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Fast-Track Steel Building Systems

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Metframe Division

Pre-Panelised Framing Systems

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Lattice Beam Division

Lightweight Lattice Joists and Trusses

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C-Sections for Mezzanine Floors

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Metsec plc is a member of the Profilform Division
of the voestalpine group with companies in
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Germany, Russia and the U.S.A.

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SFS

Specification Manual

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Investing in quality and service

The Company

Metsec plc is the UK's largest specialist cold roll-forming company, providing structural steel components for the UK construction and manufacturing industries. We have been established for over 75 years and are based in Oldbury in the West Midlands. Today, Metsec are part of the Profilform Division of voestalpine – the world's largest manufacturer of cold rolled sections.

voestalpine is a leading European manufacturer with its own steelmaking facilities and headquarters in Austria. The five divisions of voestalpine; Steel, Special

Steel, Railway Systems, Automotive and Profilform, all occupy top positions within their respective markets.

We focus on adding value through expert design, precision manufacturing and on-time, in-full product delivery. Our aim is to provide excellent service and quality products that offer our customers cost effective solutions.



Metsec's Lightweight Structural Systems

guarantee expert design and cost effective bespoke high quality solutions to the construction industry.

Our unrivalled customer support package includes taking the structural design responsibility from the customer at the outset.

Our highly experienced technical team of engineers will then produce detailed designs which are covered by our Professional Indemnity insurance. Similarly, our manufacturing capacity ensures the fast and accurate supply of materials to site ready for installation enabling our customers to meet the tightest building programmes.

Purlin Division

Metsec's Purlin Division is the UK's largest designer and manufacturer of light gauge galvanised steel purlins, side rails and mezzanine floor systems for use in a wide range of industrial and commercial developments. Our systems are manufactured from 450N/mm² guaranteed yield strength material for greater strength and reduced project weights. Metsec Z & C sections are available in profile heights from 142mm to 342mm and thicknesses from 1.3mm to 3.0mm and are available with a full range of accessories.

SFS Division

Metsec's Steel Framing System (SFS) Division leads the market when it comes to light gauge galvanised steel structural framing designs and is suitable for a wide range of applications in most market sectors of construction. SFS is a fast track cold rolled steel frame system which is site fixed as infill or continuous walling, high bay separating walls or load bearing structures.

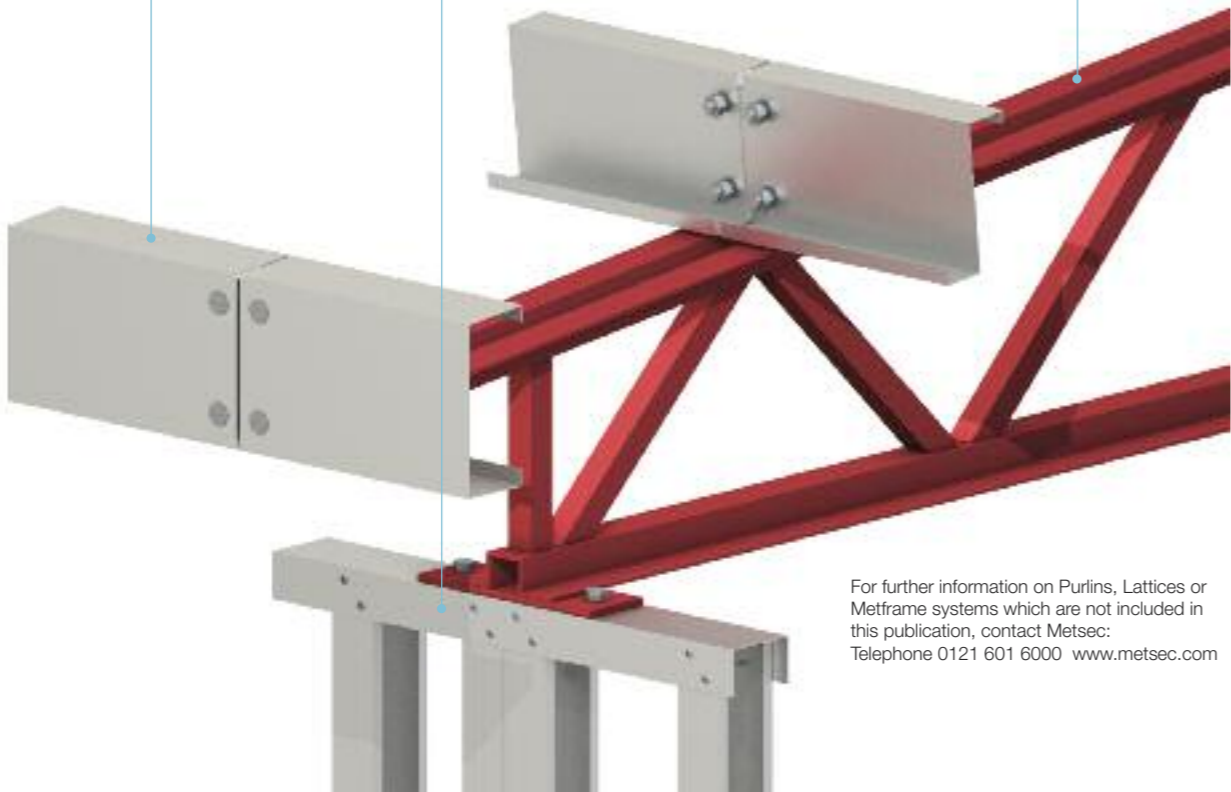
SFS provides a pre-engineered solution in line with the demands of modern methods of construction and is structurally proven and independently tested to provide thermal, acoustic and fire resistance performance.

Metframe Division

Metsec's Metframe Division provides a pre-panelised framing system that is fabricated off site. Panels are then installed on site with either concrete or cold-rolled steel joisted floors added to create a complete stand alone structure. The use of prefabricated panels allows the efficient erection of the structure and aids the main contractor in reducing the overall on-site programme

Lattice Beam Division

Metsec's Lattice Beam Division is the UK's largest manufacturer of lightweight steel lattice joists, trusses and beams, including parallel, pitched, tapered and curved designs with spans up to 40 metres. Lightweight and easy to handle, they offer ideal structural support with optimum strength to weight ratio. The open web configuration allows for the easy passage of services.



For further information on Purlins, Lattices or Metframe systems which are not included in this publication, contact Metsec: Telephone 0121 601 6000 www.metsec.com

Quality

Metsec operates strict design and quality procedures through a Quality Management System accredited to BS EN ISO 9001:2000 which covers both our design and manufacturing operations.

This commitment to quality ensures that we provide the highest levels of performance throughout our operations, ensuring the highest level of customer satisfaction.

Design

Our market leading FrameSPEC design software provides cost effective solutions to maximise the design efficiency of structures, whilst saving the professional team valuable time when specifying our products. Comprehensive technical support is provided by our design office.

For full details on our technical support service and how to obtain a free copy of FrameSpec, please refer to pages 38-39.

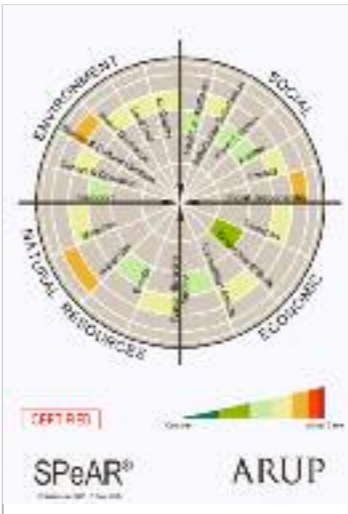
Sustainability

Certification

Metsec and voestalpine both regard the issue of sustainability as a core social, as well as corporate, responsibility.

This has been recognised by the award of BS EN ISO 14001:2004 for our Environmental Management System.

Metsec were the first cold roll-forming company to be awarded the prestigious Gold Standard under the Steel Construction Sustainability Charter.



Additionally, Metsec recognise that environmental responsibility is both a local as well as a global issue. We were therefore pleased to be awarded the Sandwell Borough Platinum Environmental Charter Award following an audit of our Environmental management procedures and award of BS EN ISO 14001:2004.

Re-use and recycling

Steel is one of the world's most recycled materials with a potential recovery and re-use factor of up to 94%*.

SFS is also substantially lighter than traditional alternatives, allowing the possibility of reducing the loads on the primary frame and sub-structure.

These factors combine to offer a reduction in the overall carbon footprint of the building.

* BCSA publication no. 35/03

SPeAR®

Independently, as well as with voestalpine, Metsec will continue to pursue sustainability as a key business objective. The cornerstone of this is the very thorough and detailed societal, economic and environmental sustainability review of our operations carried out in the SPeAR® (Sustainable Project Appraisal Routine) Report from Arup. This report gives us both an assessment of our current environmental position as well as identifying key areas for improvement in the future.

To quote from the report:

"The baseline SPeAR® diagram shows a well balanced performance in terms of sustainability, and that Metsec is already meeting legislation or best practice in the large majority of areas. In some cases Metsec is starting to move beyond best practice."

Choosing the right SFS application

Metsec produce a wide range of sections which our designers can use within four clearly defined building applications to suit many construction requirements.

Cold-rolled galvanized steel sections are typically supplied to site as individual components which are assembled in-situ using Tek screwed connections. Components can be manufactured cut to length or supplied in standard lengths which are then cut to suit on site.

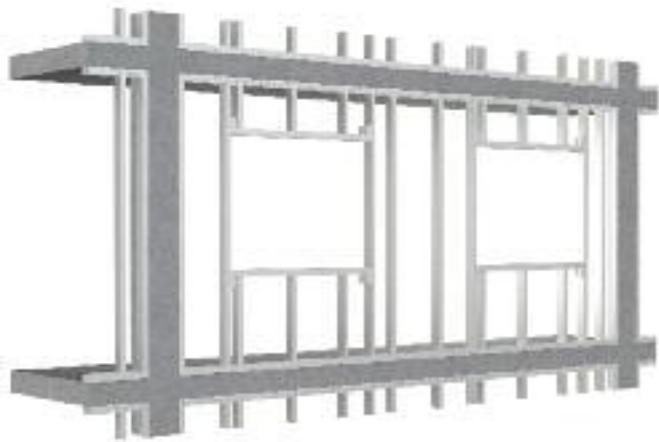
Metsec SFS is an extremely versatile product and has many advantages over traditional or timber frame construction:

- Fast track construction aids the overall construction programme.
- Lightweight construction reduces loads on the primary structural frame and sub-structure design.
- Cutting components to length on site means tolerances in the structures primary structural frame can be accommodated.
- In-situ assembly is advantageous on sites with access/craneage restrictions.

- High thermal and acoustic performance. Foil faced insulation is fitted externally which can be enhanced using insulation in the stud cavity.
- Support/restraint can be provided for most external cladding materials.
- Early weather protection is achieved to the building.
- Wet trades on site are minimized.
- Shrinkage/warping problems associated with timber frames do not apply to steel frames.

- Precision engineered components reduce building maintenance.
- Design/detailing service and technical back-up is provided throughout the process.
- Projects are underwritten by Metsec's Professional Indemnity Cover.
- Excellent sustainability characteristics.
- Proven track record

Infill walling - see pages 10-11



A Metsec base track is fixed onto the slab of the primary structural frame. Metsec's slotted head tracks are then fixed to the underside of the slab or structure to allow for deflection, and studs are then cut, aligned and fixed into position with Tek screws at regular centres to provide support for internal and external finishes.

Continuous walling - see pages 12-13



This system is fitted outside the primary structural frame. Support is required for the system's base track. Studs are then built multiple storeys tall. These are restrained using cleats with slotted connections at each slab level. Each lift of studs is capped with a track which provides support for the next base track and lift of studs over.

High-bay separating walls - see pages 14-15



This is a fast-track, high performance, single span separating wall system. Its lightweight construction and uniformly distributed loads normally mean that the system can be used within existing structures without the need to strengthen foundations or slabs.

Load-bearing structures - see pages 16-17



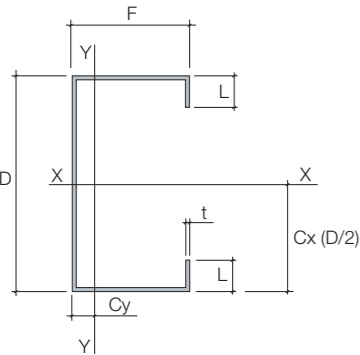
Metsec can design and supply a complete load bearing superstructure for low to medium rise structures. Our Technical Department provides details to allow SFS sections to be assembled in-situ to provide walls, floors and roofs. The lightweight characteristics make roof top extensions to existing structures for penthouse apartments, a common application for this system.

SFS – Components

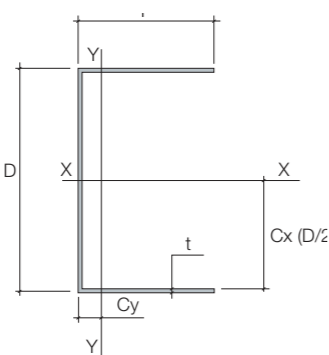
Metsec SFS relies on high quality, purpose designed components. The design of sections draws on Metsec's extensive cold rolling knowledge to maximise the strength to weight ratios. Where necessary, the Metsec SFS range of sections can be used in conjunction with other ranges produced by Metsec.

The table opposite shows the standard section range for SFS.

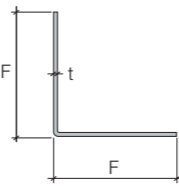
These consist of the section profiles listed below:



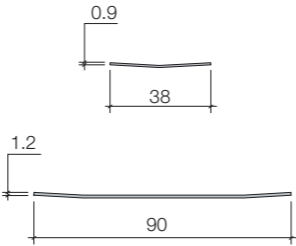
'C sections': Used as studs in wall panels and joists in floor/roof panels.



'Channels': Used as tracks on the top and bottom of wall panels and ends of floor/roof panels.



'Angles': Used for various arrangements to provide additional or temporary support.

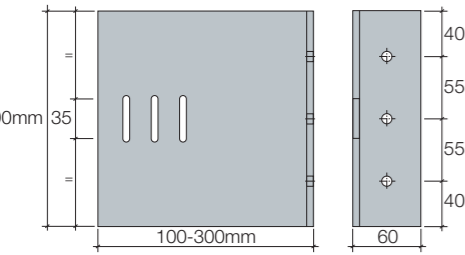
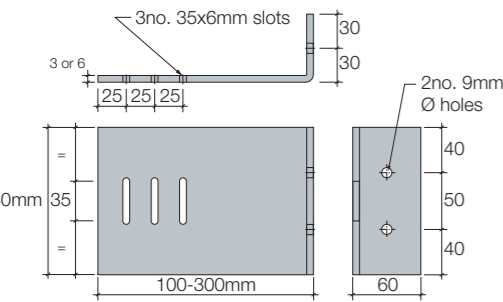


'Straps': These are available to use as bracing members when screw fixed to the face of panels.



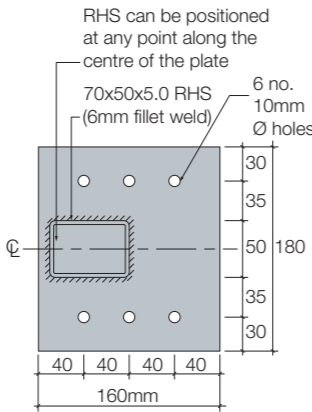
Stud being fixed to slotted head track.

Accessories

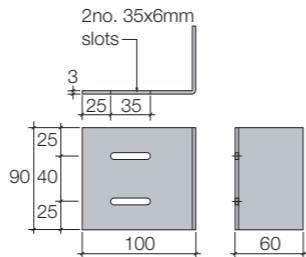


Continuous walling cleats (slotted)
3m thick - Ref. CW1303 x (100 - 300)
or CW1903 x (100 - 300)
6m thick - Ref. CW1306 x (100 - 300)
or CW1906 x (100 - 300)

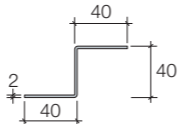
Dead load cleats (no slots)
3m thick - Ref. DL1303 x (100 - 300)
or DL1903 x (100 - 300)
6m thick - Ref. DL1306 x (100 - 300)
or DL1906 x (100 - 300)



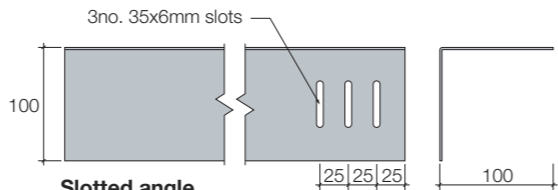
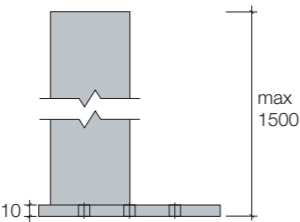
Cantilever posts
Ref. CP705050



High load cleats
Slotted - Ref. HS903
Plain - Ref. HL903



Zed bars
Ref. Z402
Supplied in 600mm lengths



Slotted angle
Ref. SA1002
Supplied in 1000mm lengths

All cleats, zed bars and slotted angles are manufactured from pre-hot dipped galvanised steel.

Section properties

Section sizes and properties

Section Ref	Area cm ²	Weight kg/m	D mm	F mm	L mm	t mm	Cy cm	Ixx cm ⁴	Iyy cm ⁴	Zxx cm ³	Zxc cm ³	rx cm	ry cm	Po N/mm ²	Q	es cm
70M15	2.31	1.83	70	35	10	1.5	1.21	18.3	3.92	5.22	5.22	2.81	1.30	280	0.971	0.03
100M12	2.75	2.14	100	53	14	1.2	1.84	45.9	11.07	9.18	8.70	4.08	2.01	273	0.762	0.37
100M15	3.45	2.67	100	54	14	1.5	1.88	57.4	14.21	11.49	11.32	4.08	2.03	280	0.863	0.24
100M20	4.60	3.56	100	55	15	2.0	1.92	76.1	19.21	15.21	15.20	4.07	2.04	280	0.956	0.08
100M23*	6.04	4.67	100	71	16	2.3	2.64	104.6	41.40	20.92	20.85	4.16	2.62	280	0.976	0.05
100M29*	7.67	5.83	100	72	16	2.9	2.71	131.1	53.58	26.22	26.22	4.14	2.64	280	0.997	0.01
100M30*	10.56	8.26	100	110	22	3.0	4.65	192.3	172.10	38.45	37.89	4.27	4.04	280	0.979	0.01
150M12	3.37	2.64	150	55	13	1.2	1.56	118.3	13.44	15.77	14.98	5.92	2.00	250	0.625	0.67
150M15	4.23	3.37	150	56	13	1.5	1.60	148.2	17.24	19.76	19.44	5.92	2.02	264	0.713	0.55
150M20	5.64	4.47	150	57	13	2.0	1.64	196.8	23.31	26.23	26.19	5.91	2.03	277	0.815	0.35
150M30*	8.76	6.83	150	62	15	3.0	1.89	306.9	42.82	40.92	40.92	5.92	2.21	280	0.955	0.08
200M12	3.97	3.13	200	55	13	1.2	1.34	232.0	14.59	23.20	22.39	7.64	1.92	228	0.536	0.88
200M15	5.28	4.18	200	65	14	1.5	1.70	319.6	27.71	31.96	30.89	7.78	2.29	246	0.607	0.86
200M20	7.08	5.56	200	67	14	2.0	1.77	428.8	38.82	42.88	42.61	7.78	2.34	264	0.707	0.66
200M30*	10.56	8.26	200	69	14	3.0	1.89	639.3	59.60	63.93	63.92	7.76	2.37	280	0.851	0.30
250M16	6.55	5.11	250	68	15	1.6	1.62	594.5	35.78	47.56	46.45	9.52	2.34	234	0.558	1.04
250M20	8.16	6.38	250	68	15	2.0	1.62	736.9	43.86	58.65	58.65	9.50	2.32	250	0.626	0.88
300M20	8.80	6.97	300	59	15	2.0	1.20	1060.3	32.22	70.68	70.64	10.98	1.91	237	0.549	0.90
300M29	12.83	10.1	300	62	15	2.9	1.30	1548.3	50.35	103.22	103.22	10.99	1.98	262	0.652	0.62
74M12	1.82	1.47	74	40	0	1.2	1.08	16.4	2.99	4.43	3.37	3.00	1.28	280	0.618	-0.48
74M20	4.00	3.26	74	65	0	2.0	2.15	39.4	18.18	10.65	8.06	3.14	2.13	280	0.757	-0.93
104M12	2.71	2.14	104	62	0	1.2	1.73	49.8	10.96	9.58	6.11	4.29	2.0	271	0.444	-1.01
104M15	3.38	2.67	104	62	0	1.5	1.74	61.7	13.60	11.87	8.18	4.28	2.01	280	0.539	-0.91
104M20†	4.52	3.56	104	63	0	2.0	1.80	82.2	18.70	15.81	12.29	4.26	2.03	280	0.694	-0.76
108M30*	6.78	5.35	108	62	0	3.0	1.77	129.0	26.50	23.89	22.47	4.36	1.98	280	0.911	-0.30
154M12	3.33	2.64	154	63	0	1.2	1.46	123.1	12.88	15.99	10.86	6.08	1.97	249	0.346	-0.83
154M20†	5.64	4.47	154	66	0	2.0	1.60	208.7	23.96	27.10	21.04	6.08	2.06	276	0.533	-0.69
158M30*	8.70	6.83	158	69	0	3.0	1.72	336.4	40.03	42.58	38.32	6.22	2.15	280	0.754	-0.46
204M12	3.93	3.13	204	63	0	1.2	1.25	237.4	13.88	23.27	16.66	7.77	1.88	226	0.287	-0.70
204M20†	6.96	5.56	204	74	0	2.0	1.63	435.2	35.55	42.67	32.42	7.91	2.26	263	0.424	-0.73
208M30*	10.38	8.26	208	72	0	3.0	1.59	659.8	48.66	63.44	56.07	7.97	2.17	280	0.606	-0.51
254M12	3.93	3.13	254	38	0	1.2	0.49	305.0	3.47	24.01	20.75	8.81	0.94	204	0.278	-0.06
254M20	8.00	6.38	254	79	0	2.0	1.59	762.0	45.13	60.00	45.66	9.66	2.35	249	0.361	-0.78
304M16	6.41	5.11	304	53	0	1.6	0.75	750.6	12.25	49.38	41.77	10.74	1.37	216	0.298	-0.17
304M20	8.72	6.97	304	68	0	2.0	1.13	1070.1	30.86	70.40	57.75	11.08	1.88	236	0.343	-0.39
306M29	12.65	10.1	306	68	0	2.9	1.16	1559.5	43.94	101.93	91.85	11.10	1.86	261	0.475	-0.19
38VB09	0.34	0.27	38	0	0	0.9										
90VB12	1.20	0.85	90	0	0	1.2										
45x45x2.0	1.76	1.38	0	45	0	2.0										
100x100x2.0	3.96	3.11	0	100	0	2.0										

* Non-Standard section sizes. Availability and lead-in times may vary from typical periods.

† Section is available with deflection head slots with an 'S' reference i.e. 104M20S.

C Section Studs can be provided with a 72x32mm service slot central in the web at 600mm from each end where requested.

Properties are for single studs and track sections.

Sizes are nominal.

'es' = Shift in neutral axis due to axial load. Positive value means axis shifts away from web.

Examples of section references are:

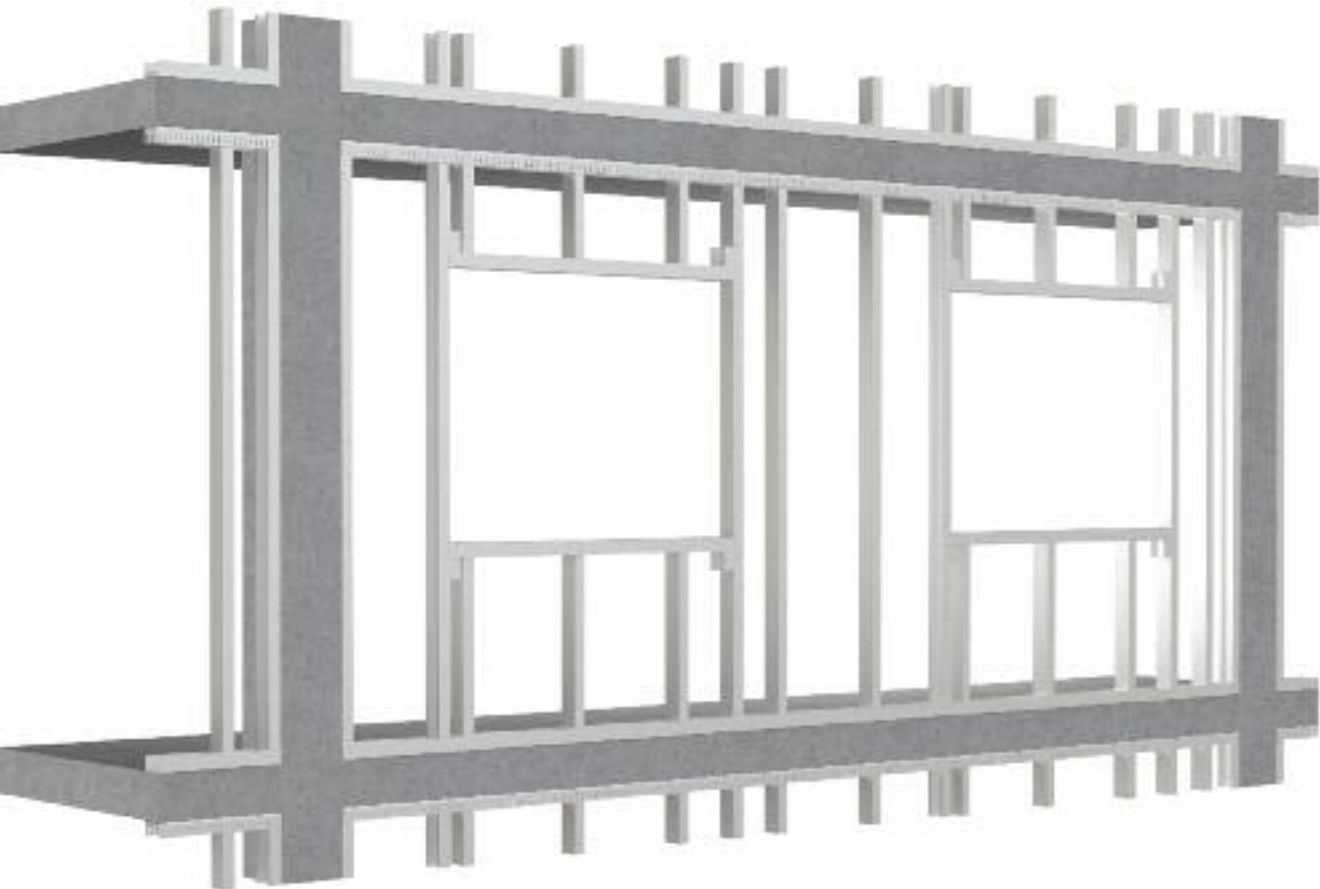
100M12 = Lipped C section of 100mm depth, 1.2mm material thickness.

104M12 = Non-lipped channel section of 104mm depth, 1.2mm material thickness.

'M' reference denotes SFS section.

SFS - Infill walling

Metsec SFS forms a secondary structure which is fixed between the primary super structure. It is generally positioned at the slab edge allowing insulation and external finishes to be installed continuously outside the main structural frame.



The Post Box, Birmingham

High load cleats

The high load deflection cleats are typically used for door and window jamb studs where the reaction at the head or base of the stud exceeds the capacity of the supporting track. These cleats can be provided plain, for the base, or slotted to allow for vertical deflection at the head.



Cantilever Post
Centres as Metsec design.

Lintel track
As Metsec design.

Stud section as support bracket
Minimum 150mm long stud section fixed through jamb web with 4 no. Tek screws.

Additional stud
150mm from jamb, where brick-tie channels required for masonry finish.

Jamb stud
As Metsec design.

Cill track
As Metsec design.

Cill support bracket
Design may require stud section to extend to base track.

Metsec slotted head track
Metsec's slotted head track has been developed to allow for the deflection in the primary structural frame. The studs are screw fixed to the slotted head track through pre-formed slots in the track.

Key advantages over alternative systems are:

- Quicker and easier to install than conventional deflection brackets.
- Simpler and faster to install than traditional masonry infill.
- Fewer components on site - less components to store, lose or work with.
- Fix and forget system - no concerns about missing brackets.
- Visible centre line indent indicates fixing location.
- Vertical slots at 25mm centres allow for flexibility of stud positions.

Studs
Section size and centres according to Metsec design. Top of stud is positioned 15mm short within track.

Studs fixed to track
With low profile Tek screws, both flanges.

Base track
Supported by and fixed to primary frame as Metsec design.

SFS - Continuous walling

The Metsec SFS continuous external walling system is constructed outside the main structural frame.

This form of construction is ideal where movement joints in the external cladding need to be minimized.

The base of the system requires vertical support.

The base track is fixed to the support member.

Studs are then built multiple storeys tall as determined by design.

Studs are fixed to each slab edge using cleats with slots to allow for vertical movement in the primary structure.

Each lift of studs is capped with a track that provides support for the base track of the next lift of studs.

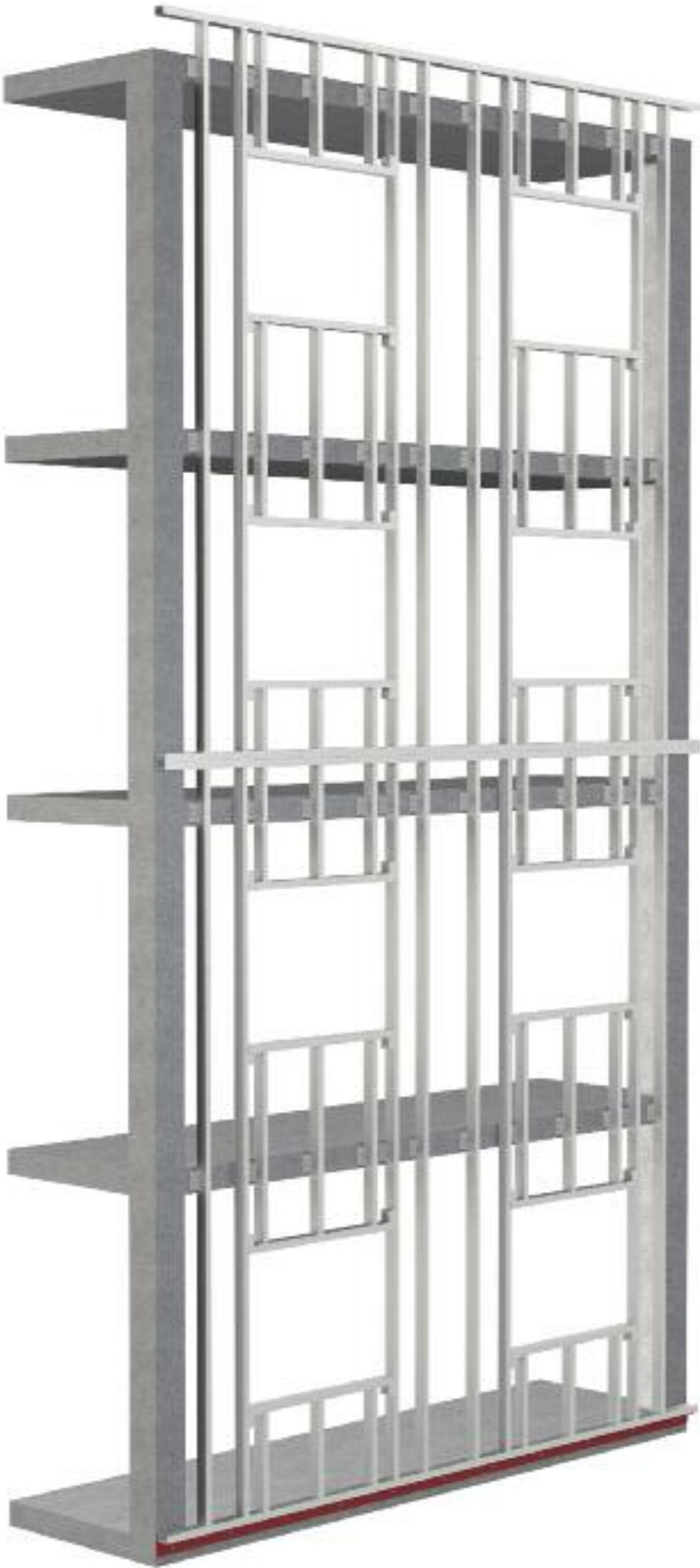


Cleats

Cleats can be produced either 3mm or 6mm thick and 130mm or 190mm deep. Slots can be provided to allow the cleat to be used as a deflection cleat. Alternatively, the cleat can be manufactured plain (without slots) to act as a dead load cleat. The projecting cleat leg can vary from 100mm to 300mm in increments of 25mm.

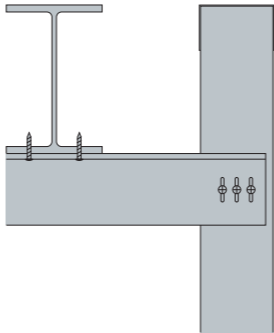
The return leg of the 3mm cleat can be provided without holes to allow the use of self tapping tek screws or shot fired nails into hot rolled steel. Alternatively, 9mm diameter holes can be provided to allow the cleat to be fixed to concrete with M8 Large Diameter Tapcons (LDTs).

The 6mm cleat will always be provided with 9mm holes to allow it to be fixed using either M8 LDTs to concrete, or M8 blind bolts to steel.



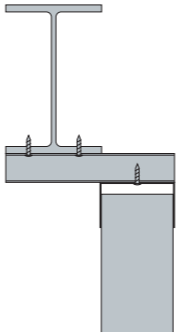
Slotted angle (SA1002)

The use of slotted angles is often advantageous where the SFS is offset from the primary structure frame by a distance which is too great for cleats.

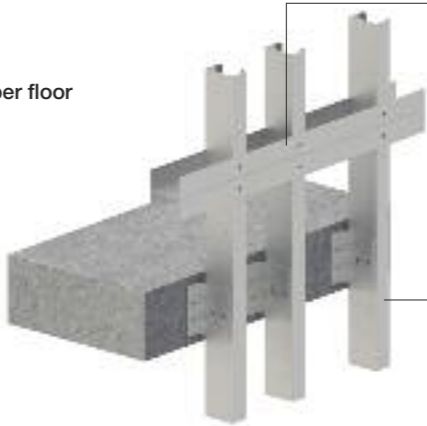


Zed bars (Z402)

40 x 40 x 40 x 2mm zed bars can be provided in 2mm material and 600mm length. Zed bars are commonly used where there is not sufficient bearing at the head or base of the SFS panel.



Head track
Tek screwed to all studs



Intermediate base/head track
Base and head track are fixed back to back to receive studs from above and below. (Typically 300mm above SSL.)



Studs
Continuous past the slab. Stud height, gauge, centres and size according to Metsec bespoke design.



Angle cleats
By design. Mechanical anchors to slab edge. Tek screws through slots in cleats to each stud.



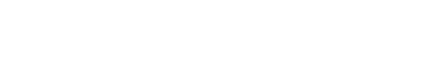
Window lintel track



Window cill track



Base track
Fixed to support member with Tek screws.



Support member
Anchored to slab edge. Designed and supplied by others.

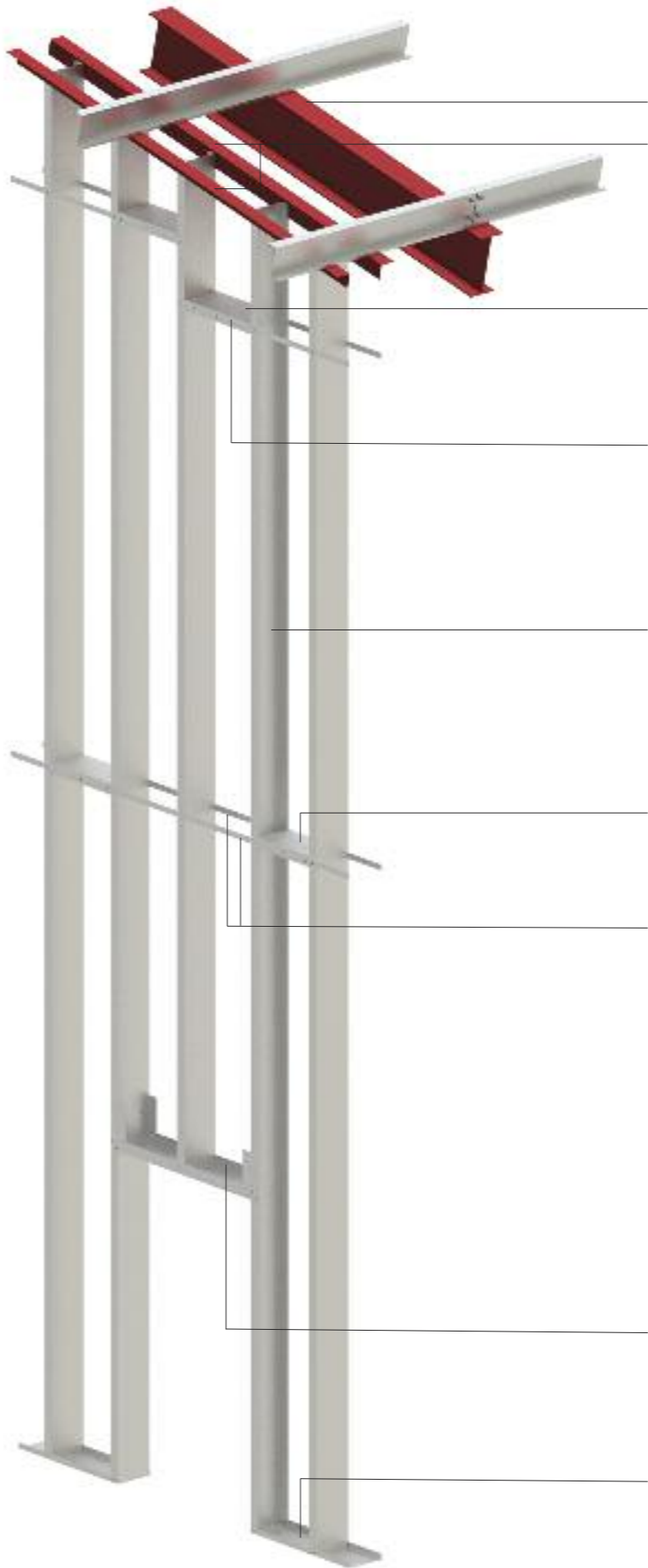
SFS – High Bay separating walls

Metsec SFS High Bay Wall is a high performance single span separating wall.

Its lightweight construction and uniformly distributed loading normally eliminates the need to strengthen foundations or existing floors. This reduces the time required for installation and minimises the overall project cost.



Above and above right - David Lloyd Centre, Liverpool



Hot rolled steel roof beam

Angle section restraint members
Fitted to the underside of purlins each side of partition head.

38VB09 Strap on both sides
1 no. Tek screw to every stud flange,
3 no. Tek screws to each blocking piece.

Wall head blocking
Stud section cut to fit snugly between studs, fitted every third bay and to end studs in partition.

Full height studs
Section size and centres as Metsec design.
Studs stopped short from top of angles to allow for vertical movement as required by design.

Mid height blocking
Stud section cut to fit snugly between studs and fitted every third bay and to end studs in partition.

38VB09 Strap on both sides
1 no. Tek screw to every stud flange,
3 no. Tek screws to each blocking piece.



Jambs and lintels
Jambs and lintels by Metsec design.
Compound members (such as above) may be required.

Base track
Studs fixed to base track with low profile tek screws both flanges.

SFS - Load-bearing systems

Metsec can design and supply a complete load-bearing superstructure for low to medium rise structures.

Metsec components are supplied to site loose and are assembled in-situ with Tek screwed connections.

This system has many advantages over traditional methods of construction.

It is light-weight, fast track, durable and is suitable for confined sites.

Metsec's technical team can offer advice on wall and floor build-ups and have a library of test details to substantiate performance data for a range of build-ups.

A design and detailing service can be provided. For this process to work effectively, the following basic architectural information should be provided by the design team:

- Wall set-outs and build-ups.
- Structural set-out of apertures in walls.
- Floor build-up and positions where trimming-out required.
- Roof build-up and set-out and details of feature (ie. eaves/parapets/hatches etc)
- Junction detail with supporting elements.

Please note
Load-bearing structures require a full Metsec design prior to commencement of work on site.

Ceiling
Resilient bars fixed to underside of Metsec joists.

Apertures
Set to suit architectural layout.
Lintel and jamb design is dependent on aperture configuration. A short section of stud is used as a support bracket for lintels and cills.
An additional stud is positioned adjacent to the jamb for a brick-tie channel where masonry cladding is required.

Walls
Metsec lipped C-section studs storey height with track sections at base and head.
Set-out/extent of SFS wall to suit architectural configuration and Metsec design requirements.
Size/gauge and centres of studs as design.
Bracing
Flat strap bracing screw fixed to wall studs. Quantities and positions as Metsec design.

Roofs
Joists laid flat or with a fall to suit project.
Access hatches/roof-lights can be incorporated where required.
Bracing requirements are dependent upon roof build-up.
Parapet detail shown has studs continuous from floor below.
Joists supported by and fixed to end track which is fixed to studs.
End joists are also screwed to studs.

External finishes
SFS Load-bearing walls can provide support/restraint for most finishes (see pages 18-23)
Foil-faced rigid insulation for masonry cladding shown.

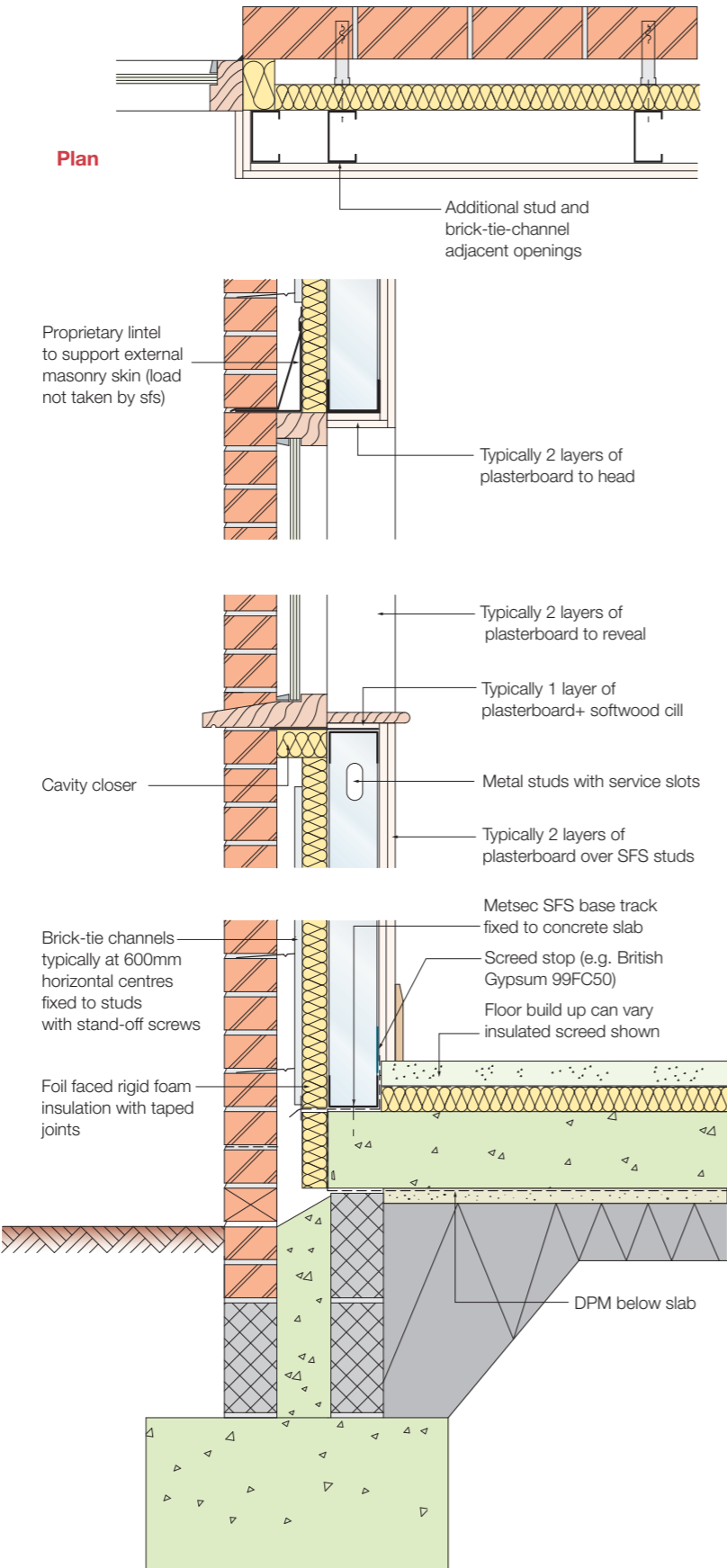
Floors
Metsec joists depth, gauge and centres to suit spans required.
Joists supported by/fixed to track, screwed to wall head.

Blocking detail
Solid blocking of joist section cut to fit snugly between every third joist and adjacent first/last joist.
Design to determine requirements.

Floating floor
Shown over Metsec

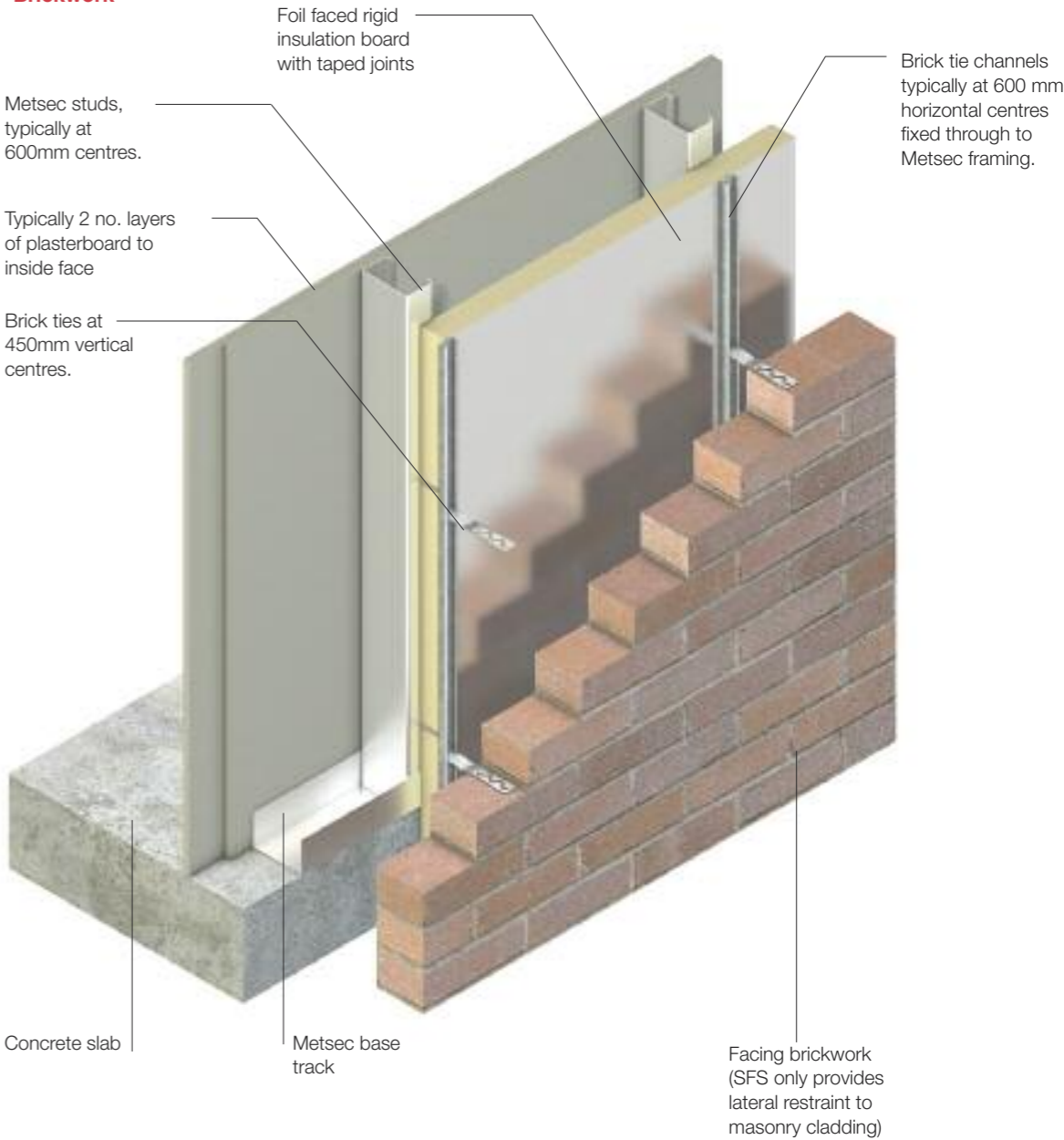
Typical cross section - masonry clad

Metsec SFS can provide support/restraint for most cladding materials and external veneers. This gives the Project Architect total flexibility to create the desired building form.



Typical cross section - Brickwork clad

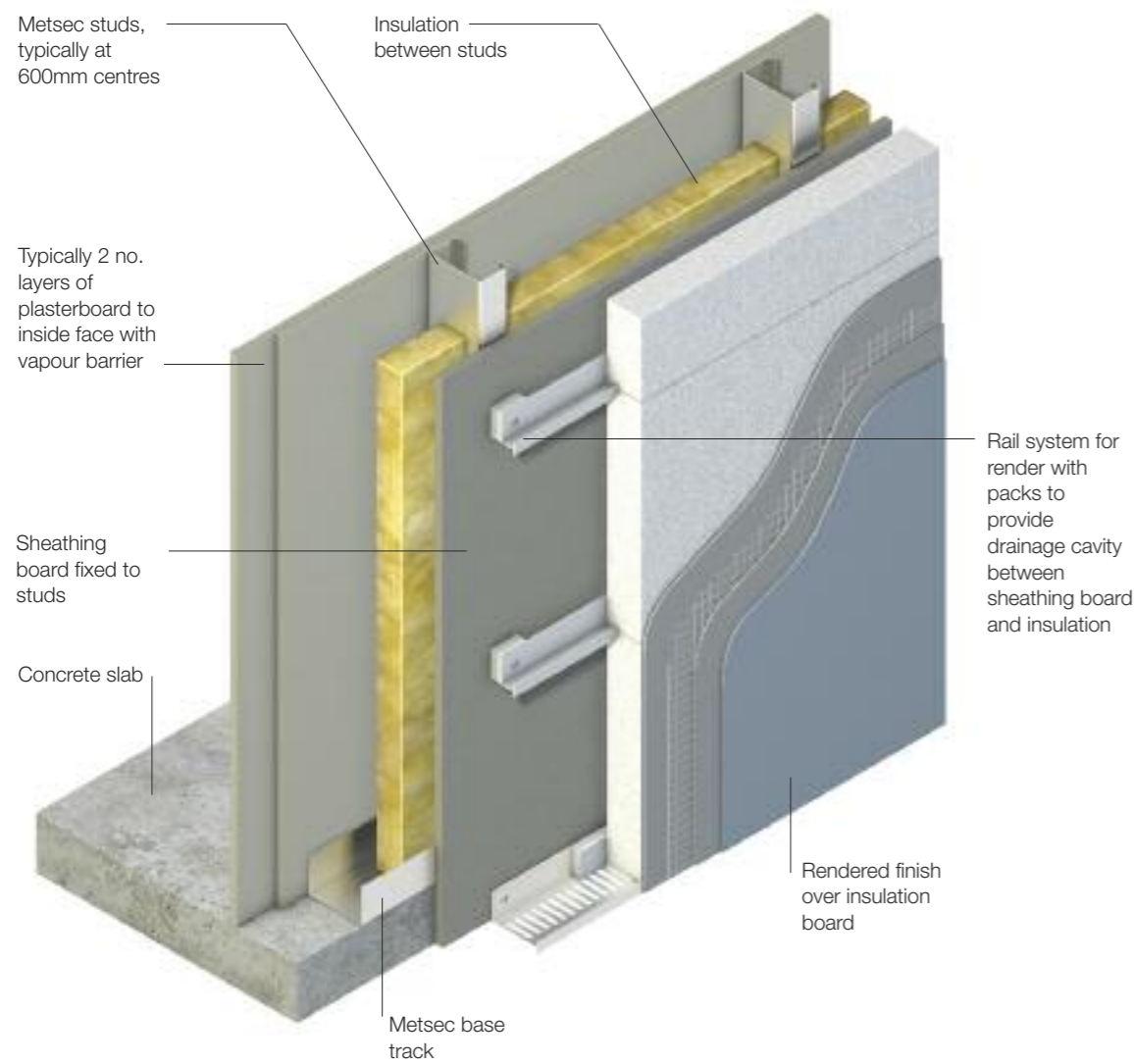
External wall - Brickwork



Woolwich Arsenal, London

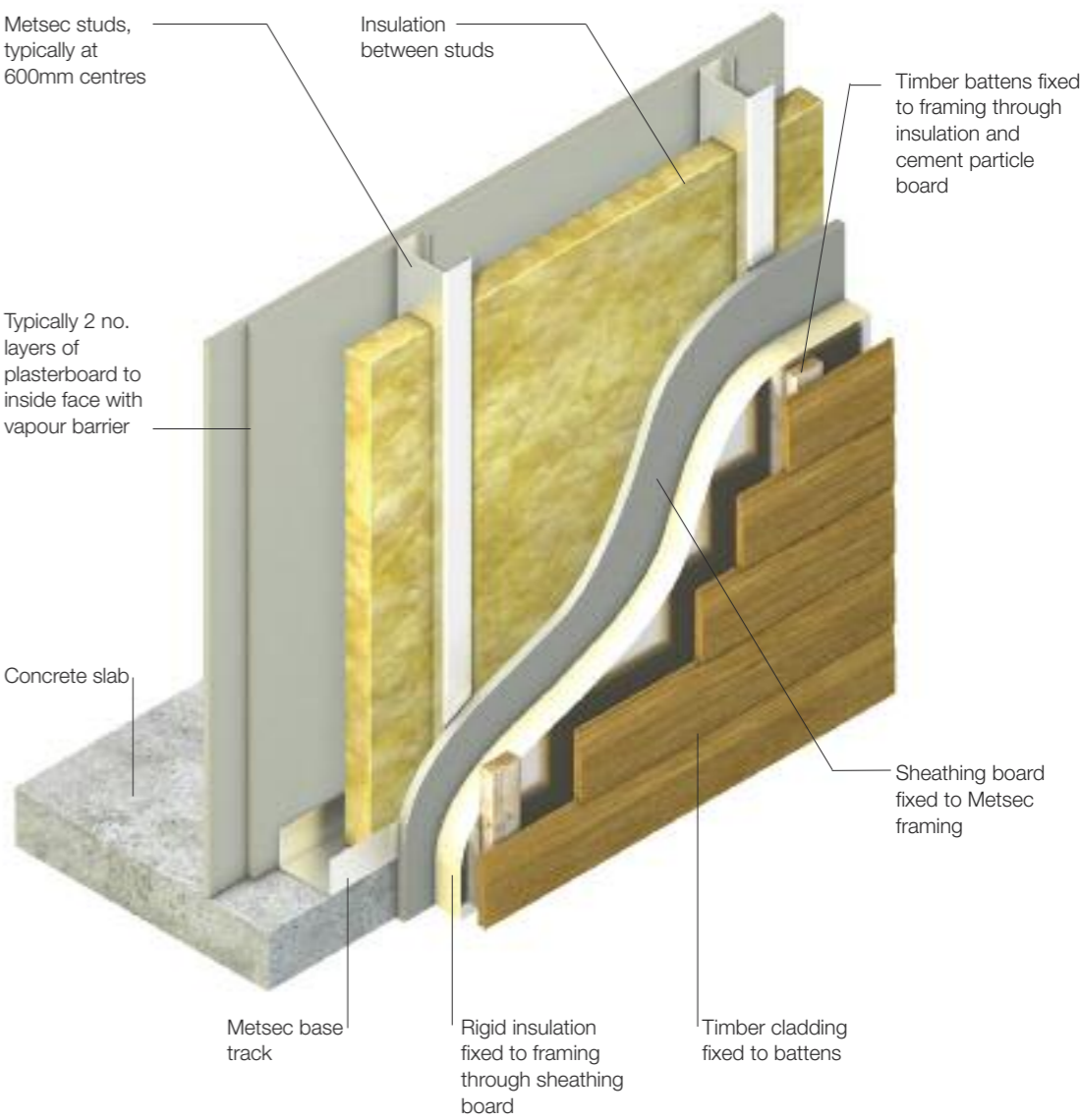
External finishes

External wall - Insulated render



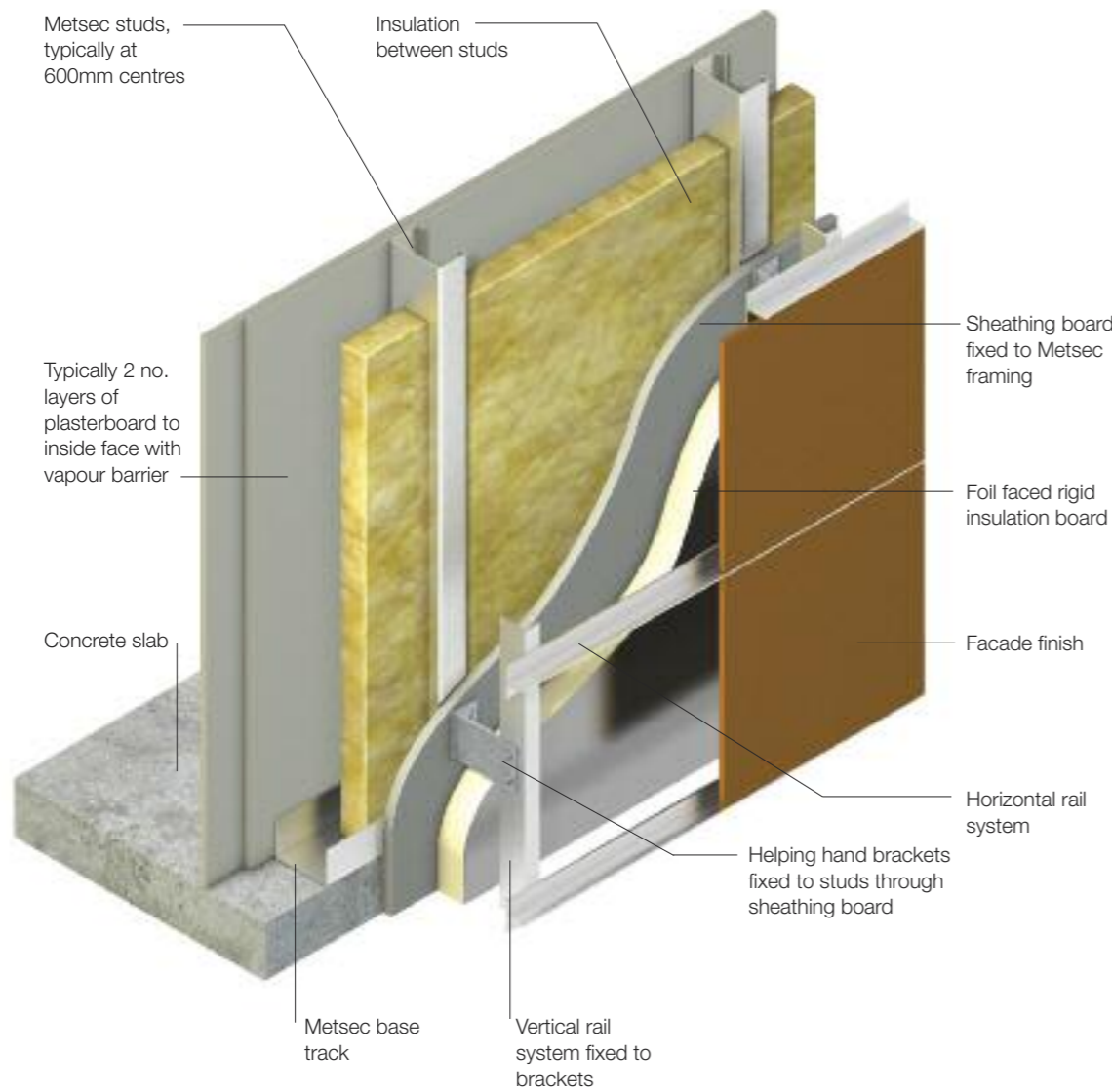
Chettles Yard, Nottingham

External wall - Timber cladding

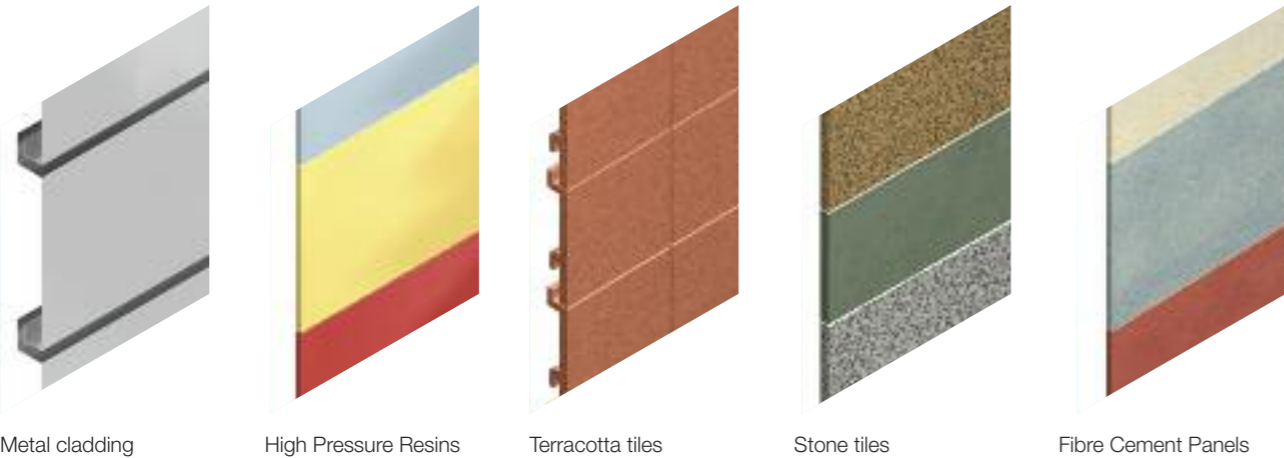


Stratford train crew accommodation, London

External wall - Ventilated rainscreen

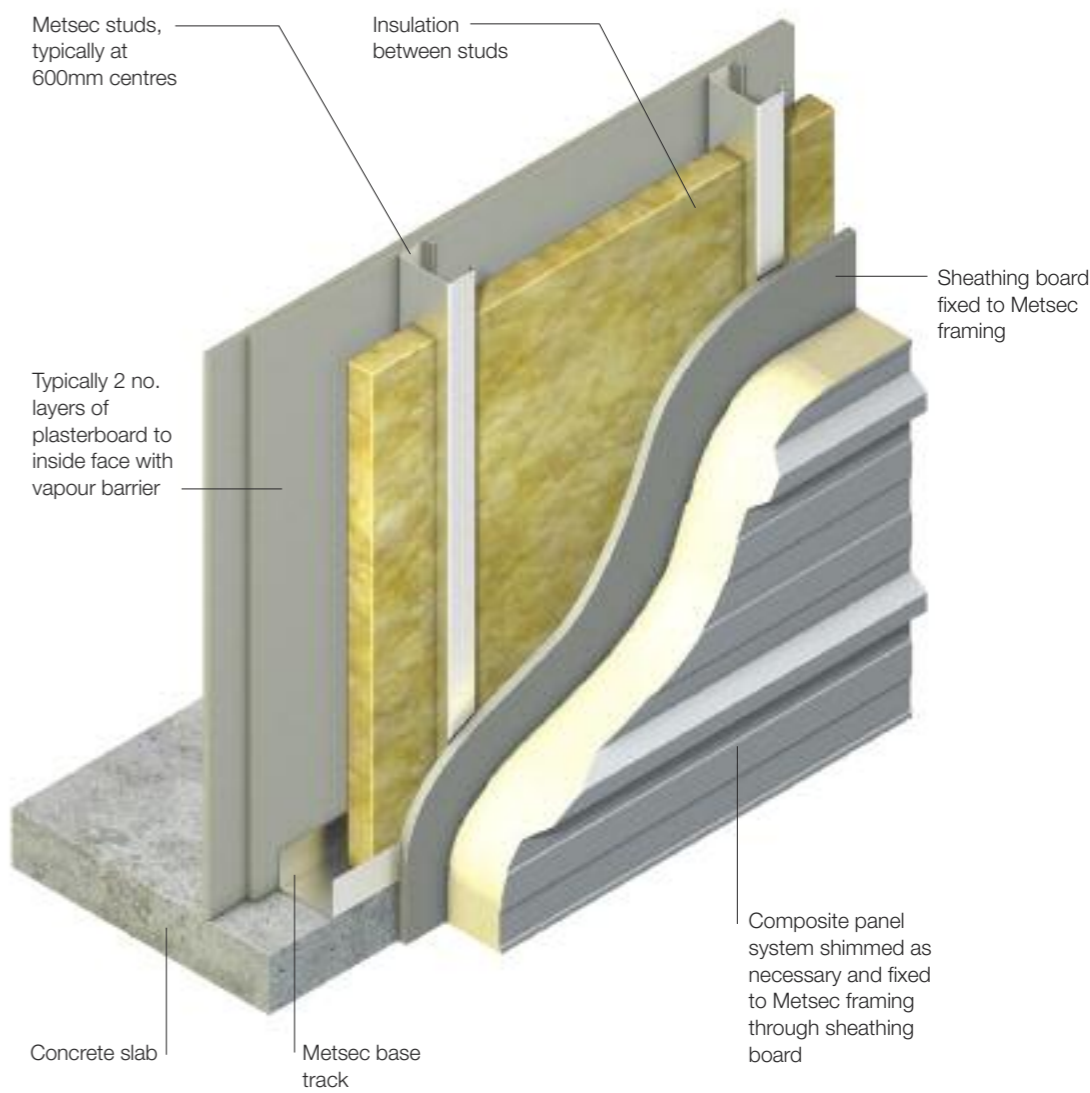


Many facade finishes are available to use on rainscreen systems including:



Carrier systems and brackets may vary, depending on manufacturers' requirements.

External wall - Composite panels



Canterbury College

Sector applications - Health



Nuffield Hospital, Leeds



New Victoria Hospital, Glasgow

Education



The Bridge Academy, Hackney - image courtesy of BDP



Old School Hall, Wellington, Telford

Sector applications - Residential



Opal Court, Birmingham



Devonshire Baths, Eastbourne



Leisure



MyHotel, Brighton

Commercial



BDP Offices, Manchester



BDP Offices, Manchester

Performance data

Fire resistance

The fire resistances given in the performance tables apply to imperforate constructions tested to BS 476: Part 22: 1987, or assessments based on these tests.

Thermal efficiency

The U-values quoted in the external wall data, pages 30-31 have been obtained by the combined method, which takes account of the performance of the individual elements making up the wall construction.

Sound insulation

The R_w ratings given in the performance tables apply to imperforate constructions laboratory tested in accordance with BS EN ISO 140-3: 1995 and rated in accordance with BS EN 717: 1997, or assessments based on these tests. The C_{tr} adaption term is a requirement of the Building Regulations, Approved Document E. The $R_w + C_{tr}$ measurements emphasise the low frequency performance of separating elements and assist the building designer in specifying the best solution. It must be stressed however, that the regulations generally require performance to be proven by site tests and to achieve this full account must be taken of flanking sound transmission and junction detailing.



British Gypsum works closely with Metsec in a continuous programme to develop drywall construction methods to satisfy all of the latest statutory fire, thermal and acoustic requirements. Independent test data is available to substantiate these solutions. British Gypsum is a major authority in the UK construction industry and the country's leading manufacturer and supplier of gypsum-based plastering and drylining solutions. With a long history of providing innovative, cost-effective and reliable products that meet the demands of the construction industry, the company is renowned for its pioneering work in training, as well as its forward-thinking strategy on innovation and product development.

Using over a century of expertise British Gypsum has developed the UK's leading range of wall, wall lining, floor, ceiling and encasement systems, for the residential, commercial and RMI (refurbishment, maintenance and improvement) sectors of the construction industry.

Visit our website at:

www.british-gypsum.com
Telephone: 0844 800 1991 Fax: 0844 561 8816
E-mail: bgtechnical.enquiries@bpb.com

Internal walls

15mm board (see below)

15mm board (see below)

SFS studs and insulation

15mm board (see below)

15mm board (see below)

MFD359 = 130mm

MFD371 = 160mm

Metsec ref:	Stud and Insulation	Board	Performance values
MFD359	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 39dB
	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins
MFD371	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 40dB
	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins

Internal walls

15mm board (see below)

15mm board (see below)

SFS studs and insulation

Gyproc Resilient Bar RB1

15mm board (see below)

15mm board (see below)

MFD363 = 146mm

MFD370 = 176mm

MFD353 = 376mm

Metsec ref:	Stud and Insulation	Board	Performance values
MFD363	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 49dB
	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins
MFD370	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 50dB
	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins
MFD353	300mm deep studs @ 600mm centres with 100mm general purpose slab	2x 15mm Gyproc SoundBloc Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 56dB

15mm board (see below)

15mm board (see below)

16mm Gyproc Resilient Bar RB1

SFS studs and insulation

16mm Gyproc Resilient Bar RB1

15mm board (see below)

15mm board (see below)

MFD362 = 162mm

MFD374 = 192mm

MFD500 = 242mm

Metsec ref:	Stud and Insulation	Board	Performance values
MFD362	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{trr}$ = 51dB
	70mm deep studs @ 600mm centres with 25mm Acoustic Partition Roll (1200)	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins
MFD374	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc WallBoard Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 54dB
	100mm deep studs @ 600mm centres with 50mm multi purpose slab	2x 15mm Gyproc FireLine Each face	Fire = 120 Mins
MFD500	150mm deep studs @ 600mm centres with 75mm Isover high performance slab	2x 15mm Gyproc SoundBloc Each face	Fire = 60 Mins Acoustic: $R_w + C_{tr}$ = 60dB

Notes:
1. Sound insulation values are for airtight constructions in the absence of flanking sound transmission.
2. For full information of British Gypsum dry-lining and insulation products included in these tables see the British Gypsum White Book and current literature (www.british-gypsum.com)
3. Performance data relates to load-bearing construction. For details of non load-bearing construction refer to British Gypsum.

Performance data

External walls with insulated render

External wall: MFD395 (Sto calculations)

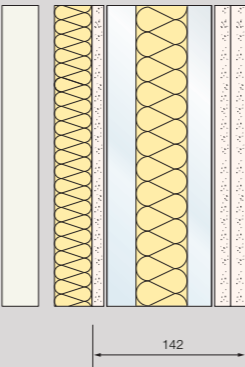
Construction:	Sto Render System Cavity 12mm external grade sheathing board 100mm studs @ 600 centres+ 50mm multi purpose slab 15mm board (see below) 15mm board (see below)
Fire (Inside):	60 Minutes - 1x15mm Gyproc WallBoard (inner face) 1x15mm Gyproc WallBoard Duplex 120 Minutes - 1x15mm Gyproc FireLine Board (inner face) 1x15mm Gyproc FireLine Board Duplex
Thermal:	70mm Sto EPS Insulation 15Kg/m² = 0.28 W/m²K 90mm Sto EPS Insulation 15Kg/m² = 0.24 W/m²K 130mm Sto EPS Insulation 15Kg/m² = 0.20 W/m²K The above details are based on a 20mm cavity formed by Sto Support Rail.



External walls with rainscreen

External Wall: MFD395

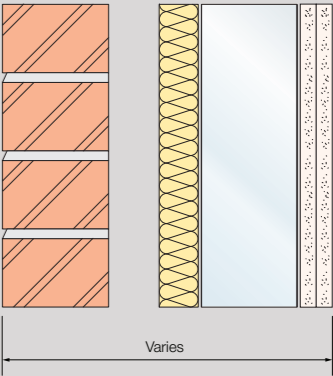
Construction:	Rainscreen system Cavity Rail system with brackets fixed to studs through sheathing board Insulation fixed around brackets - see below for specification 12mm external grade sheathing board (eg: cement particle board) 100mm studs @ 600mm centres+ 50mm multi purpose slab 15mm board (vapour check) 15mm board
Fire (Inside):	60 Minutes - use 2x15mm Gyproc WallBoard 120 Minutes - use 2x15mm Gyproc FireLine Board
Thermal:	60mm Kingspan Kooltherm K15 - 0.30 W/m²K 80mm Kingspan Kooltherm K15 - 0.26 W/m²K 90mm Kingspan Kooltherm K15 - 0.24 W/m²K 130mm Kingspan Kooltherm K15 - 0.20 W/m²K



External walls with brickwork

External Wall: MFD380 - calculation combined method

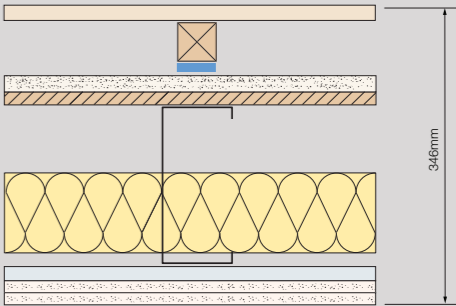
Construction:	103mm Brickwork 50mm cavity Kingspan insulation (see below) 100mm Stud @600 centres 15mm board (see below) 15mm board (see below)
Fire (inside):	60 minutes - Use 2x15mm Gyproc WallBoard 120 minutes - Use 2x15mm Gyproc FireLine Board
Acoustic:	N/A
Thermal:	40mm Thermawall TW55 (stainless steel fixings to brick-tie-channels) 0.29 W/m²K 50mm Thermawall TW55 (stainless steel fixings to brick-tie-channels) 0.26 W/m²K 75mm Thermawall TW55 (stainless steel fixings to brick-tie-channels) 0.20 W/m²K



Joisted floors

Floor: MFD384

Construction:	18mm V313 chipboard 53mm Danskin acoustic battens 19mm Gyproc plank 15mm Ply 200mm Metsec joists @ 600 centres 75mm Multi purpose slab between joists 16mm Gyproc resilient bar RB1 12.5mm FireLine Board 12.5mm FireLine Board
Fire:	60 Minutes
Acoustic:	R _w + C _{tr} = 52 dB L _{n,w} (Ci) = 51 (2) dB



Notes:

1. Thermal performance values assume normal exposure conditions.

2. For full information of British Gypsum products included in these tables see the British Gypsum White Book and current literature (www.british-gypsum.com).

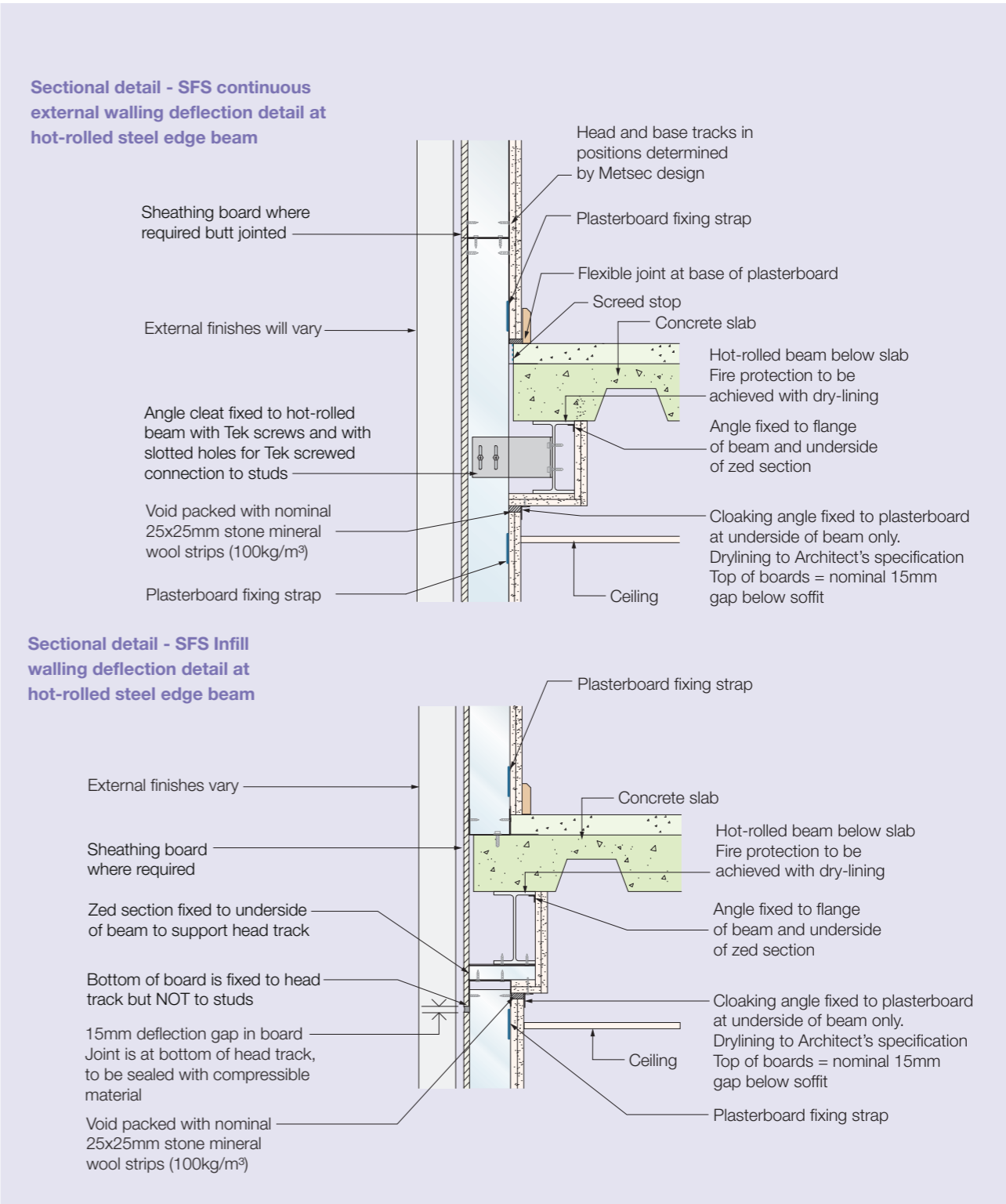
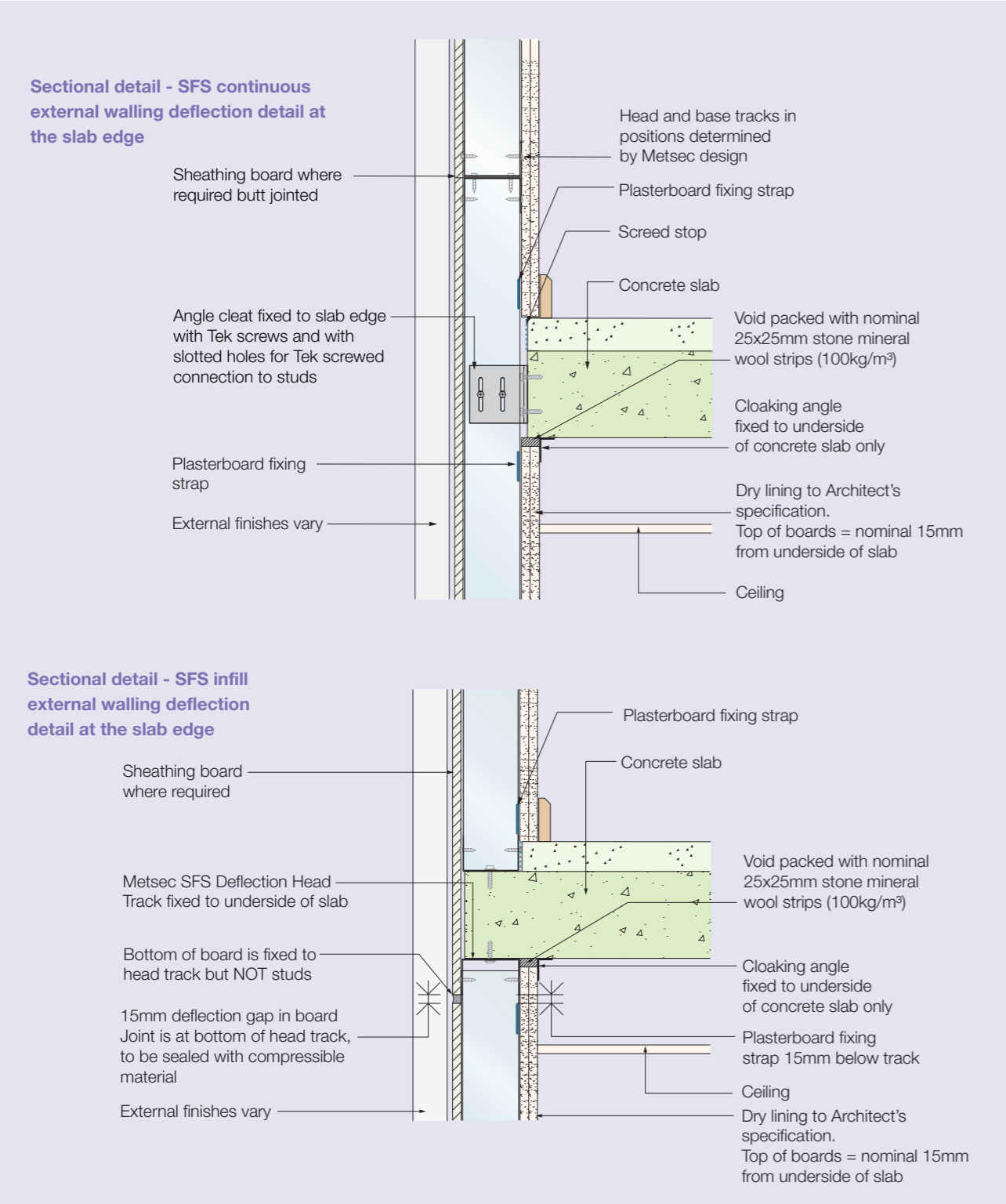
3. Performance data applies to load-bearing construction. For details of non load-bearing internal construction refer to British Gypsum.

4. These details are to be read in conjunction with product data from the manufacturer of each proprietary finish.

5. Thermal values are typical for the constructions shown but could vary depending on the exact components used to form the cladding

Deflection head and junction details

Metsec components can be used in conjunction with standard dry lining details. Some typical junction details are shown below.



SFS fixing table

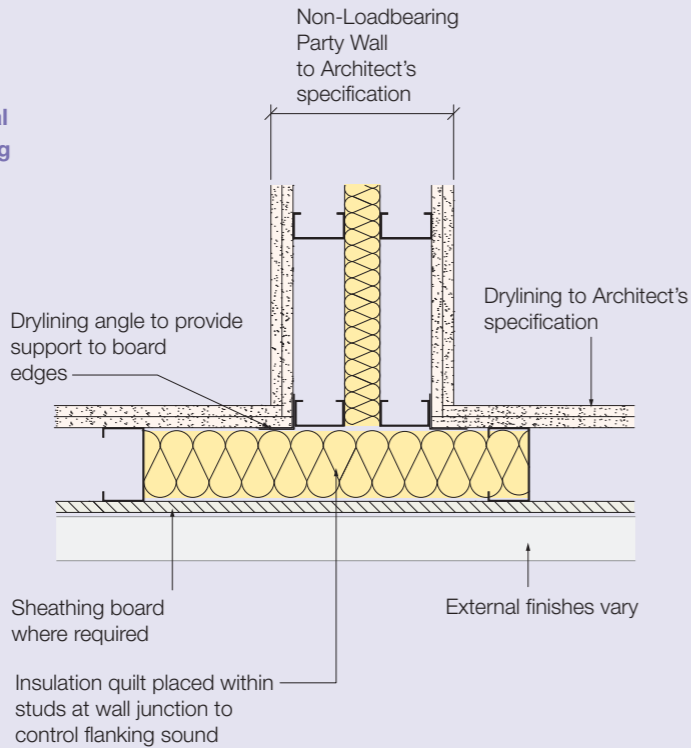
The table below lists approved fixings that can be used with Metsec SFS Framing. These details should be read in conjunction with the fixing manufacturer's literature. When Metsec project specific details specify fixings these take precedent over the general fixings noted below.

	Application	Description	Illustrations	Hilti Product Code Tel: 0800 886100	Spit Product Code Tel: 0141 342 1660	Ejot Product Code Tel: 01977 687040
General framing screw fixing studs/joist/tracks and bracing	1.2 - 1.5mm steel to 1.2 - 1.5mm steel	5.5mm Diameter Pan Head Screw		S-MD01ZW 5.5x19	CFC26	JT2-NH3-5.5x19
	1.5 - 3.0mm steel to 1.5 - 3.0mm steel	5.5mm Diameter Low Profile Head Screw		S-MD03ZW 5.5x25	CFC26	LSCF 5.5x25
	1.2 - 3.0mm steel to 3.0 - 12.5mm steel	5.5mm Diameter Hex Head Screw		S-MD05Z 5.5x40	TL38	HS 5.5x38
	3.0mm max steel to 6.0 - 12.5mm steel	Powder Actuated Nail To Hot Rolled Steel		X-U 16 P8 or X-U 16 MX ^(2,3)	SC9 or SBR9 ⁽³⁾	None available
Steel to concrete	1.2 - 3.0mm steel to concrete	Concrete Screw Anchor Hex Head		HUS-H 7.5x35 ⁽⁴⁾	4H32 ⁽⁴⁾	4H 6.3x32 ⁽⁴⁾
Insulation to steel	50mm ⁽¹⁾ Insulation to 1.2-3.0mm Steel	Large washer with inset Stainless Hex Head Screw		S-MD03S 5.5x80	TC75	JT3-3-5.5x70
	Fixing 50mm ⁽¹⁾ Insulation to 3.0-6.0mm Steel	Large washer with inset Stainless Hex Head Screw		S-MD05S 5.5x82	None available	JT3-6-5.5x70
Brick tie channels	Fixed through 50mm ⁽¹⁾ Insulation to 1.2 - 3.0mm Steel	5.5mm Diameter Stainless Hex Head Screw with EPDM sealing washer		S-CD63S 5.5x85	SCOTS Fixing	JT3-D-3-5.5x82 S16
Sheathing board and timber to steel	Board thickness 6.0 - 19mm to 1.2-3.0mm Steel	4.8mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD12Z 4.8x38	TFC36 or RKC 41	WDLS 4.8x38
	Board thickness 13 - 29mm to 1.2-3.0mm Steel	5.5mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD12Z 5.5x50	TFC50 or RKC 41	WDLS 5.5x50
	Board thickness 25 - 60mm to 1.2-3.0mm Steel	5.5mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD12Z 5.5x85	TFC80	WDLS 5.5x85
	Board thickness 10.0 - 24mm to 3.0-6.0mm Steel	5.5mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD15Z 5.5x65	TFL65	WDHS 5.5x65
Plasterboard to steel	Single board up to 15mm thick to 1.2-2.0mm Steel	3.5mm Diameter Bugle/Wafer/CSK Ribbed Head Screw		S-DD01B 3.5x25	TFC36 or RKC 41	WDLS 4.8x38
	Double boards up to 30mm combined thickness to 1.2-2.0mm steel	3.5mm Diameter Bugle/Wafer/CSK Ribbed Head Screw		S-DD01B 3.5x45	TFC80	WDLS 5.5x85
	Single board up to 15mm thick to 2.0 – 6.0mm steel	4.8mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD12Z 4.8x38	TFC36	WDLS 4.8x38
	Double boards up to 30mm combined thickness to 2.0 – 6.0mm steel	5.5mm Diameter Wafer/CSK Ribbed Head Wing Tipped Screw		S-WD12Z 5.5x85	TFC80	WDLS 5.5x85

Illustrations supplied courtesy of Ejot

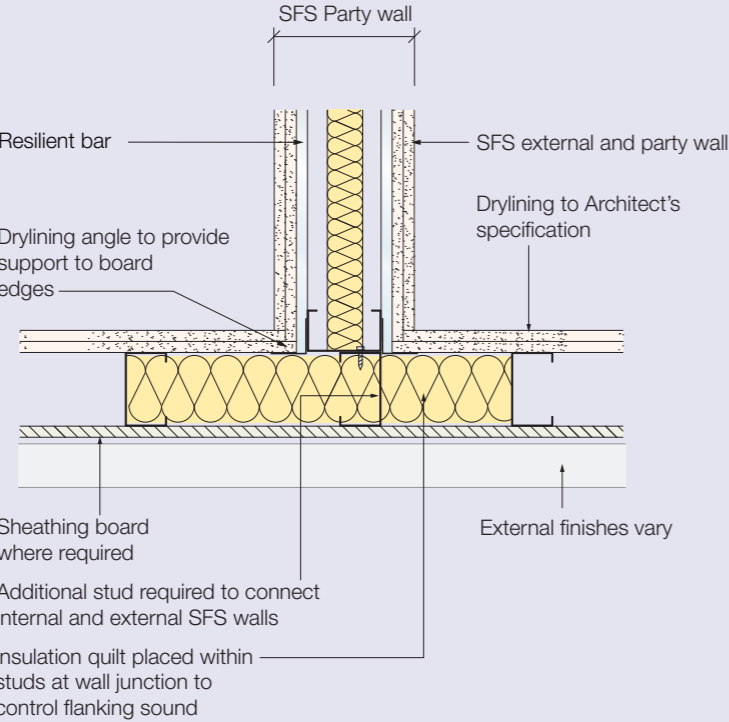
Notes referred to in above table:
(1) Contact the fixing manufacturer for full range of fixing lengths where thickness of material varies.
(2) The Hilti X-U nail has no maximum base steel thickness.
(3) The use of Powder Actuated Nail Fixings must be approved by Metsec for each individual application due to the large range of fixing load capacities.
(4) Screw anchors listed are the shortest available in the range. Longer fixings may be specified by Metsec design.

Plan detail - Junction of load-bearing SFS external wall and non-load-bearing party wall



Plan detail - Junction of load-bearing SFS external wall and party wall

(Single skin party wall shown. Similar detail applies for twin skin)



High Bay/Internal Walling load table

For uniform horizontal pressures greater than 0.45kN/m^2 use external walling tables.

Where height exceeds practical rolling length a splice detail will be required. If this is the case consult our technical department.

Section Reference	Uniform Horizontal Pressure (kN/m²)															
	0.5	0.6	0.7	0.8	0.9	1.0	1.1	1.2	1.3	1.4	1.5	1.6	1.7	1.8	1.9	2.0
70M15	3.41	3.21	3.05	2.92	2.80	2.71	2.62	2.55	2.48	2.42	2.36	2.31	2.27	2.22	2.18	2.15
100M12	4.64	4.37	4.15	3.97	3.81	3.68	3.57	3.47	3.37	3.29	3.22	3.15	3.08	3.03	2.97	2.92
100M15	5.00	4.71	4.47	4.28	4.11	3.97	3.84	3.73	3.64	3.55	3.47	3.39	3.33	3.26	3.20	3.15
100M20	5.49	5.17	4.91	4.70	4.52	4.36	4.22	4.10	3.99	3.90	3.81	3.73	3.65	3.58	3.52	3.46
150M12	6.00	5.71	5.47	5.27	5.09	4.94	4.80	4.68	4.56	4.46	4.36	4.28	4.19	4.11	4.04	3.97
150M15	6.41	6.10	5.85	5.64	5.46	5.30	5.15	5.02	4.91	4.80	4.70	4.61	4.52	4.44	4.37	4.30
150M20	6.94	6.61	6.34	6.12	5.92	5.76	5.60	5.47	5.35	5.24	5.13	5.04	4.95	4.86	4.79	4.71
200M12	6.62	6.30	6.04	5.83	5.64	5.48	5.34	5.21	5.09	4.98	4.88	4.79	4.70	4.62	4.55	4.47
200M15	7.77	7.41	7.10	6.85	6.63	6.44	6.27	6.12	5.98	5.85	5.74	5.63	5.53	5.43	5.35	5.26
200M20	8.49	8.09	7.76	7.49	7.26	7.05	6.87	6.71	6.56	6.43	6.30	6.19	6.08	5.98	5.89	5.80
250M16	8.80	8.38	8.05	7.76	7.52	7.31	7.12	6.95	6.80	6.63	5.90	5.54	5.21	4.92	4.66	4.43
250M20	9.28	8.85	8.49	8.20	7.95	7.72	7.53	7.35	6.81	6.33	5.90	5.54	5.21	4.92	4.66	4.43
300M20	9.02	8.61	8.27	7.98	7.74	7.53	7.34	7.17	6.81	6.33	5.90	5.54	5.21	4.92	4.66	4.43
300M29	10.12	9.65	9.27	8.96	8.69	8.45	8.05	7.38	6.81	6.33	5.90	5.54	5.21	4.92	4.66	4.43

Section Reference	Uniform Horizontal Pressure (kN/m²) at Joist Spacing (mm)															
	0.10		0.15		0.20		0.25		0.30		0.35		0.40		0.45	
	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600
70M15	6.69	5.84	5.84	5.10	5.31	4.63	4.93	4.30	4.63	4.05	4.40	3.84	4.21	3.68	4.05	3.55
100M12	9.09	7.94	7.94	6.94	7.22	6.30	6.70	5.85	6.30	5.51	5.99	5.23	5.72	5.00	5.51	4.81
100M15	9.80	8.56	8.56	7.47	7.77	6.79	7.22	6.30	6.79	5.93	6.45	5.63	6.17	5.39	5.93	5.18
100M20	10.76	9.40	9.40	8.21	8.54	7.46	7.93	6.92	7.46	6.52	7.08	6.19	6.78	5.92	6.51	5.69
150M12	12.47	10.89	10.89	9.51	9.89	8.64	9.18	8.02	8.64	7.55	8.21	7.17	7.85	6.86	7.55	6.59
150M15	13.44	11.74	11.74	10.25	10.67	9.32	9.90	8.65	9.32	8.14	8.85	7.73	8.46	7.39	8.14	7.11
150M20	14.77	12.90	12.90	11.27	11.72	10.24	10.88	9.51	10.24	8.95	9.73	8.50	9.30	8.13	8.95	7.81
200M12	15.61	13.63	13.63	11.91	12.39	10.82	11.50	10.04	10.82	9.45	10.28	8.98	9.83	8.59	9.45	8.26
200M15	17.36	15.17	15.17	13.25	13.78	12.04	12.79	11.18	12.04	10.52	11.44	9.99	10.94	9.55	10.52	9.19
200M20	19.15	16.73	16.73	14.61	15.20	13.28	14.11	12.33	13.28	11.60	12.61	11.02	12.06	10.54	11.60	10.13
250M16	20.00	18.66	18.66	16.30	16.95	14.81	15.74	13.75	14.81	12.93	14.07	12.29	13.45	11.75	12.93	11.30
250M20	20.00	20.00	20.00	17.51	18.21	15.91	16.90	14.77	15.91	13.89	15.11	13.20	14.45	12.62	13.89	12.14
300M20	20.00	20.00	20.00	19.77	20.00	17.96	19.08	16.67	17.96	15.69	17.06	14.90	16.32	14.25	15.69	13.70
300M29	20.00	20.00	20.00	20.00	20.00	20.00	20.00	18.91	20.00	17.80	19.35	16.91	18.51	16.17	17.80	15.55

Maximum heights in above High Bay / Internal Walling table based on:

1. Unfactored horizontal pressure.
2. Deflection limited to height/240.
3. Blocking and strapping at mid height.
4. Studs are boarded with a minimum of one layer of 12.5mm (min) plasterboard to both sides.
5. Studs fixed into 1.2mm base track.
6. 100mm, 150mm and 200mm studs fixed to Metsec Slotted Deflection Head Track.
7. 70mm, 250mm and 300mm studs fixed at head using standard 2.0mm head track with blocking and strapping detail.

Joist load tables

Section Reference	Uniform Load (kN/m²) at Joist Spacing (mm)															
	Ceiling Joists								Roof Joists							
	Dead / Live 0.25 / 0.25		Dead / Live 0.50 / 0.25		Dead / Live 0.25 / 1.50		Dead / Live 0.50 / 1.50		Dead / Live 0.70 / 0.60		Dead / Live 1.20 / 0.60		Dead / Live 0.70 / 1.50		Dead / Live 1.20 / 1.50	
	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600
150M12	7.10	5.79	5.86	5.29	4.41	3.85	4.39	3.83	5.05	4.47	4.61	4.05	4.27	3.71	4.01	3.46
150M15	8.00	6.55	6.63	5.67	4.76	4.15	4.72	4.15	5.42	4.82	4.96	4.38	4.60	4.03	4.34	3.77
150M20	8.00	7.61	7.69	6.50	5.23	4.57	5.16	4.57	5.88	5.25	5.40	4.80	5.03	4.44	4.75	4.18
200M12	8.52	6.96	7.04	5.95	5.08	4.50	4.90	4.33	5.60	5.00	5.14	4.56	4.78	4.22	4.52	3.96
200M15	10.00	9.31	9.41	7.68	5.97	5.29	5.77	5.10	7.08	5.87	6.07	5.36	5.62	4.96	5.31	4.66
200M20	10.00	10.00	10.00	9.04	6.78	5.83	6.33	5.63	8.34	6.81	7.15	5.90	6.32	5.48	5.85	5.17
250M16	13.27	11.59	11.59	9.63	7.46	6.09	7.02	5.84	8.88	7.25	7.61	6.21	6.73	5.69	6.12	5.37
250M20	14.26	12.45	12.45	10.67	8.12	6.75	7.79	6.36	9.84	8.04	8.44	6.89	7.46	5.94	6.79	5.72
300M20	15.00	12.52	12.66	10.34	8.01	6.54	7.54	6.16	9.53	7.78	8.17	6.67	7.22	6.09	6.57	5.64
300M29	15.00	15.00	15.00	12.84	9.95	8.12	9.37	7.65	11.84	9.67	10.15	8.29	8.97	7.32	8.16	6.66

Section Reference	Uniform Load (kN/m²) at Joist Spacing (mm)															
	Without Acoustic Overlay								With Acoustic Overlay							
	Dead / Live		Dead / Live		Dead / Live		Dead / Live		Dead / Live		Dead / Live		Dead / Live			
	0.50 / 1.50		0.75 / 1.50		0.50 / 3.00		0.75 / 5.00		1.00 / 1.50		1.25 / 1.50		1.00 / 2.00		1.00 / 3.00	
	400	600	400	600	400	600	400	600	400	600	400	600	400	600	400	600
150M12	3.64	3.53	3.64	3.40	3.25	2.24	2.04	1.36	3.65	3.24	3.50	2.97	3.53	2.68	2.98	1.98
150M15	3.86	3.80	3.86	3.66	3.50	2.84	2.59	1.73	3.87	3.49	3.70	3.34	3.79	3.33	3.46	2.52
150M20	4.17	4.10	4.17	3.96	3.85	3.36	3.25	2.76	4.15	3.75	3.97	3.59	4.07	3.66	3.80	3.32
200M12	4.36	4.29	4.36	4.12	4.07	3.51	3.36	2.31	4.32	3.91	4.14	3.74	4.24	3.83	4.02	3.31
200M15	4.76	4.68	4.76	4.46	4.53	3.95	3.82	2.87	4.68	4.23	4.48	4.05	4.60	4.15	4.45	3.91
200M20	5.16	5.07	5.16	4.81	5.00	4.36	4.21	3.68	5.04	4.56	4.82	4.36	4.95	4.47	4.79	4.31
250M16	5.66	5.56	5.66	5.22	5.57	4.78	4.36	2.90	5.47	4.94	5.24	4.73	5.37	4.85	5.20	4.24
250M20	6.03	5.89	6.03	5.50	5.89	5.23	5.05	4.23	5.77	5.22	5.53	4.99	5.67	5.12	5.48	4.95
300M20	6.76	6.45	6.67	6.03	6.59	5.90	5.70	4.23	6.32	5.71	6.05	5.47	6.21	5.61	6.00	5.42
300M29	7.81	7.09	7.33	6.63	7.25	6.55	6.35	4.23	6.95	6.28	6.65	6.01	6.82	6.17	6.06	5.96

Maximum spans in above Joist load tables based on:

1. Unfactored dead and live loads.
2. Imposed load deflection limited to span/450 for floors and span/360 for other conditions.
3. Dead + Imposed load deflection limited to span/350 for floors and span/200 for other conditions.
4. Blocking and strapping at mid span for spans < 6.0m. For spans over 6.0m blocking and strapping required at max 3.0m spacing.
5. Floor joists boarded with minimum 15mm plywood for joists at 400mm centres or 18mm plywood for joists at 600mm centres.
6. Boarding fixed to the joists at maximum 300mm centres.
7. Joists fixed into 2.0mm gauge tracks at each end.

Maximum heights in above External walling tables based on:

1. Unfactored horizontal pressure.
2. Maximum external cladding weight of 0.50kN/m^2 .
3. Blocking and strapping at mid height.
4. Studs at 600mm centres.

5. Studs fixed into 1.2mm base track.
6. 100mm, 150mm and 200mm studs fixed to Metsec Slotted Deflection Head Track.
7. 70mm, 250mm and 300mm studs fixed at head using standard 2.0mm head track with blocking and strapping detail.

Services and general notes

Metsec's team of Structural Engineers can produce project specific panel drawings when supplied with the Architect's and Structural Engineer's drawings. These panel drawings provide the design team with the structural sizes and sufficient detail to appreciate how the SFS framing will be fixed back to the primary structure.

This information can also be used by potential Sub-Contractors to provide budget rates for Main Contractors.

Detailing service

Metsec can also offer a complete detailing service. Working from Architects' and Structural Engineers' drawings, Metsec's team of engineers and specialist draughtsmen will produce structural layouts and section drawings to assist the site team.

NBS Plus

Technical specifications for Metsec SFS are also available via NBS Plus (www.nbsplus.com).

This facility enables you to create concise, technically accurate up to date specifications which can be copied directly into your building specifications thereby maintaining specification quality and saving you time.

By using NBS Plus you can be assured you are using the industry standard specification system that conforms to best practice. It provides extensive guidance to help you select and edit the right clauses for your project

Customer service

Metsec are committed to providing the highest levels of customer satisfaction and ensure that our staff are trained to the highest possible levels in order to assist our customers at all stages of the design and installation process.

Our technical sales teams in particular have a thorough knowledge of our products and will aim to resolve your questions quickly and professionally.

Research and development

Metsec operate a policy of continuous research and development, ensuring that products meet our customer needs.

Company Registration

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Company Number: 1551970 (England)

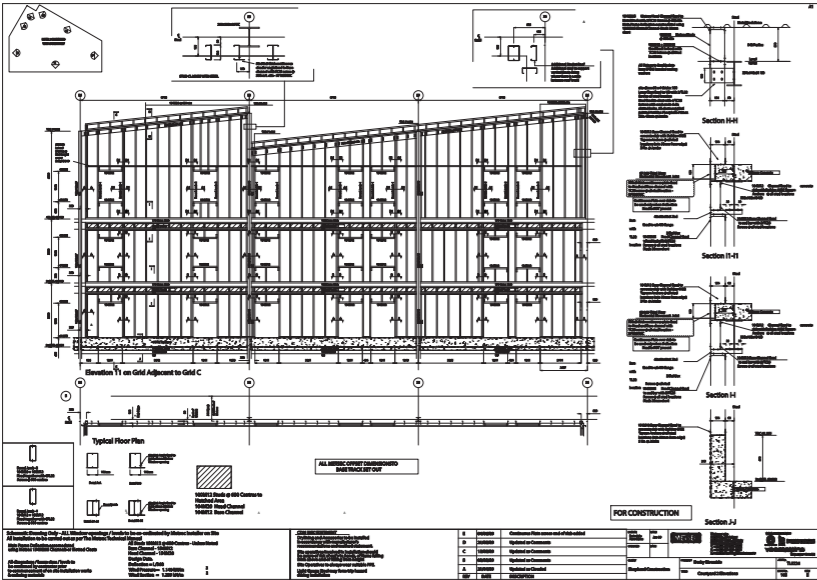
CPD

The Metsec SFS Division offers a continuous professional development presentation which has been accredited by the Construction CPD Certification Service in the use and application of Metsec products and FrameSPEC design



software. CPDs can easily be arranged by contacting the Metsec SFS Division on 0121 601 6000 or by visiting www.metsec.com.

Note: Metsec reserve the rights to change the specification for products in this literature without prior notice



Typical elevation produced by the Metsec SFS drawing office

Software

Metsec are pioneers when it comes to the provision of design software packages. Our first package for SFS was produced in 1998 and since then the software has been continually updated and improved. Today, FrameSPEC enables the user to calculate the wind loads to the local building zones before allowing quick and easy design of the SFS Framing.

The final design is presented through a series of panel drawings together with all relevant connection details.

For a free copy of the latest FrameSPEC software please contact Metsec on 0121 601 6000 or visit our website: www.metsec.com

