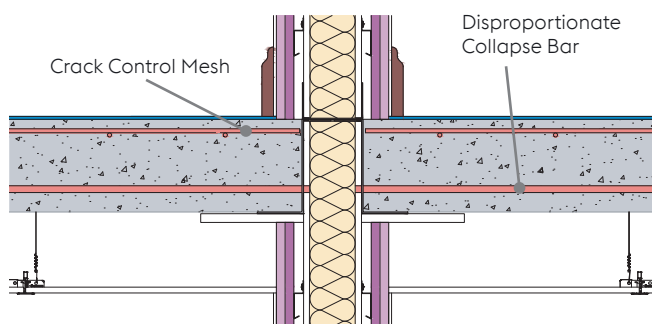
Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Crack Control Mesh

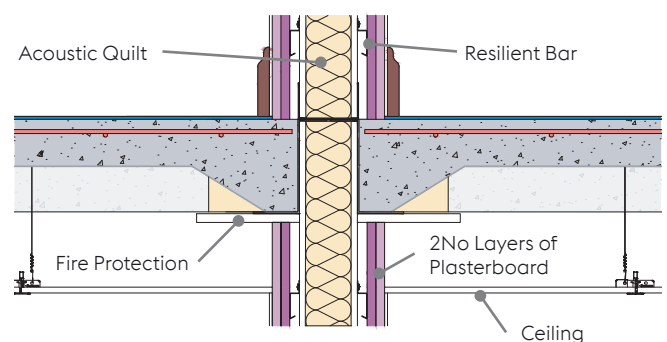
Reinforcement mesh to be installed to control shrinkage cracks.

Disproportionate Collapse Bar

Rebar formed across walls panels to tie adjacent slabs to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.



Section at Floor Level with Reinforcement



Section at Floor Level

DETAIL MF005

INTERNAL PARTY WALL WITH CONCRETE FLOOR

VIEWED FROM UNDERNEATH

Metframe Stud

Metframe studs 100mm wide typically at 600mm centres.

Steel Decking

Typically 80mm deep trapezoidal steel decking. Exact specification to be confirmed by Metframe on a project by project basis.

Acoustic Quilt

Provided with in Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Internal Finishes

Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

Resilient Bar

Installed on party walls to form separation of the plasterboard from the Metframe walls giving optimal acoustic performance.

Concrete

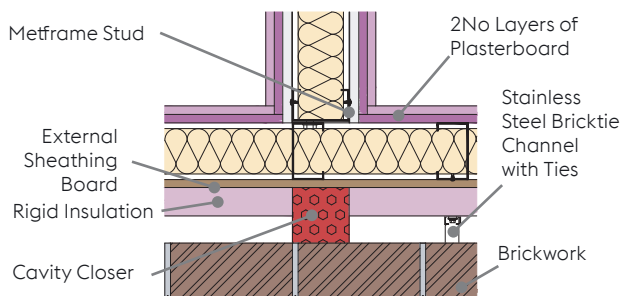
Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Ceiling

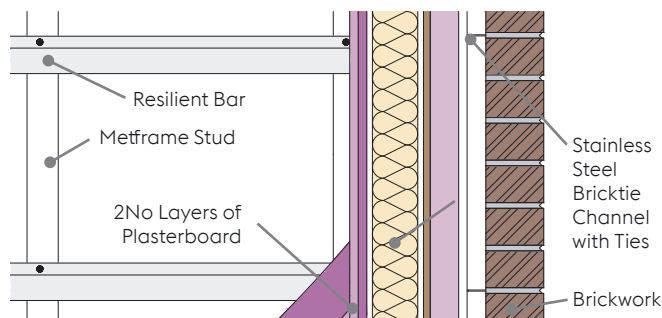
Typically formed as a non-fire rated ceiling allowing services to be run through the zone between underside of slab and ceiling level.

Fire Protection

Board to project past zed with profiled insert to trough to provide necessary fire protection. Insert and board joint to be sealed. Exact specification to be agreed with design team.



Plan at Junction



Elevation on Resilient Bar

DETAIL MF021 INTERNAL PARTY WALL WITH JOISTED FLOOR (View 1)

Internal Finishes

Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

Metframe Zed Member

Zed profile bolted at head of panels to support joisted floor.

Acoustic Quilt

Provided with in Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Service Slots

Can be added in to floor to allow small passage of service runs.

Metframe Stud

Metframe studs 100mm wide typically at 600mm centres.

Resilient Bar

Installed on party walls to form separation of the plasterboard from the Metframe walls giving optimal acoustic performance.

Disproportionate Collapse Bar

Rebar formed across wall panels to tie adjacent floor panels to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.

Floor Finish

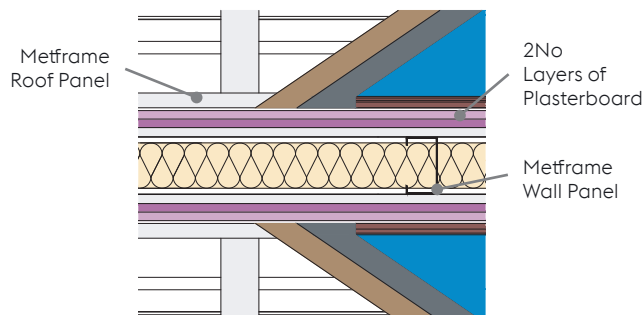
Exact floor finish to be confirmed by Design team.

Metsec Joisted Floor

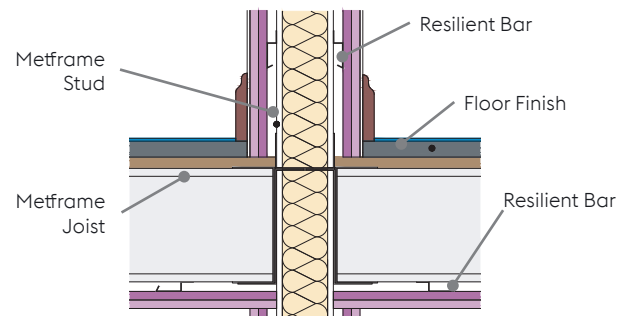
Typically formed from floor joists at 400mm centres. Exact floor finish to be confirmed on a project by project basis. Please see Metframe specification manual for further details.

Fire Protection to Joists

Please see the Metframe Specification Manual for specific fire protection. Exact specification to be agreed with design team.



Section at Floor Level



Section at Floor Level

DETAIL MF020

EXTERNAL WALL WITH JOISTED FLOOR AND BRICKWORK

(Viewed internally)

Internal Finishes

Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

Metframe Stud

Metframe studs 100mm wide typically at 600mm centres.

Acoustic Quilt

Provided with in Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Metsec Joisted Floor

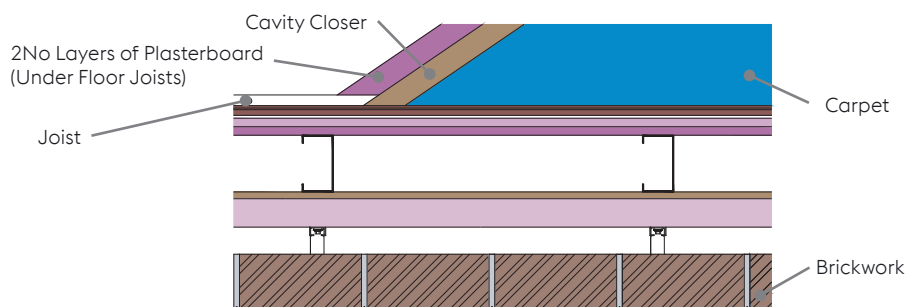
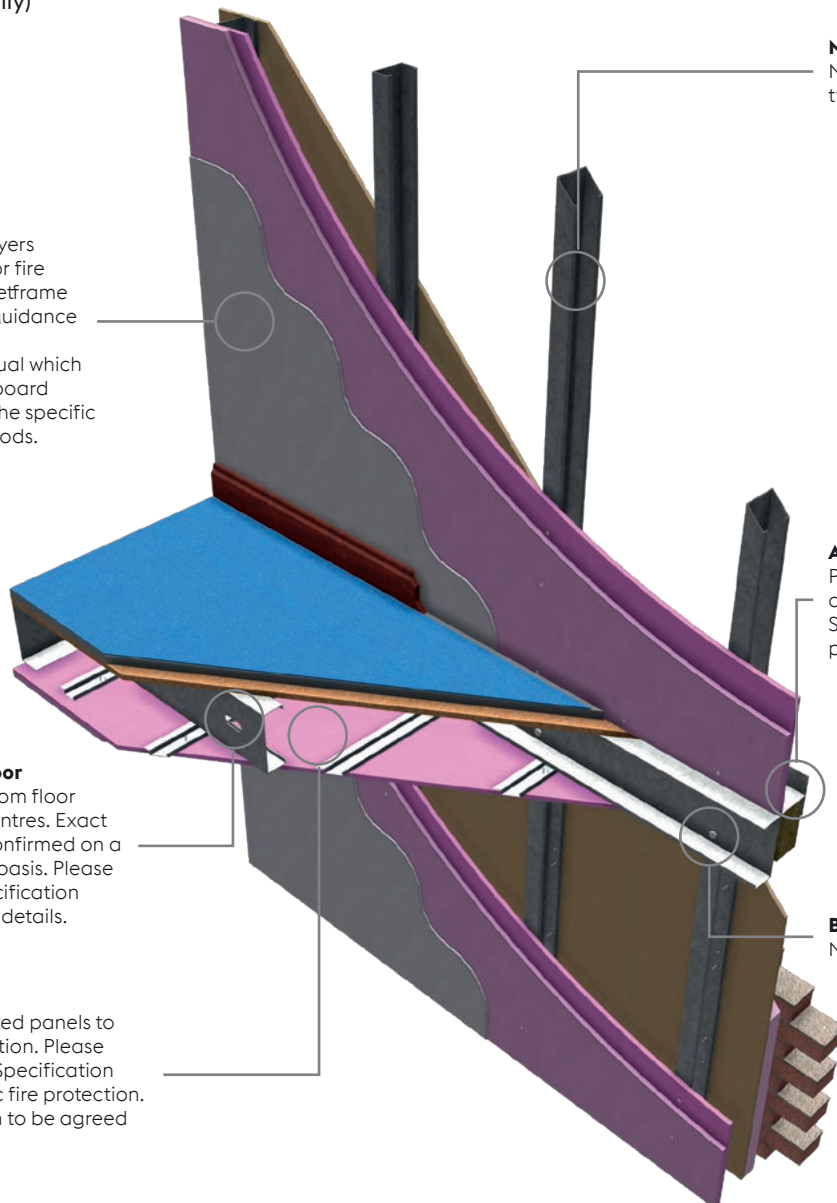
Typically formed from floor joists at 400mm centres. Exact floor finish to be confirmed on a project by project basis. Please see Metframe Specification Manual for further details.

Fire Protection

Board fixed to joisted panels to provide fire protection. Please see the Metframe Specification manual for specific fire protection. Exact specification to be agreed with design team.

Bolts

M12 Grade 8.8 Bolt.

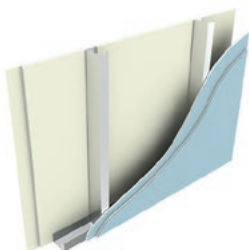


Plan in Floor Build Up

METFRAME INTERNAL WALL

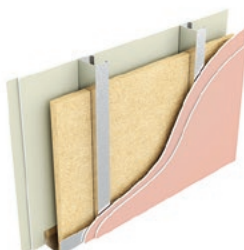
Build-ups based on systems that have the capacity to achieve fire and acoustic performance standards. All figures quoted are laboratory results.

60 minute Fire Performance



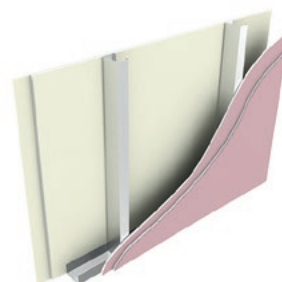
Option 1

2 x 15mm soundboard plasterboard each side, single 100mm stud. O/A width 160mm.



Option 2

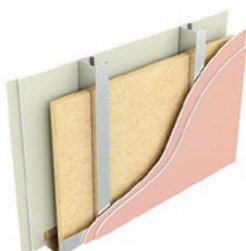
2 x 12.5mm fireboard plasterboard each side, single 100mm stud, 1 x 50mm quilt to cavity. O/A width 150mm.



Option 3

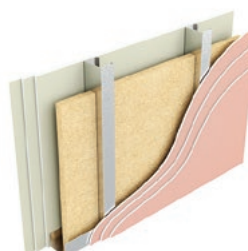
2 x 12.5mm Fireboard plasterboard each side, single 100mm stud, O/A width 150mm

90 minute Fire Performance



Option 4

2 x 15mm fireboard plasterboard each side, single 100mm stud. O/A width 160mm.



Option 5

3 x 15mm fireboard plasterboard each side, single 100mm stud. O/A width 190mm.

120 minute Fire Performance

Option	Plasterboard Lining	Overall Width	Minimum Stud Depth	Laboratory Acoustic Performance Rw dB
Fire Performance from Inside 60 MINUTES				
1	2x15mm Soundboard	160mm	100mm	50
2	2x12.5mm Fireboard	150mm	100mm	50
3	2x12.5mm Fireboard	150mm	100mm	40 minimum
Fire Performance from Inside 90 MINUTES				
4	2x15mm Fireboard	160mm	100mm	46
Fire Performance from Inside 120 MINUTES				
5	3x15mm Fireboard	190mm	100mm	53

DETAIL MF004

INTERNAL NON-PARTY WALL

WITH CONCRETE FLOOR

Metframe Stud

Metframe studs 100mm wide typically at 600mm centres.

Crack Control Mesh

Reinforcement mesh to be installed to control shrinkage cracks.

Fire Reinforcement Bar

To be installed in the decking trough. Utilised during the fire case to provide the concrete floor slab with the specific fire requirements.

Acoustic Quilt

Provided with in Metframe wall cavity to reduce flanking sound. Specification to be confirmed by project design team.

Metframe Zed Member

Zed profile bolted at head of panels to support concrete floor.

Internal Finishes Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

Floor Finish

Exact floor finish to be confirmed by Design team.

Concrete

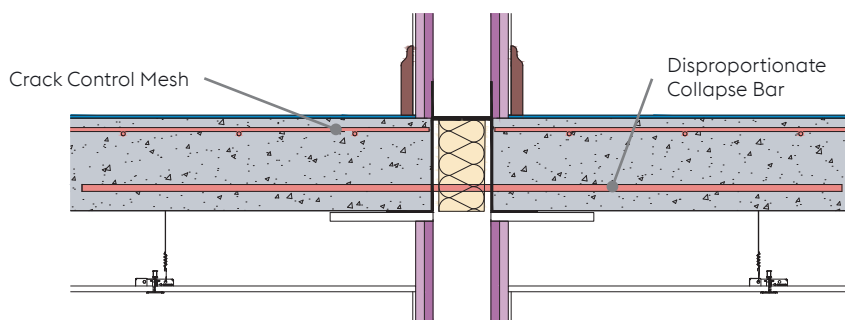
Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Steel Decking

Typically 80mm deep trapezoidal steel decking. Exact specification to be confirmed by Metframe on a project by project basis.

Disproportionate Collapse Bar

Rebar formed across walls panels to tie adjacent slabs to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.



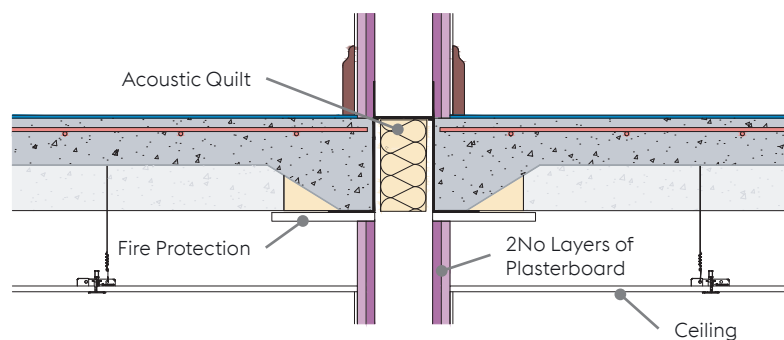
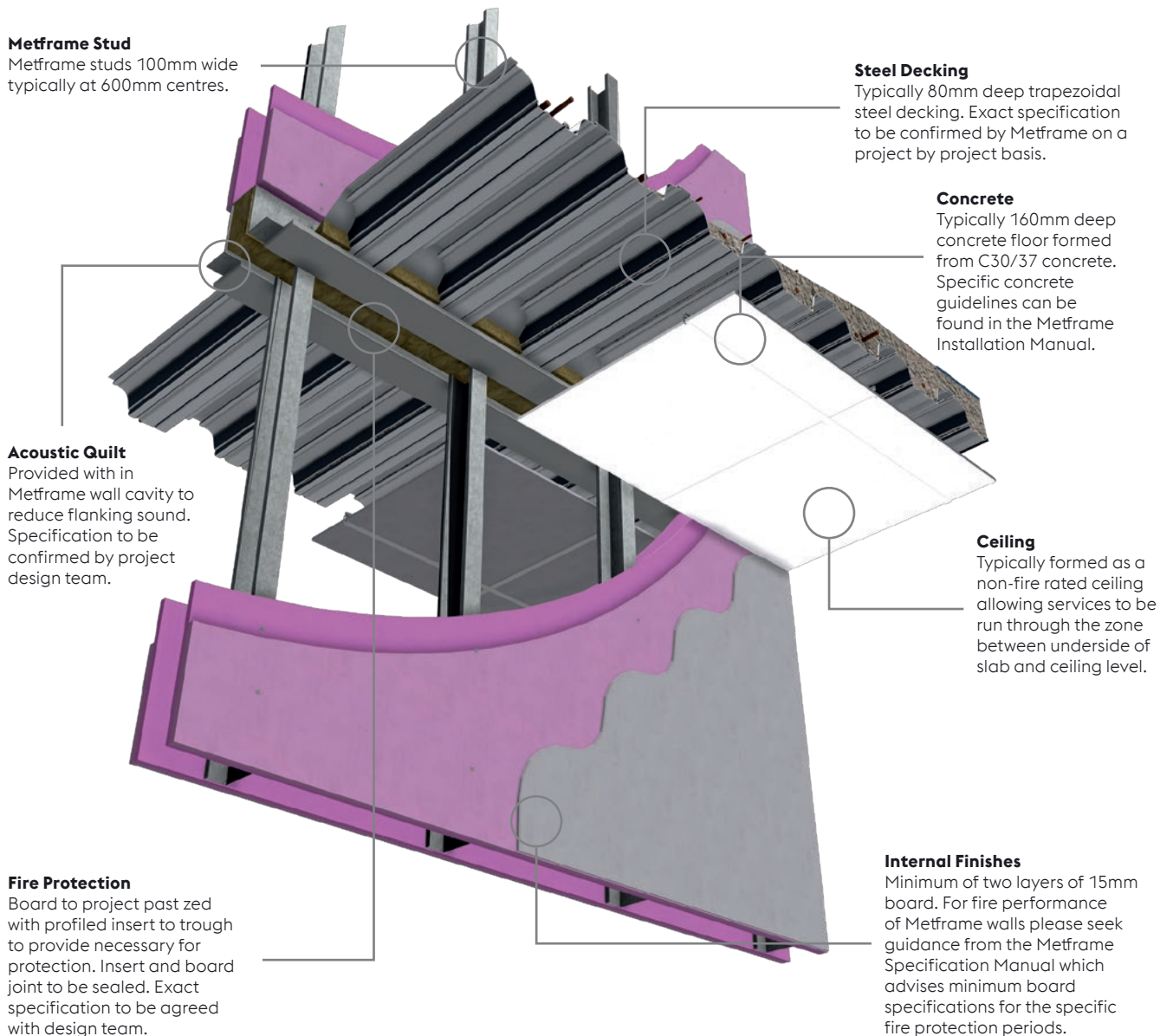
Section at Floor Level with Reinforcement

DETAIL MF004

INTERNAL NON-PARTY WALL

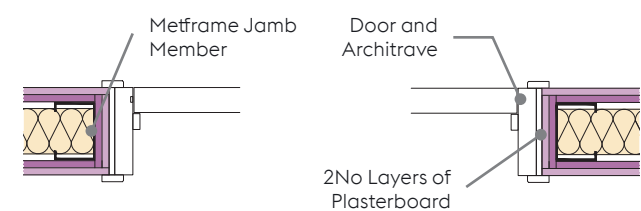
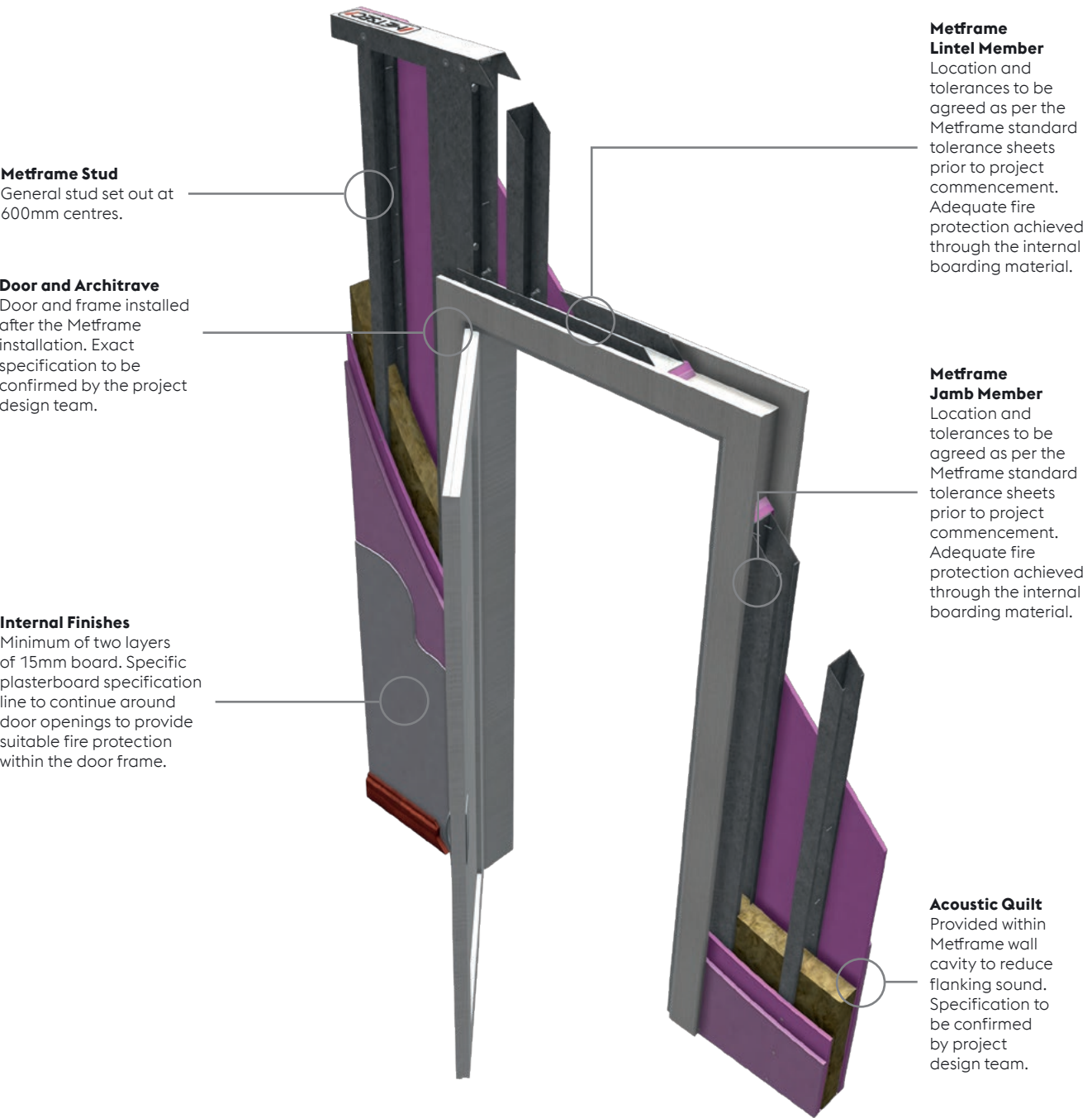
WITH CONCRETE FLOOR

(Viewed from underneath)

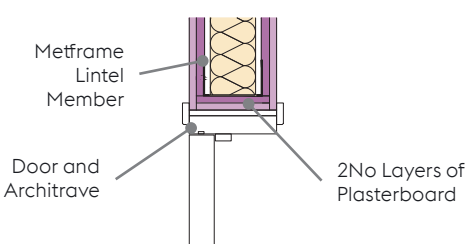


Section at Floor Level

DETAIL MF002 DOOR DETAIL IN AN INTERNAL PANEL (View B)



Plan on Metframe Jamb



Section on Metframe Lintel

METFRAME INTERNAL FLOORS

Build-ups based on systems that have the capacity to achieve fire and acoustic performance standards.



Option1

Type F2: Two layers of plasterboard, resilient bars, joists with mineral wool between, 15mm plywood, 19mm British Gypsum Plank, 8mm Cloud 9 Underlay, 12mm OSB.



Option 2

Type F5: Three layers of plasterboard, resilient bars, joists with mineral wool between, 15mm plywood, 19mm British Gypsum Plank, 8mm Cloud 9 Underlay, 12mm OSB.



Option 3

Type F9: Three layers of plasterboard, resilient bars, joists with mineral wool between, 15mm plywood, 19mm British Gypsum Plank, 70mm Collecta Deckfon acoustic battens, 18mm V313 chipboard.



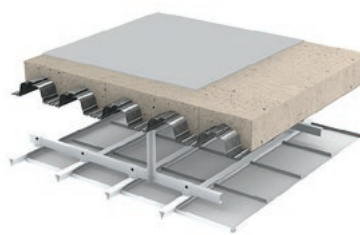
Option4

Type F5: Three layers of plasterboard, resilient bars, joists with mineral wool between, 15mm plywood, 19mm British Gypsum Plank, 8mm Cloud 9 Underlay, 12mm OSB.



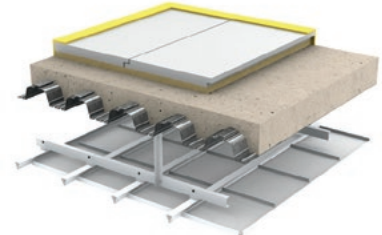
Option 5

Type F9: Three layers of plasterboard, resilient bars, joists with mineral wool between, 15mm plywood, 19mm British Gypsum Plank, 70mm Collecta Deckfon acoustic battens, 18mm V313 chipboard.



Option 6

Minimum 160mm deep concrete slab (80mm minimum), 5mm Collecta Rubberform, MF ceiling with 1 x 15mm Fire or Sound board.



Option 7

Minimum 160mm deep concrete slab (80mm minimum), Collecta Screedboard 30, MF ceiling with 1 x 15mm Fire or Sound board.

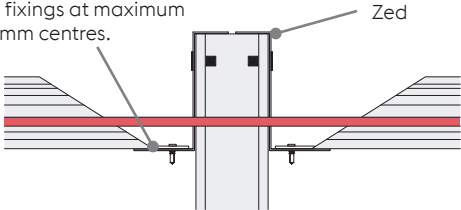
Option	Plasterboard Lining	Overall Depth	Minimum Joist Depth	Laboratory Acoustic Performance R_w dB (R_w & Ctr)	Laboratory Acoustic Performance $L_{n,w}$
Fire Performance from Underside 60 MINUTES					
1	2x12.5mm Fireboard	300mm	200mm	63 (54)	55
Fire Performance from Underside 90 MINUTES					
2	3x12.5mm Fireboard	313mm	200mm	63 minimum (54)	55 maximum
3	3x12.5mm Fireboard	380mm	200mm	64 (54)	50
Fire Performance from Underside 120 MINUTES					
4	3x15mm Fireboard	320mm	200mm	63 minimum (54)	55 maximum
5	3x15mm Fireboard	388mm	200mm	64 (54)	50
6	1x15mm Soundboard	330mm	-	66 minimum	55 maximum*
7	1x15mm Soundboard	300mm minimum	-	66 minimum	55 maximum*

*Estimated

CONCRETE FLOORS

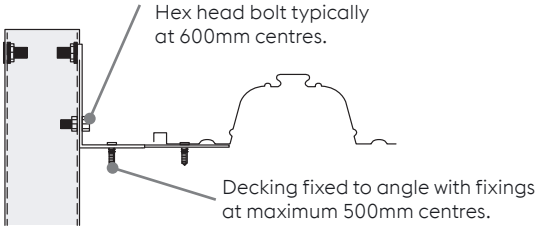


Decking fixed to zed
with fixings at maximum
300mm centres.



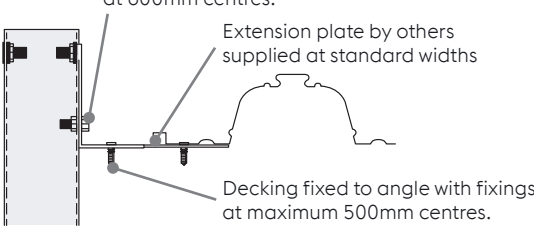
Deck to Zed Detail MF501C

Angle edge trim fixed to
Metsec studs with M12
Hex head bolt typically
at 600mm centres.



Fixing Edge of Decking to Metsec Wall MF501A

Angle edge trim fixed to
Metsec studs with M12
Hex head bolt typically
at 600mm centres.



Extension Plate to Shutter Detail MF501B

METFRAME ROOFS

DETAIL MF014 METFRAME JOISTED ROOF AND EXTERNAL WALL WITH BRICKWORK AND RAINSCREEN FINISHES (Viewed internally)

Boarding to Metframe Roof Panels

Boarded out to provide substrate to finishes and provide a temporary working platform for access during construction. Exact specification of roof build-up to be confirmed by the project design team.

Angle Support

Temporary angle installed to support roof panel during erection. Can be removed after installation of the roof panels is complete.

Ceiling

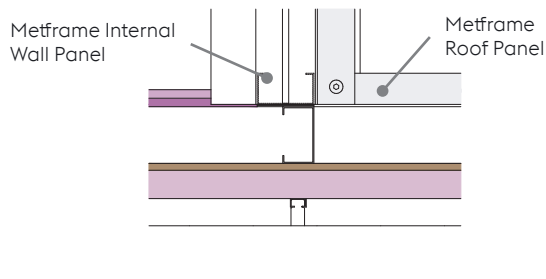
Typically formed as a non-fire rated ceiling allowing services to be run through within the zone between the underside of the roof joists and the ceiling level. If the roof is utilised as a means of escape fire protection to the underside of the joists will be required as per the specific project building fire requirements.

Disproportionate Collapse Bar

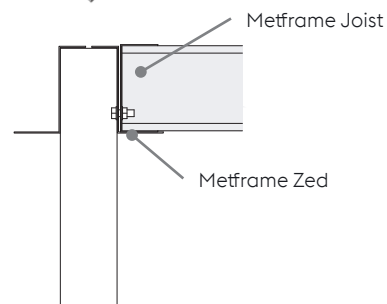
Rebar formed across wall panels to tie adjacent roof panels to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.

Internal Finishes

Minimum of two layers of 15mm board. For fire performance of Metframe walls please seek guidance from the Metframe Specification Manual which advises minimum board specifications for the specific fire protection periods.

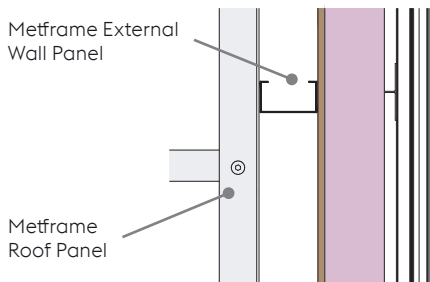
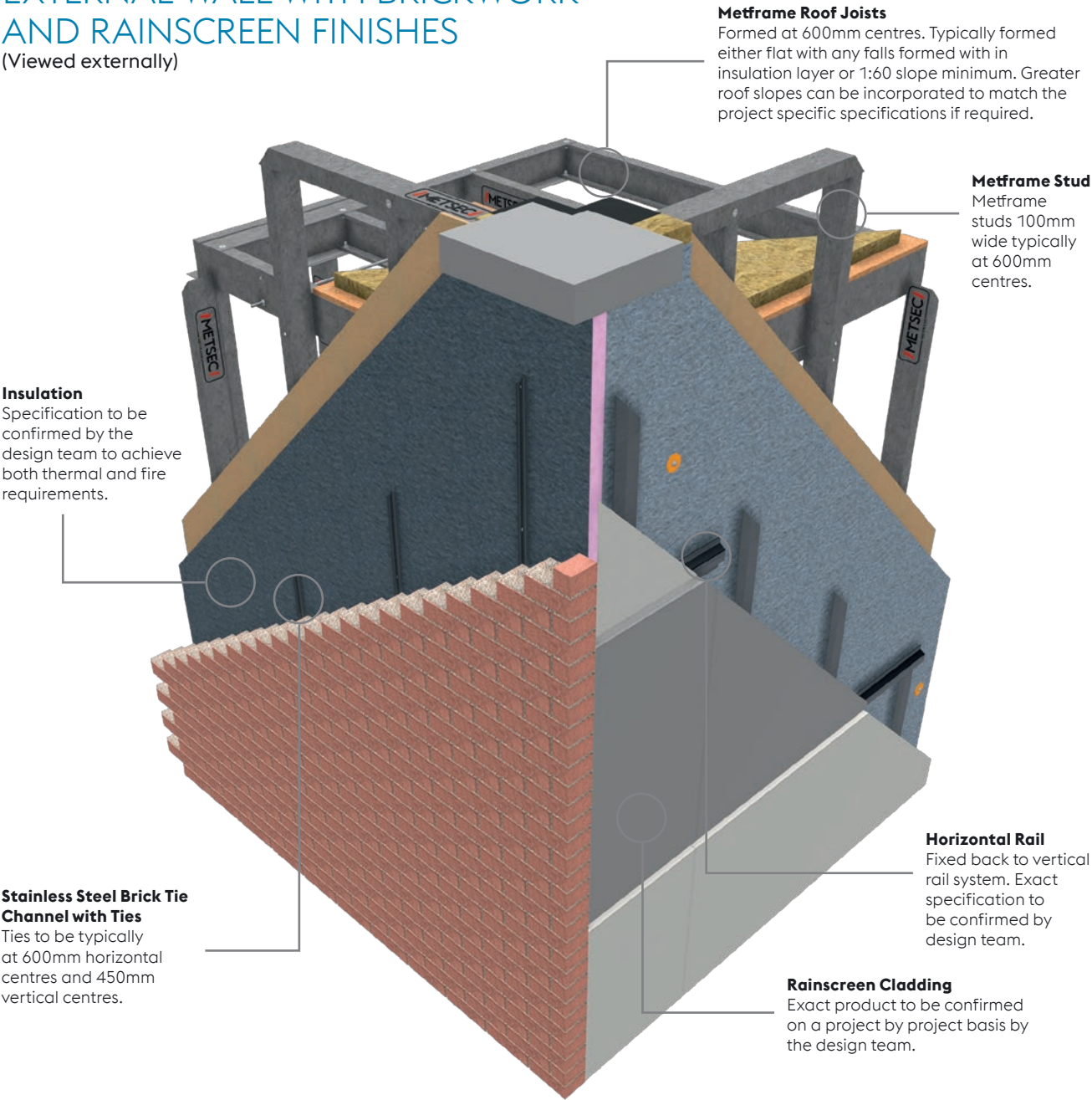


Plan on Internal Wall

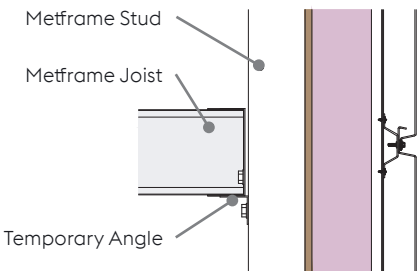


Section at Internal Wall

DETAIL MF014 METFRAME JOISTED ROOF AND EXTERNAL WALL WITH BRICKWORK AND RAINSCREEN FINISHES (Viewed externally)

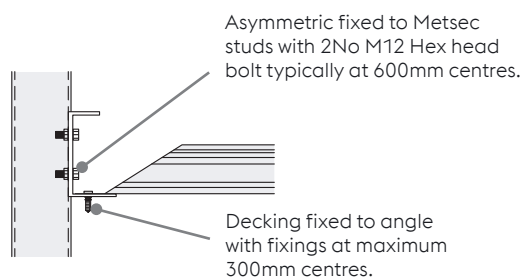


Plan on External Wall

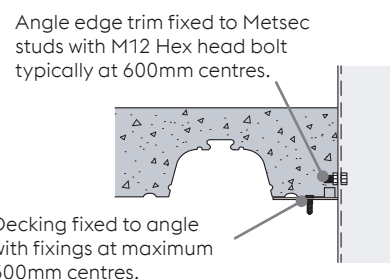


Section at External Wall

CONCRETE ROOFS



Decking fixed to Asymmetric on Metsec Wall MF508A

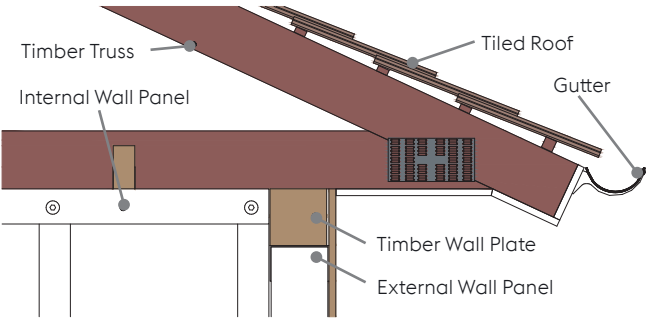
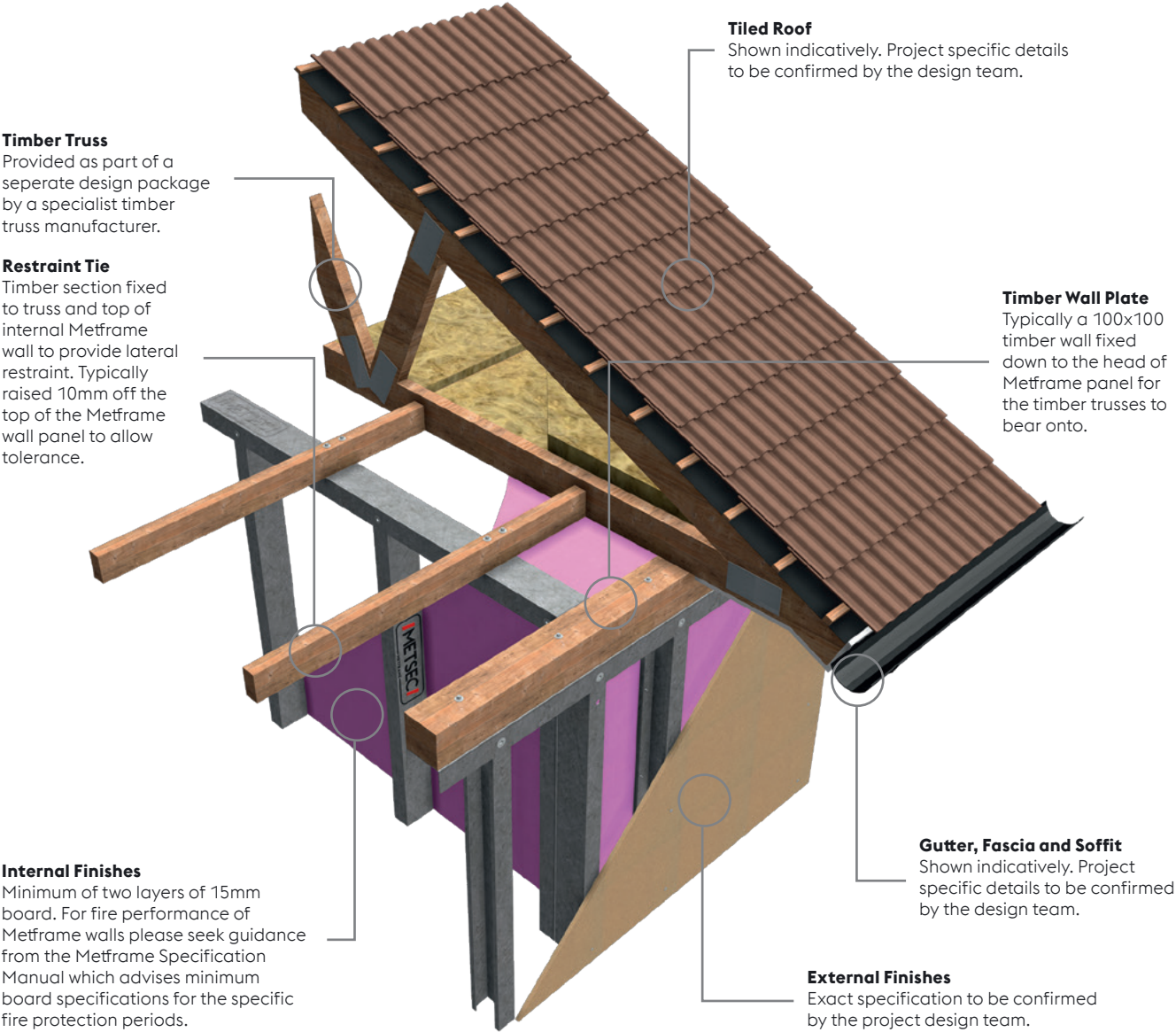


Fixing Edge of Decking to Metsec Wall MF508B

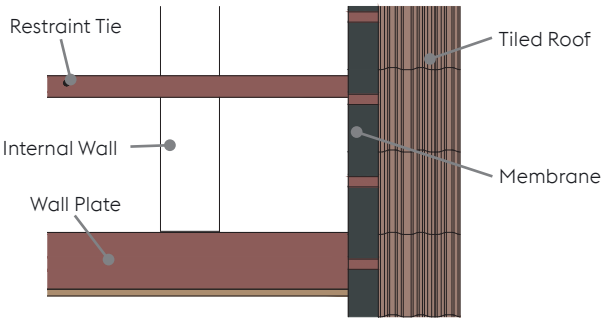
DETAIL MF015

TIMBER TRUSS ROOF DETAIL

(Viewed externally)



Section through External Wall



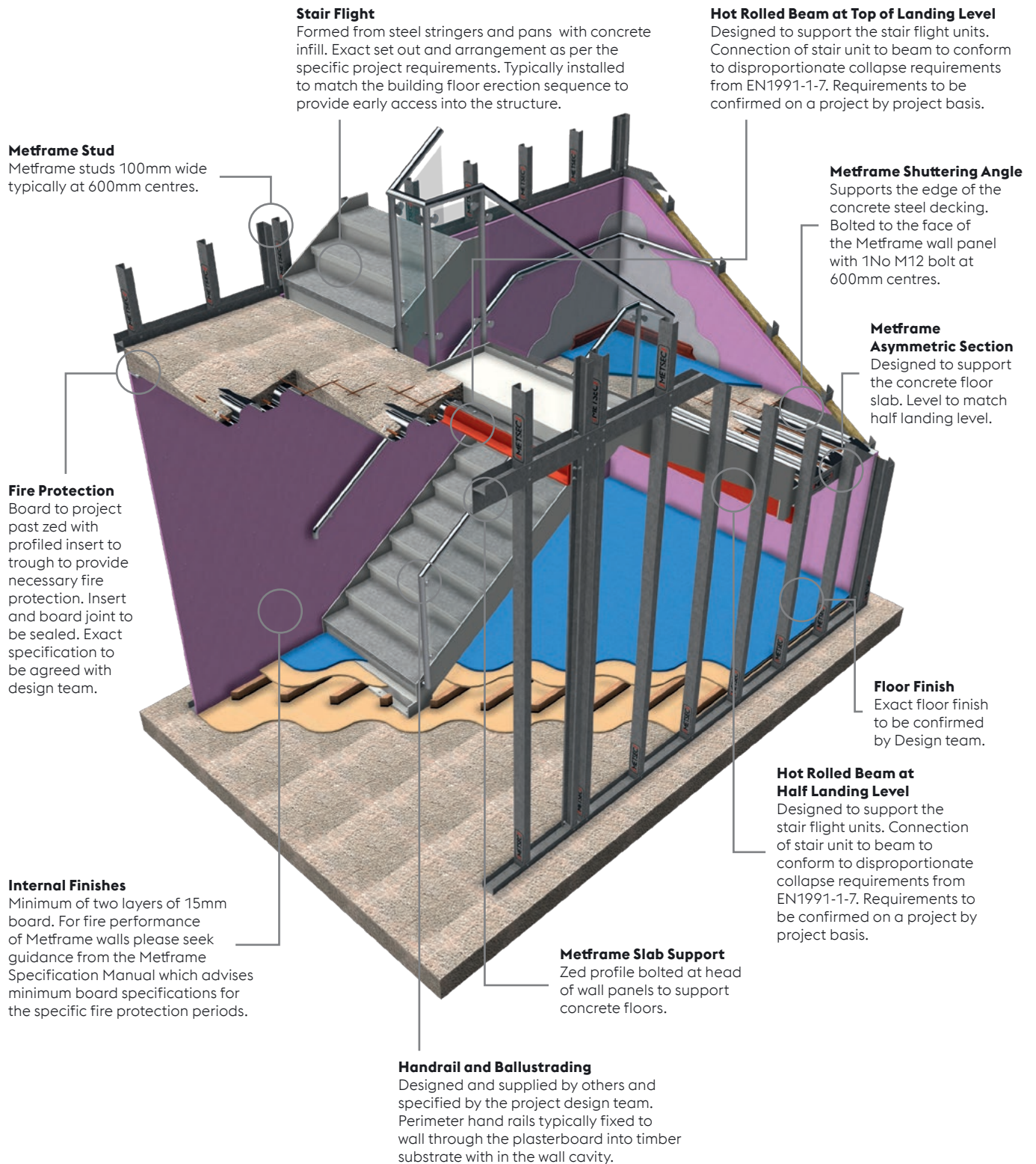
Plan on Internal Wall

METFRAME STAIRWELLS

DETAIL MF018

STAIRWELL WITH A CONCRETE HALF LANDING

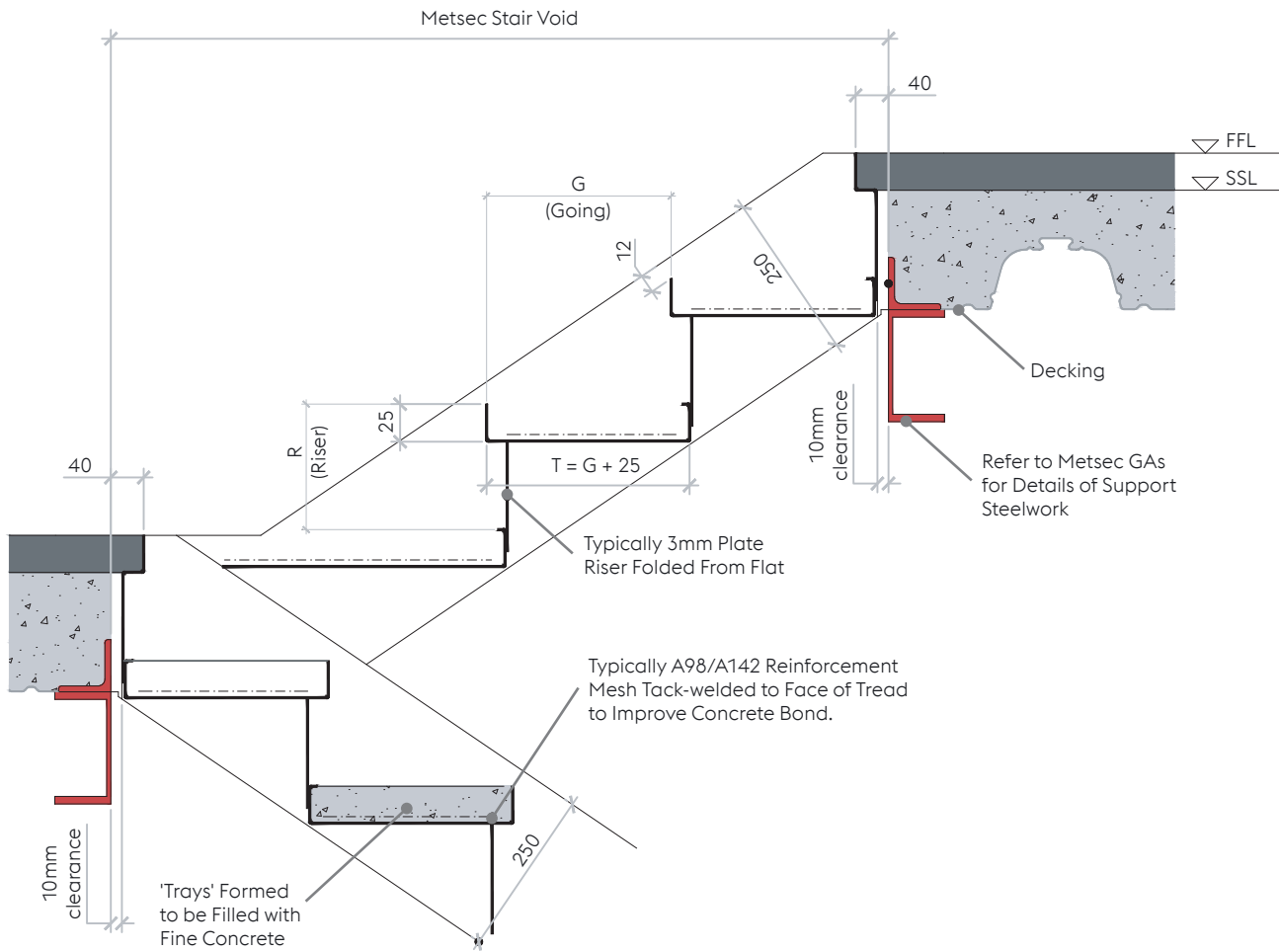
(3D view)



DETAIL MF018

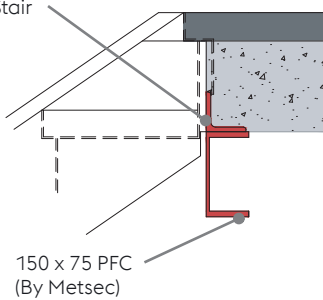
STAIRWELL WITH A CONCRETE HALF LANDING

(Sectional details)

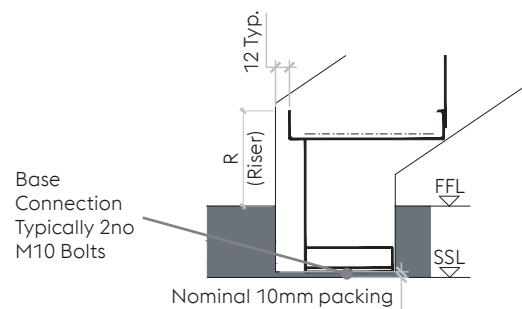


Section through Stair

70 x 70 x 8 RSA
Welded between
Stringers by Stair
Manufacture



Section of Stair to PFC Junction



Section of Stair to Slab Junction

METFRAME LIFT SHAFTS

DETAIL MF016

LIFT PIT BASE DETAIL

(3D view)

Beam at Door Lintel Level

Installed at head of door level to enable the door bracketry to be installed.

Metframe Slab Support

Zed profile bolted at head of wall panels to support concrete floors.

Plasterboard on Metframe Walls

Minimum of 2 layers of 15mm board except where the Versafire board is located. For fire performance of Metframe walls please seek guidance from the Metframe specification manual which advises minimum board specifications for specific fire protection periods. For internal lift shaft faces the plasterboard for the side walls where Menstruate channels are installed will need to be boarded horizontally.

Metframe Metstrut Channels

Formed from welded 3 member section to allow connection of the lift bracketry via a spring nut. Backing of Metstrut channels to the Metframe wall typically onto 12mm of Versafire boarding. Vertical set out of channels is both project and lift supplier dependent.

Metframe Wall Set Out

Set out of Metframe lift shaft walls to provide consistent finishing set out between the Metframe walls and lift pit. Exact wall positions to be coordinated with the project design team.

Concrete

Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Beam at Floor Threshold

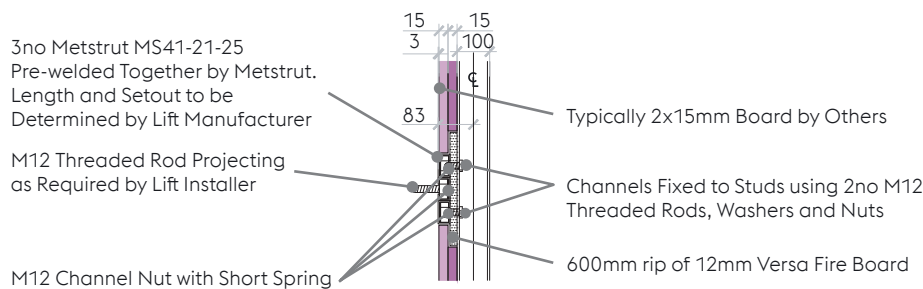
Installed at floor level to provide support to the door runner. Level of beam dependent on requirements for a fire fighting lift shaft within the building.

Metframe Wall Stud

Metframe studs 100mm wide typically at 600mm centres. Formed in panels off-site to form Lift shaft wall.

Concrete Lift Pit

Set out to be confirmed by the project design team. Typically Metstrut or equivalent channels fixed into pit faces to accommodate lift brackets as required.



Lift Channel Fixing Detail

DETAIL MF017

LIFT SHAFT WITH

DOOR AND CAP DETAIL

(3D view)

Metframe Wall Stud

Metframe studs 100mm wide typically at 600mm centres. Formed in panels off-site to form Lift shaft wall.

Lift Cap

Typically formed from roof joists at 600mm Centres formed in panels off-site.

Plasterboard on Metframe Walls

Minimum of 2 layers of 15mm board except where the Versafire board is located. For fire performance of Metframe walls please seek guidance from the Metframe specification manual which advises minimum board specifications for specific fire protection periods. For internal lift shaft faces the plasterboard for the side walls where Metstrut channels are installed will need to be boarded horizontally.

Metframe Slab Support

Zed profile bolted at head of wall panels to support concrete floors.

Metframe Metstrut Channels

Formed from welded 3 member section to allow connection of the lift bracketry via a spring nut. Backing of Metstrut channels to the Metframe wall typically onto 12mm of Versafire boarding. Vertical set out of channels is both project and lift supplier dependent.

Lift Beam

Utilised to support the lift cart during both the initial installation and also later maintenance. Typically set down from the underside of the roof joists to provide at least 50mm clear zone above. Lifting eyes shown indicatively.

Lift Eye

Shown indicatively. Supplied and installed by others.

Metframe Wall Set Out.

Set out of Metframe lift shaft walls to provide consistent finishing set out between the Metframe walls and lift pit. Exact wall positions to be coordinated with the project design team.

Concrete

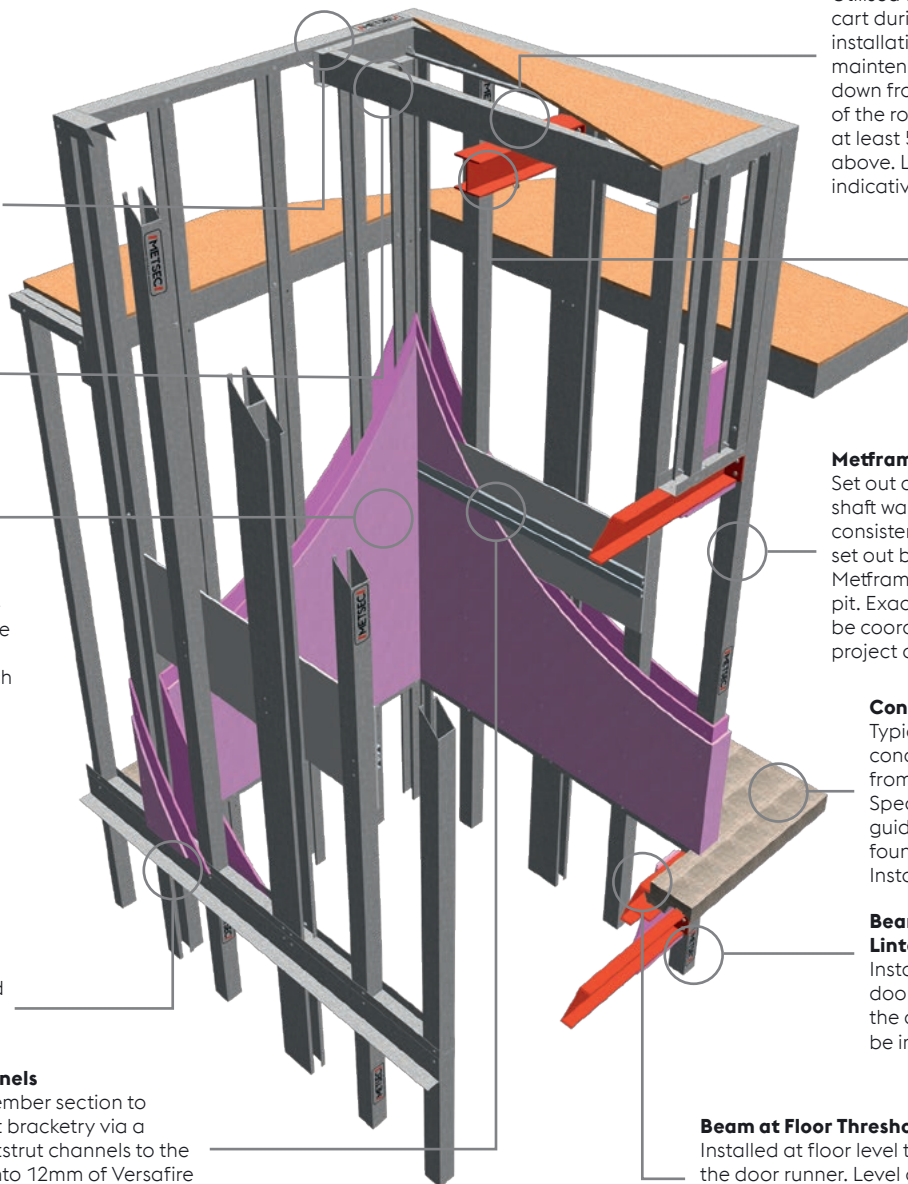
Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Beam at Door Lintel Level

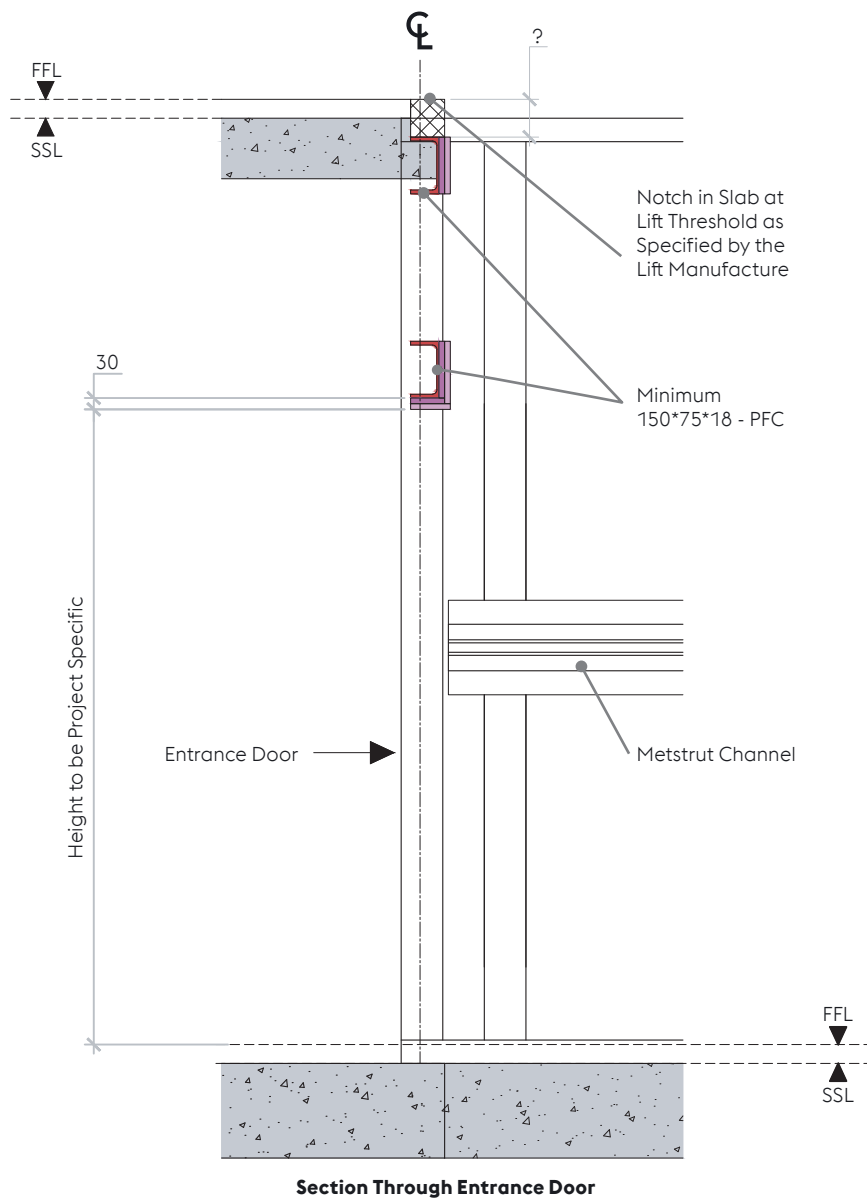
Installed at head of door level to enable the door bracketry to be installed.

Beam at Floor Threshold

Installed at floor level to provide support to the door runner. Level of beam dependent on requirements for a fire fighting lift shaft within the building.



DETAIL MF017
LIFT SHAFT WITH
DOOR AND CAP DETAIL
(Sectional details)



DETAIL MF008 METFRAME PANEL AND FOUNDATION INTERFACE (Viewed externally)

Metframe Stud
Metframe studs 100mm wide typically at 600mm centres.

External Sheathing Board
Typically 12mm thick to achieve project specific fire requirements.

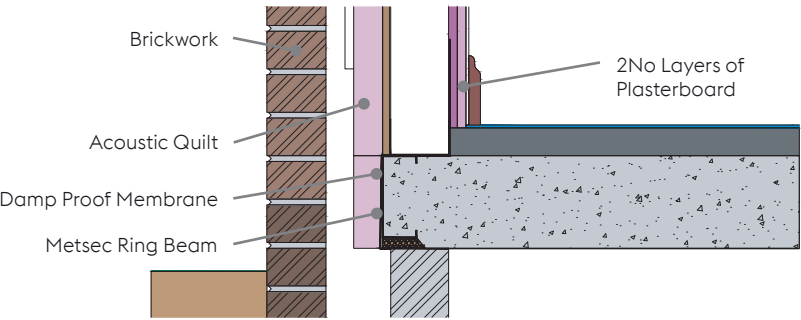
Metsec Ring Beam
Formed typically from a C-Section profile located under wall positions. Installed at the perimeter of foundations to allow concrete to be formed to a high level of tolerance. If there is no ring beam installed then shimming and grouting may be required to the underside of the Metframe panel base track to achieve the required tolerance.

Stainless Steel Brick Tie Channel with Ties
Ties to be typically at 600mm horizontal centres and 450mm vertical centres.

Insulation
Specification to be confirmed by the design team to achieve both thermal and fire requirements.

Brickwork
Design by project engineer.

Cleats for the C-Section Ring Beam
Installed first to then allow the level of the C-Section ring beam to be set to compensate for variation in the foundation levels.

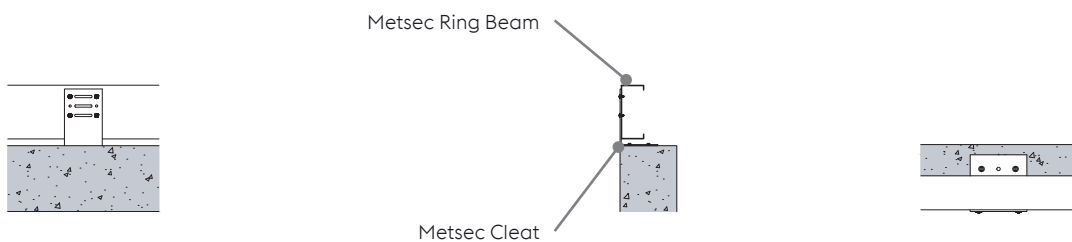
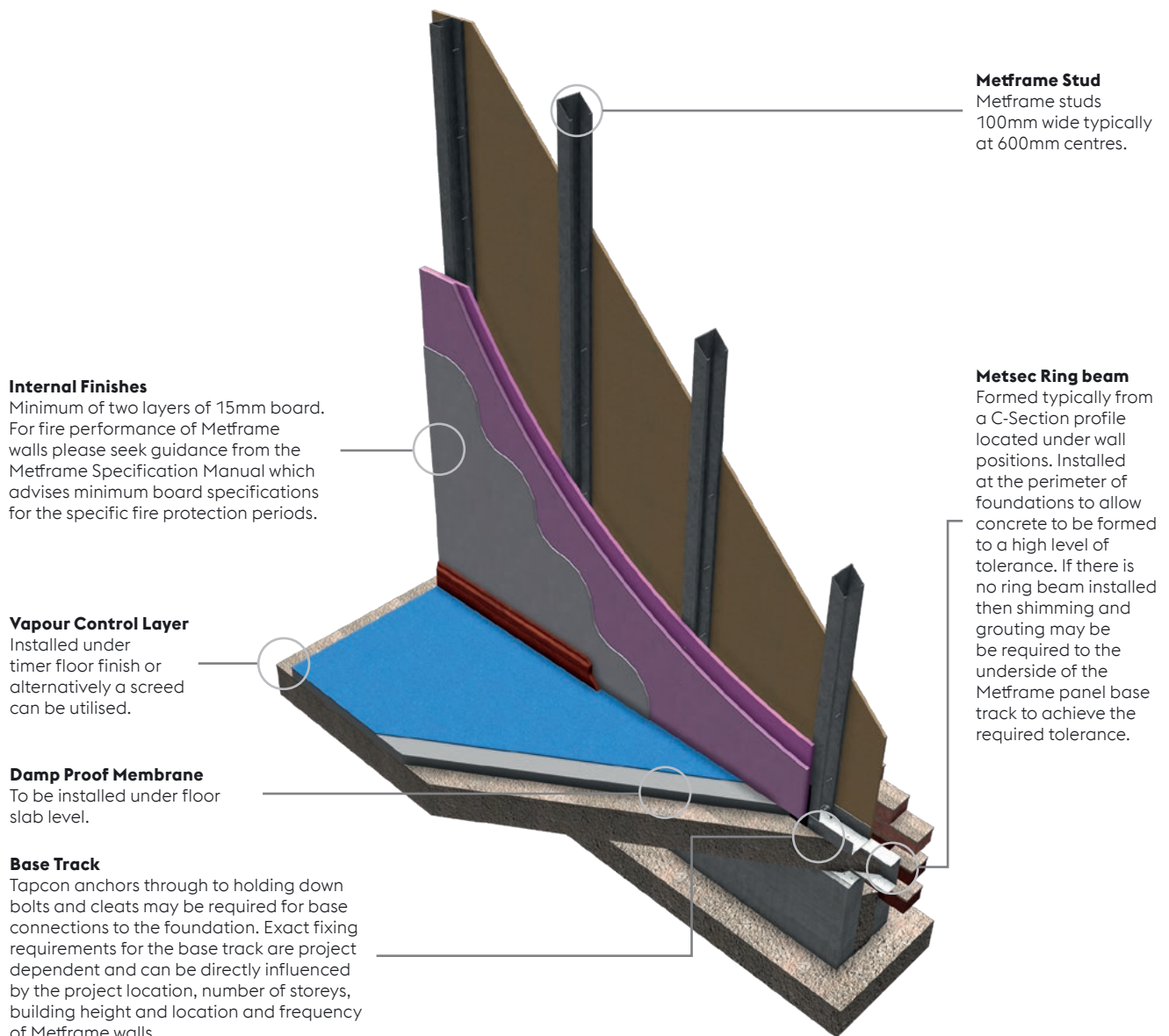


Section on Ring Beam and Panel Interface

DETAIL MF008

METFRAME PANEL AND FOUNDATION INTERFACE

(Viewed internally)



Front View on Ring Beam Cleat

Section of Ring Beam Cleat

Plan on Ring Beam Cleat

METFRAME HOT ROLLED STEEL DESIGN

DETAIL MF012

EXPOSED BEAM FIRE PROTECTED WITH 50mm COVER PLATES USED TO SUPPORT DECKING

Concrete

Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Crack Control Mesh

Reinforcement mesh to be installed to control shrinkage cracks.

Hot Rolled Beam

Exact size to be specified by Metframe Design Team.

Cover to Beam

With minimal floor finish the beam will require at least 50mm concrete cover over the beam to avoid the effect on the quality of the concrete floor finish local to the beam location.

Fire Reinforcement Bar

To be installed in the decking trough. Utilised during the fire case to provide the concrete floor slab with the specific fire requirements.

Disproportionate Collapse Bar

Rebar formed across walls panels to tie adjacent slabs to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.

Steel Decking

Typically 80mm deep trapezoidal steel decking. Exact specification to be confirmed by Metframe on a project by project basis.

Hot Rolled Ledger

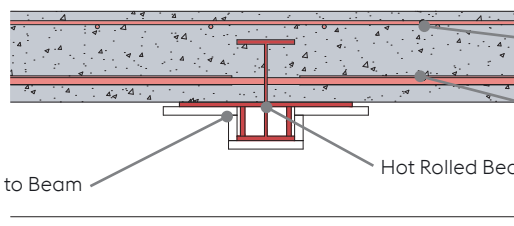
Typically a hot rolled angle welded along its length at a level to match the slab depth. Concrete steel decking to be screwed or shot fired at 300mm horizontal centres to the ledger support angle. Fixings to be confirmed on a project by project basis.

Ceiling

Typically formed as a non-fire rated ceiling allowing services to be run through within the zone between underside of concrete and ceiling level.

Fire Protection to Beam

Typically provided through encasement of the exposed steelwork by a specialist fire board of a minimum thickness of 15mm. Exact thickness of board to be utilised is based on the project specific fire protection.



Crack Control Mesh

Disproportionate Collapse Bar

Hot Rolled Beam

Fire Protection to Beam

Section at Floor Level

DETAIL MF013

FIRE PROTECTION

FOR AN EXPOSED BEAM

WITH NO CONCRETE

COVER PLATES USED TO

SUPPORT DECKING

Concrete

Typically 160mm deep concrete floor formed from C30/37 concrete. Specific concrete guidelines can be found in the Metframe Installation Manual.

Crack Control Mesh

Reinforcement mesh to be installed to control shrinkage cracks.

Hot Rolled Beam

Exact size to be specified by Metframe Design Team.

Cover to Beam

With minimal floor finish the beam will require at least 50mm concrete cover over the beam to avoid the effect on the quality of the concrete floor finish local to the beam location.

Hot Rolled Ledger

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Ceiling

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Fire Protection to Beam

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Fire Reinforcement Bar

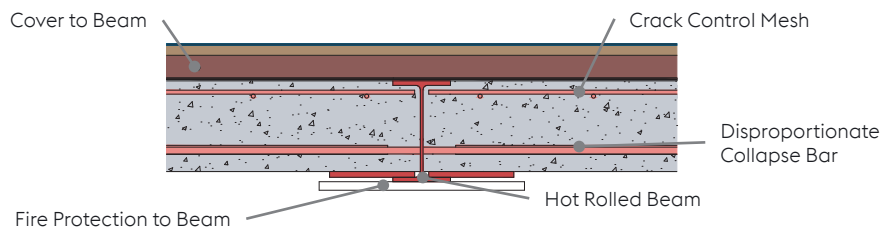
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Disproportionate Collapse Bar

Rebar formed across walls panels to tie adjacent slabs to each other. Design of bars based on requirements from EN1991-1-7 and to be confirmed on a project by project basis.

Steel Decking

Typically 80mm deep trapezoidal steel decking. Exact specification to be confirmed by Metframe on a project by project basis.

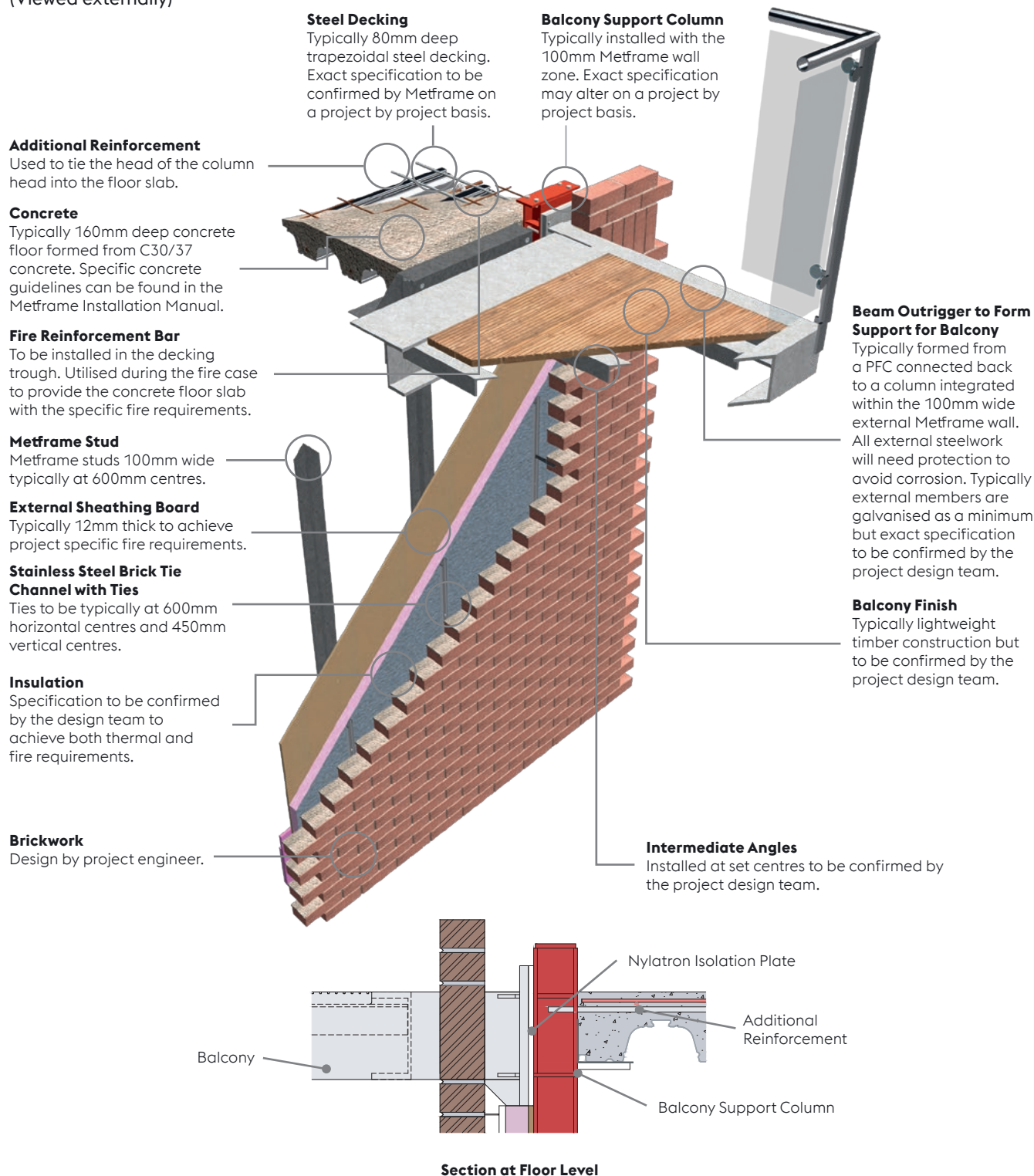


Section at Floor Level

METFRAME BALCONIES

DETAIL MF022 EXTERNAL WALL WITH CANTILEVER BALCONY

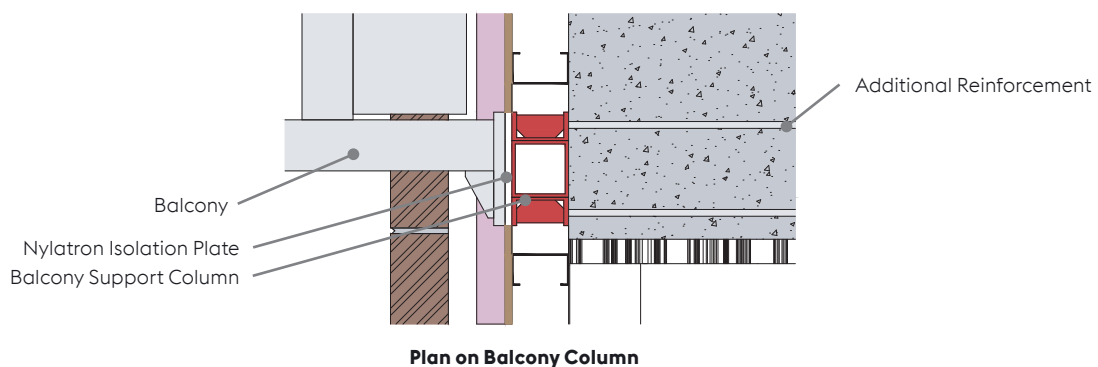
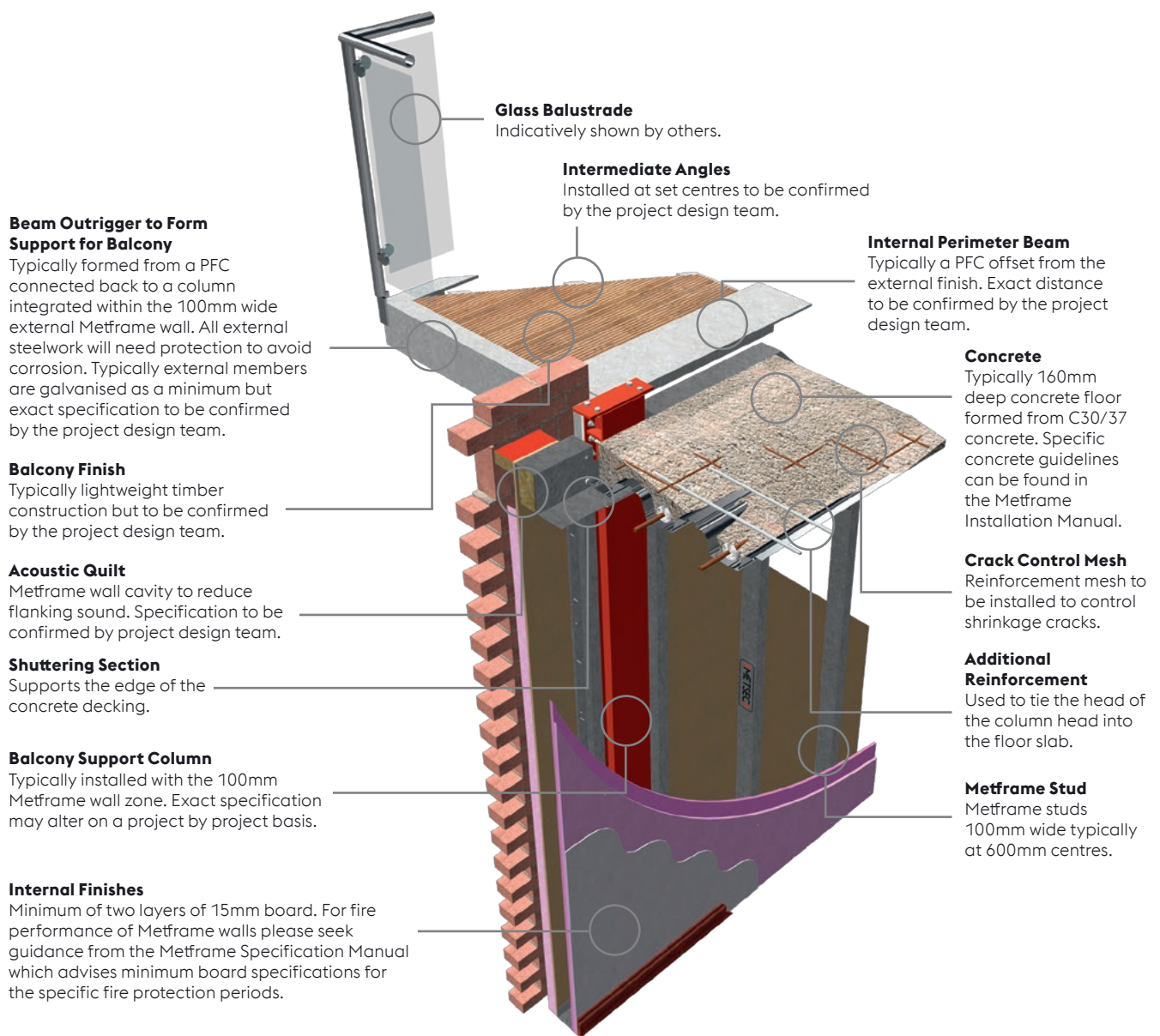
(Viewed externally)



DETAIL MF022

EXTERNAL WALL WITH CANTILEVER BALCONY

(Viewed internally)



- » FRAMING
- » PURLINS
- » DRY LINING
- » CABLE MANAGEMENT
- » CUSTOM ROLL FORMING

Framing

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In the interests of a policy of continuous research and development, voestalpine Metsec plc reserve the right to change the specifications in this publication without prior notice.

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voestalpine

ONE STEP AHEAD.