

**E3SRa30****Steel Frame with Resilient Rail**

Non Load Bearing

Two Way FRR

**3 Layers:** 1 Layer of Plasterboard to Framing side &  
2 Layers of Plasterboard to Rail side

Sub Intertency **acoustic**

System Number	Lining Suffix	Fire Rating	Load Bearing Ability	Noise Control		Lining Requirement
				STC	Rw	
E3SRa30	-S39	--/30/30	NLB	51	50	Framing Side: 1 x 13mm Elephant Standard Rail Side: 2 x 13mm Elephant Standard
	-M30	--/30/30	NLB	51	50	Framing Side: 1 x 10mm Elephant MultiSmart Rail Side: 2 x 10mm Elephant MultiSmart

**Framing**

Steel studs with minimum dimensions 64mm x 34mm x 0.55 BMT with 6mm return. Tracks to be minimum size 64mm x 30mm x 0.55 BMT and are fixed to floor and ceiling in true alignment. Studs are placed at 600mm centres maximum. Studs are placed with a 15mm expansion gap at top of frame. The studs are not directly fixed to the tracks. The studs are held in place by the grip of the channel runners. No other fixing is to be used.

**Wall Heights**

Recommended maximum height is 2.7m. Higher walls may be subject to specific engineering design or consult the framing manufacturer.

**Partition Width**

In order to achieve the STC ratings in the table above the partition width (excluding the board) shall be a minimum of 77mm.

Stud Depth	Rail	Lining Suffix	Plasterboard	Total Partition
64mm	13mm	M30	30mm	107mm
		S39	39mm	116mm

**Wall Sound Absorber**

Install Sound Absorber between studs of the frame.  
Use 75mm thick R1.8 glass wool blanket.

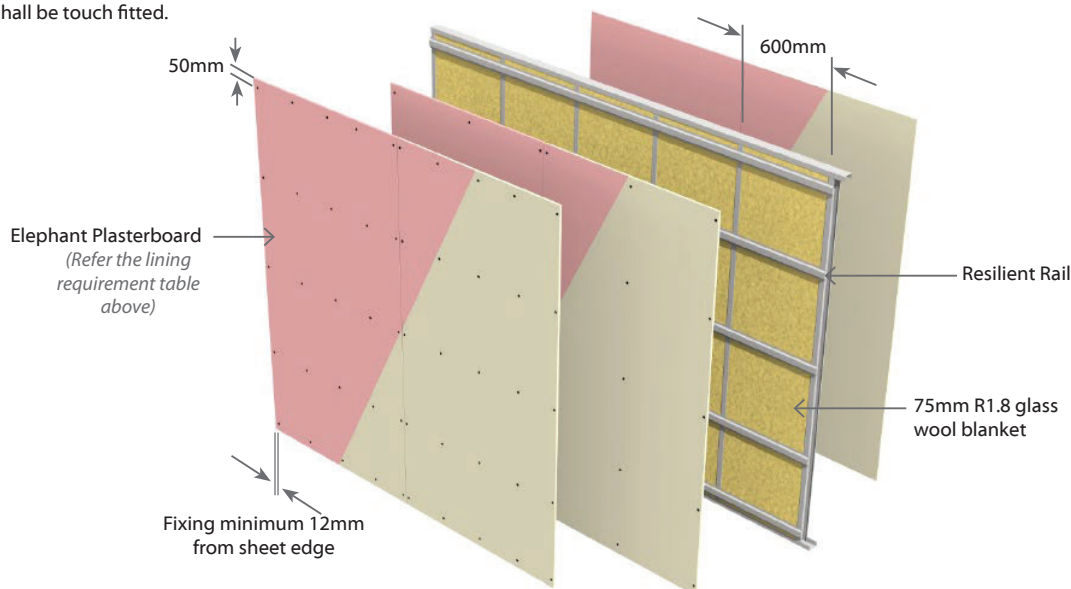
**Acoustic Resilient Rail**

The resilient Rail shall be fixed to the studs at 600mm centres using 32mm x 8g wafer head self tapping screws through the base flange and into each stud. The base flange to face downwards and resilient edge upwards. Channel may be joined by nesting together with no more than 20mm overlap. Fasten through both channels into stud. Highest resilient channel shall be fixed no more than 75mm from the ceiling line and the lowest channel, 50mm from the floor line.

**Plasterboard Lining**

Framing Side: One layer of Elephant Plasterboard lining fixed vertically. All sheet joints must be fixed over steel framing.

Resilient Rail Side: Two layers fixed vertically on the furring channel. Vertical joints of outer layer should be offset by 600mm from those of the inner layer. Use full height sheets where possible. The inner layers are fixed hard to the floor. Sheet end butt joints must be formed over nogs or rails and offset the outer layer joints from the inner layer. Sheets shall be touch fitted.

**Fixing of Linings (Non Fire Rated)**

Fix the linings as per the Elephant Installation Guide. If an FRR is required then follow the Fixing of Linings instruction in the following paragraph.

**Fixing of Linings (to achieve Fire Rating)**

Fasteners (As per Specified System Above)

System Number	Resilient Rail Side		Framing Side
	1 <sup>st</sup> Layer	2 <sup>nd</sup> Layer	Single Layer
E3SRa30-M30	10mm	10mm	10mm
	25 x 6g	32 x 6g	25 x 6g
E3SRa30-S39	13mm	13mm	13mm
	25 x 6g	32 x 6g	25 x 6g

**Fastener Centres**

Framing Side: Fix at 300mm centres up each stud with no fixing to top or bottom channel sections.

Place fasteners no closer than 12mm to the sheet edge and 50mm from sheet ends.

Resilient Rail Side: Fix 300mm centres on all furring channels on other side.

Place fasteners minimum 12mm from sheet edges and sheet ends.

Place fasteners at 200mm centres where sheet end butt joints occur.

Avoid outer layer screws from hitting inner layer screws.

**Acoustic Sealant**

A bead of acoustic sealant must be placed on the perimeter of the framing or the inner layer. The single or outer layer is then bedded onto the bead. The perimeter junctions of the wall must be airtight.

**Jointing**

Inner Layer: Unstopped

Outer or Single Layer: All fastener heads stopped and all sheet joints reinforced with paper jointing tape and stopped. Wall to ceiling junctions are to be reinforced with paper tape and square stopped or finished with Cornice. All in accordance with Elephant Plasterboard Installation Guide.

