

E4S90

Single Steel Frame

Non Load Bearing

Two Way FRR

4 Layers: 2 Layers of Plasterboard to each side of frame

System Number	Lining Suffix	Fire Rating	Load Bearing Ability	Noise Control		Lining Requirement
				STC	Rw	
E4S90	-M46	---/90/90	NLB	45	44	1 x 10mm Elephant MultiSmart & 1 x 13mm MultiSmart One side 1 x 10mm Elephant MultiSmart & 1 x 13mm MultiSmart Other side

Framing

Steel studs with minimum dimensions 64mm x 34mm x 0.55 BMT with 6mm return.

Tracks to be minimum dimensions 64mm x 30mm x 0.55 BMT.

Top & bottom tracks are fixed to the floor and ceiling in true alignment. Studs are placed at 600mm centres maximum.

Place studs to allow the nominated expansion gap (minimum 15mm) at the top of frame. The studs cannot be directly fixed to the tracks. The studs are held in place by the grip of the track runners.

Wall Height

Recommended maximum height is 3.0m. For higher walls refer to steel stud height table below.

Stud Dimensions (mm)	Base Metal Thickness (mm)	Stud Centres (mm)	Max Wall Heights (mm)	Expansion Tolerance at top of studs (mm)
64 x 34	0.55	600	3000	15
		400	3100	15
76 x 34	0.55	600	3300	15
		400	3700	20*
	0.75	600	3600	20*
		400	4100	20*
92 x 34	0.55	600	3800	20*
		400	4200	20*
	0.75	600	4200	20*
		400	4800	25*

* Use a minimum 50mm deep head track

Plasterboard Lining

One layer of 10mm Elephant MultiSmart & One layer of 13mm Elephant MultiSmart lining on each side of the steel framing.

Vertical fixing only permitted. Use full height sheets where possible.

Vertical Fixing- the vertical sheet joints must be offset on the opposite side of the frame.

Sheet end butt joints- must be formed over framing and staggered. Offset joints from opposite side of the frame.

All outer layer joints must be staggered from inner layer joints.

All sheet joints must be formed over framing. The layers are fixed hard to the floor. Sheets shall be touch fitted.

Fixing of Linings

Fasteners (As per Specified System Above)

System Number	Side One		Side Two	
	1 st Layer	2 nd Layer	1 st Layer	2 nd Layer
E4S90-M46	Self-Tapping Drywall Screws			
	10mm	13mm	10mm	13mm
	25 x 6g	41 x 6g	25 x 6g	41 x 6g

Fastener Centres

Inner Layer: Fix at 300mm centres up each stud with no fixing to top or bottom track sections.

Outer Layer: Fix at 300mm centres up each stud with no fixing to top and bottom track sections.

Place fasteners no closer than 12mm to the sheet edge and 50mm from sheet ends and min 20mm clear of top and bottom tracks.

Place fasteners at 200mm centres where sheet end butt joints occur. Avoid outer layer screws from hitting inner layer screws.

Fasteners may be placed at 18mm from sheet ends along top and bottom tracks, provided the fasteners do not connect the stud to the track. If floor deflections need to be considered, do not fix any linings to top track.

Jointing

Inner Layer: Unstopped

Outer Layer: All fastener heads stopped and all sheet joints reinforced with paper jointing tape and stopped. All in accordance with Elephant Plasterboard Installation Guide.

