

HORIZONTAL SHAFT WALL

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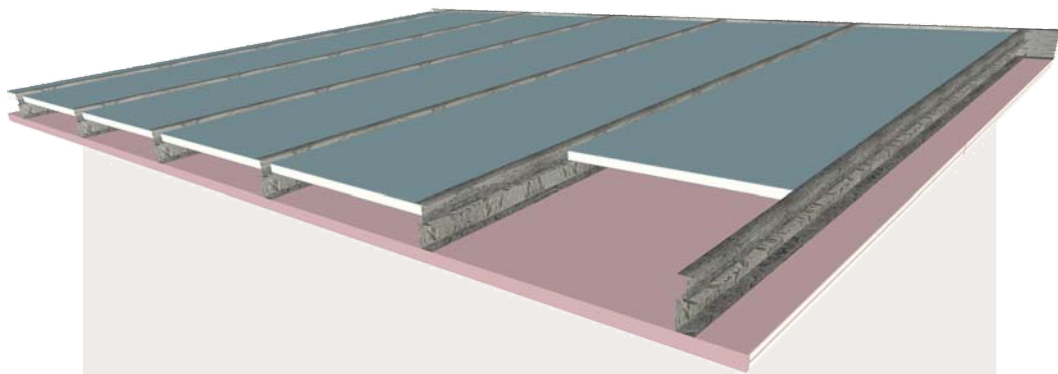
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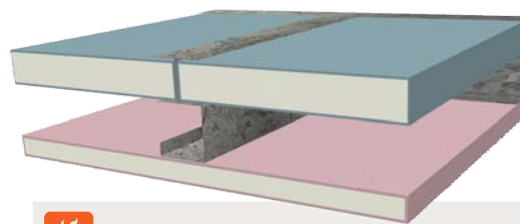
Horizontal Shaft Wall is constructed in a similar way to a standard Shaft Wall and uses the same components. It is constructed using steel CH-studs as the ceiling joists.

Horizontal Shaft Wall systems are ideal for constructing a ceiling when access is only possible from below and a fire rating is required from above.

LSHWC1

FRAME: 1 layer of 25mm **ShaftLiner** encased in CH-studs at either 300mm or 600mm spacing
 CEILING LINING: 1 layer of 16mm **FireShield**

[Span based on Serviceability UDL 0.35 kPa and maximum deflection span/360 or 10mm]
 [Ceiling joists are CH-studs screw fixed to perimeter track]
 [Ceiling is non-trafficable]



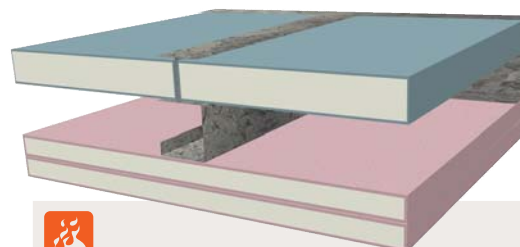
FRL	CH-STUD SIZE (mm)		SPAN UDL 0.35 kPa (mm)		CEILING THICKNESS (mm)	ACOUSTICS R _w (R _w + C _{tr})			
	CH-stud Depth	CH-stud BMT	300mm CH-stud Spacing	600mm CH-stud Spacing		No Insulation	50mm Glasswool	65mm Polyester ISB3	75mm Polyester Polycoustic
60/60/60 rated from above only FAR 2891	64	0.55	2330	1850	80	39 (32)	46 (39)	46 (38)	-
		0.9	2730	2170					
	102	0.55	3400	1960	118	42 (33)	48 (41)	48 (41)	48 (41)
		0.9	3880	3160					

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LSHWC2

FRAME: 1 layer of 25mm **ShaftLiner** encased in CH-studs at either 300mm or 600mm spacing
 CEILING LINING: 2 layers of 16mm **FireShield**

[Span based on Serviceability UDL 0.35 kPa and maximum deflection span/360 or 10mm]
 [Ceiling joists are CH-studs screw fixed to perimeter track]
 [Ceiling is non-trafficable]



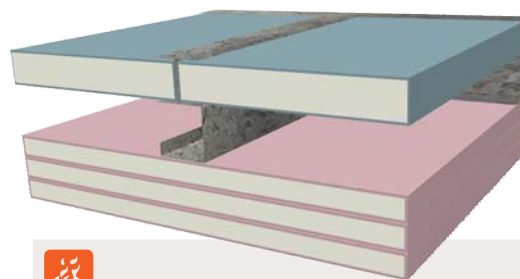
FRL	CH-STUD SIZE (mm)		SPAN UDL 0.35 kPa (mm)		CEILING THICKNESS (mm)	ACOUSTICS R _w (R _w + C _{tr})			
	CH-stud Depth	CH-stud BMT	300mm CH-stud Spacing	600mm CH-stud Spacing		No Insulation	50mm Glasswool	65mm Polyester ISB3	75mm Polyester Polycoustic
60/60/60 rated from above and below +60min RISF FAR 2817 FAR 2036	64	0.55	2740	1650	96	44 (36)	50 (42)	50 (42)	-
		0.9	3000	2570					
	102	0.55	3290	1650	134	46 (37)	52 (46)	52 (46)	52 (46)
		0.9	3920	3090					

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LSHWC3

FRAME: 1 layer of 25mm **ShaftLiner** encased in CH-studs at either 300mm or 600mm spacing
 CEILING LINING: 3 layers of 16mm **FireShield**

[Span based on Serviceability UDL 0.35 kPa and maximum deflection span/360 or 10mm]
 [Ceiling joists are CH-studs screw fixed to perimeter track]
 [Ceiling is non-trafficable]



FRL	CH-STUD SIZE (mm)		SPAN UDL 0.35 kPa (mm)		CEILING THICKNESS (mm)	ACOUSTICS R _w (R _w + C _{tr})			
	CH-stud Depth	CH-stud BMT	300mm CH-stud Spacing	600mm CH-stud Spacing		No Insulation	50mm Glasswool	65mm Polyester ISB3	75mm Polyester Polycoustic
90/90/90 rated from above and below +60min RISF FAR 2817 FAR 2036	64	0.55	2600	1420	112	46 (37)	53 (45)	53 (45)	-
		0.9	2850	2440					
	102	0.55	2840	1420	150	49 (40)	55 (49)	55 (49)	55 (49)
		0.9	3790	2660					

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LSHWC4

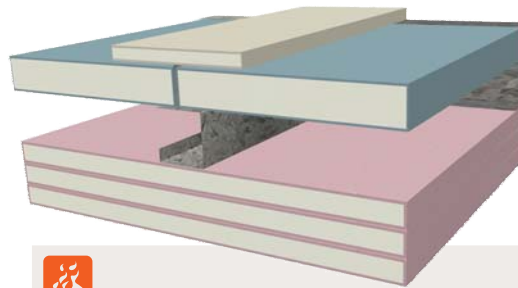
FRAME: 100mm wide strip of 10mm min plasterboard above exposed flange of CH-studs with 1 layer of 25mm **ShaftLiner** encased in CH-studs at either 300mm or 600mm spacing

CEILING LINING: 3 layers of 16mm **FireShield**

[Span based on Serviceability UDL 0.35 kPa and maximum deflection span/360 or 10mm]


[Ceiling joists are CH-studs screw fixed to perimeter track]

[Ceiling is non-trafficable]




FRL	CH-STUD SIZE (mm)		SPAN UDL 0.35 kPa (mm)		CEILING THICKNESS (mm)	ACOUSTICS Rw (Rw + Ctr)				
	CH-stud Depth	CH-stud BMT	300mm CH-stud Spacing	600mm CH-stud Spacing		No Insulation	50mm Glasswool	65mm Polyester ISB3	75mm Polyester Polycoustic	
120/120/120 rated from above and below										
+60min RISF	64	0.55	2600	1420	122	46 (37)	53 (45)	53 (45)	-	Day Design 3094-17
FAR 2817		0.9	2850	2440						
FAR 2036	102	0.55	2840	1420	160	49 (40)	55 (49)	55 (49)	55 (49)	
		0.9	3790	2660						

GENERAL REQUIREMENTS


	FIRE RATED 
Install control joints in Horizontal Shaft Wall at: <ul style="list-style-type: none"> › 10m maximum intervals › All control joints in the structure › Any change in the substrate material 	✓
All ceilings in this section are non-trafficable. Do not walk on plasterboard ceilings!	✓
Limit dead loads on plasterboard ceilings to 2 kg/m ² .	✓
Attach ceiling fixtures to framing members only. Ensure the framing is designed to carry any additional load.	✓
Only joint the face layer. As a minimum to achieve the FRL, only use paper tape and: <ul style="list-style-type: none"> › Two coats of MastaBase / MastaLongset, or › Three coats of MastaRapid / MastaLite Never joint sheets with fire sealant. [REFER TO SECTION 5].	✓
Use approved fire rated penetration details suitable for the Shaft Wall system.	✓
Use fire sealant on all gaps and around perimeter, vermiculite plaster is not permitted.	✓

FRAMING

	FIRE RATED 
Fix the perimeter track at 600mm maximum centres and 100mm maximum from each end.	✓
Space CH-studs according to the joist spacing specified in the system table.	✓
Screw CH-studs to the perimeter track.	✓
For Shaft Wall framing components and construction sequence [REFER TO SECTION 4.3.1]	✓
Install additional framing members around openings.	✓


i Gas services are not permitted in fire rated systems. Check the availability of Rondo CH-stud size 102mm.

PLASTERBOARD LAYOUT

	FIRE RATED 
FIRESHIELD LAYOUT	
Install FireShield perpendicular to the framing members.	✓
Stagger face layer butt joints by 600mm minimum on adjoining sheets and between layers.	✓
First layer butt joints must be backed by a CH-stud joist.	✓
Stagger recessed edges by 300mm minimum between layers.	✓
SHAFTLINER LAYOUT	
If the ceiling exceeds the length of ShaftLiner , the butt joints must be positioned towards the edge of the ceiling, away from the centre [REFER TO SECTION 4.3.1].	✓
Stagger ShaftLiner butt joints for adjacent panels and reinforce with horizontal CH-stud cut to fit between the horizontal CH-studs [REFER TO SECTION 4.3.1].	✓

i Butt joints on underlying layers (not face layer) of **FireShield** may be made on the same framing member. Minimise butt joints by using long sheets.

PLASTERBOARD FIXING

	FIRE RATED 
Use the Screw Only Method. Stud adhesive is not permitted.	✓
For installation of FireShield to CH-stud joists, [REFER TO SECTION 4.4.1].	✓
Drive screws to just below the sheet surface, taking care not to break the paper linerboard.	✓
Laminating screws can be used to fix butt joints in the second and third layer.	✓

SCREW TYPE AND MINIMUM SIZE FOR THE INSTALLATION OF PLASTERBOARD TO STEEL

PLASTERBOARD THICKNESS	1ST LAYER	2ND LAYER	3RD LAYER
16mm FireShield	30mm – 6g S screw	45mm – 6g S screw *	65mm – 6g S screw *
25mm ShaftLiner	45mm – 6g S screw †	-	-

For steel up to 0.8mm BMT use Type 'S' fine thread needle point screws.
 For steel 0.8mm to 2.0mm BMT use Type 'S' fine thread drill point screws.
 * 40mm - 10g Laminating screws may be used as detailed in installation diagrams.
 † Use for securing ShaftLiner to J-track when the J-track is being used as an end stud.



FIRE RATED

HORIZONTAL SHAFT WALL JUNCTIONS - ELEVATION

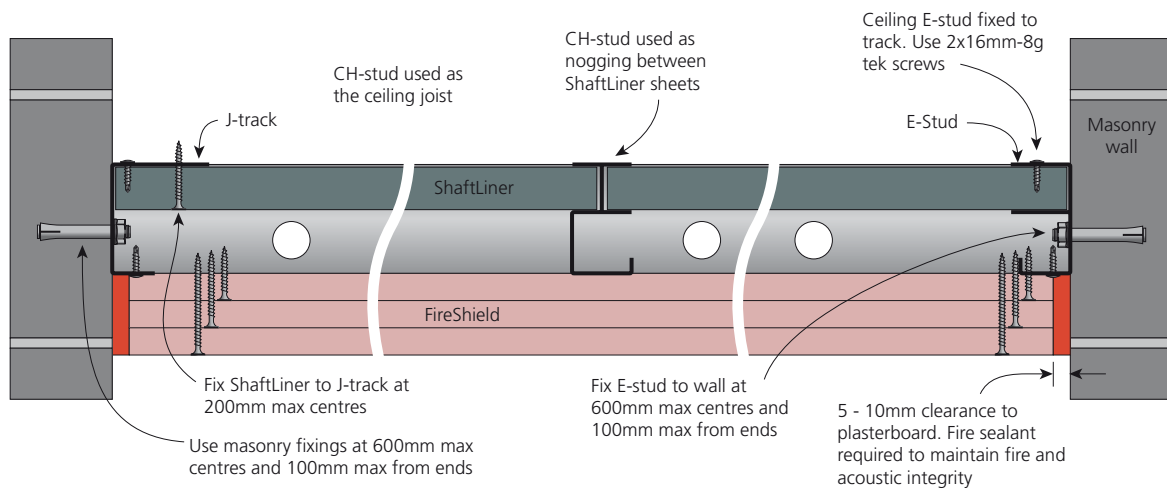


FIGURE 1
Horizontal Shaft Wall non-trafficable ceiling to masonry wall

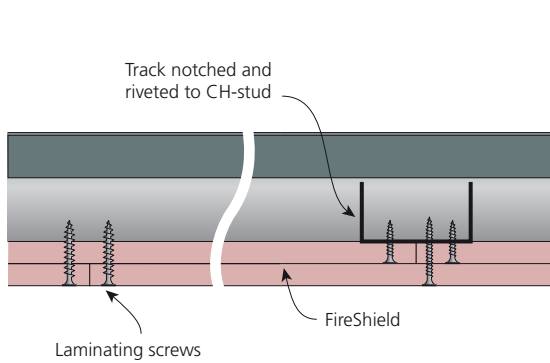


FIGURE 2
Alternate butt joint in FireShield

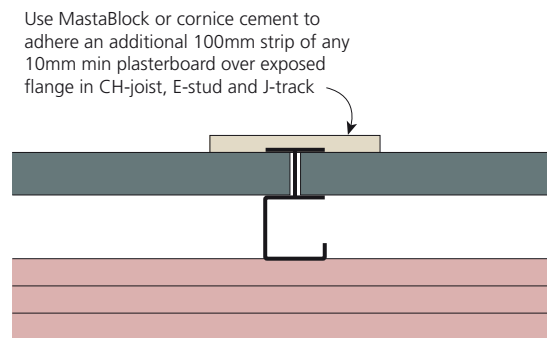


FIGURE 3
Shaft Wall ceiling detail
System LSHWC4 only