



System Description

Red moat® Fire-resistance Smoke Barrier System provides an effective solution for modern buildings when fire happens to block and slow down the smoke spreading from the area in fire to other floors and zones. The system consists of 9mm Red moat® calcium silicate board with full set of simple and easy fixing components and can be adaptable with all kinds of modern buildings.

System Specification

Lining Boards

Standard Red moat® calcium silicate board dimensions 1220mm x 2440mm x 9mm.

Fixing

The metal framework of the system consists of top and bottom horizontal metal channels, and vertical studs, a minimum size of 50mm x 50mm x 0.5mm thick at maximum 610mm nominal centers. The top horizontal channel is of minimum size 50mm x 50mm and at least 0.8mm thick.

The top channel is fastened to the concrete soffit with anchor bolts at maximum 610mm centers. The vertical studs are fastened to the top channel with two self-tapping screws on both sides of each stud. The bottom horizontal channel similar dimensions to the vertical studs is fastened to the bottom of each stud with one self-tapping screw on both sides of each stud.

The boards are fixed to both sides of the framework with self-tapping screws at 200mm maximum centers. Vertical board joints must coincide with the metal framework and be staggered between the two faces of the barrier.

The configurations and installations shall follow the requirements of the specific system, including fillet and Rock Mineral Wool requirements.

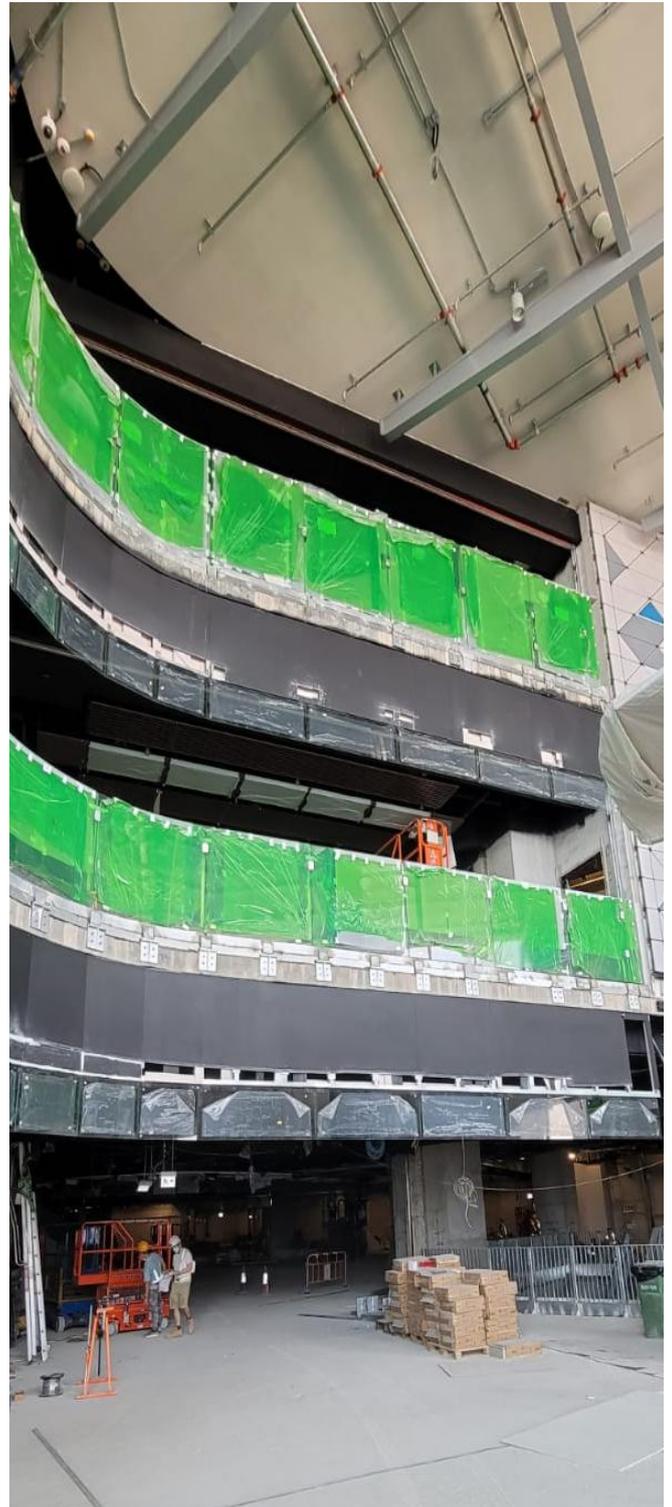
The maximum height of the system is 2,400mm. For system suspended height more than 2,400mm, advice and assessment from suitably qualified engineer is needed.

Joint Treatment

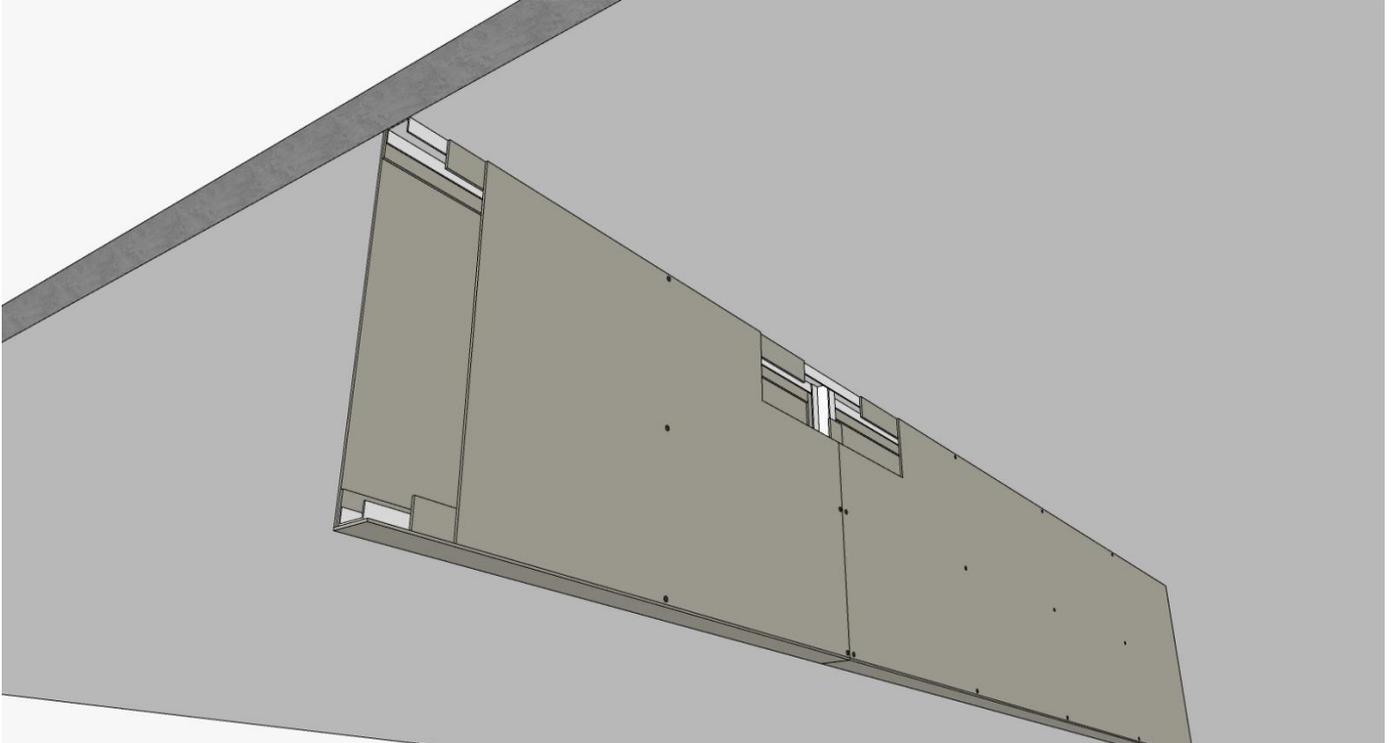
Joints filled with Hilti fire sealant cp-606.

Tests & Standards

The complete system including boards, metal framework, Rock Mineral Wool, fire sealant and fasteners are tested and/or assessed to comply with the criteria of BS476-20&22.

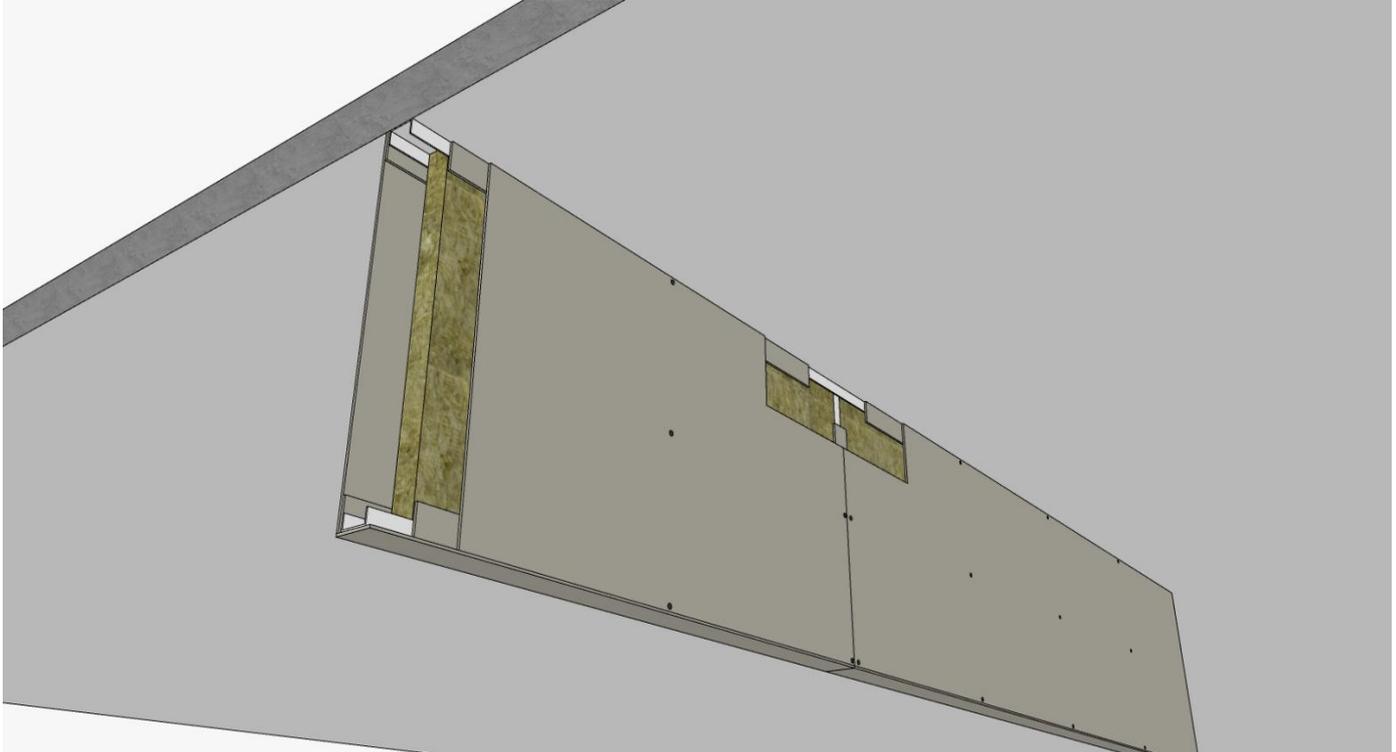


Construction details for the 60 mins FRR Smoke Barrier without Insulation



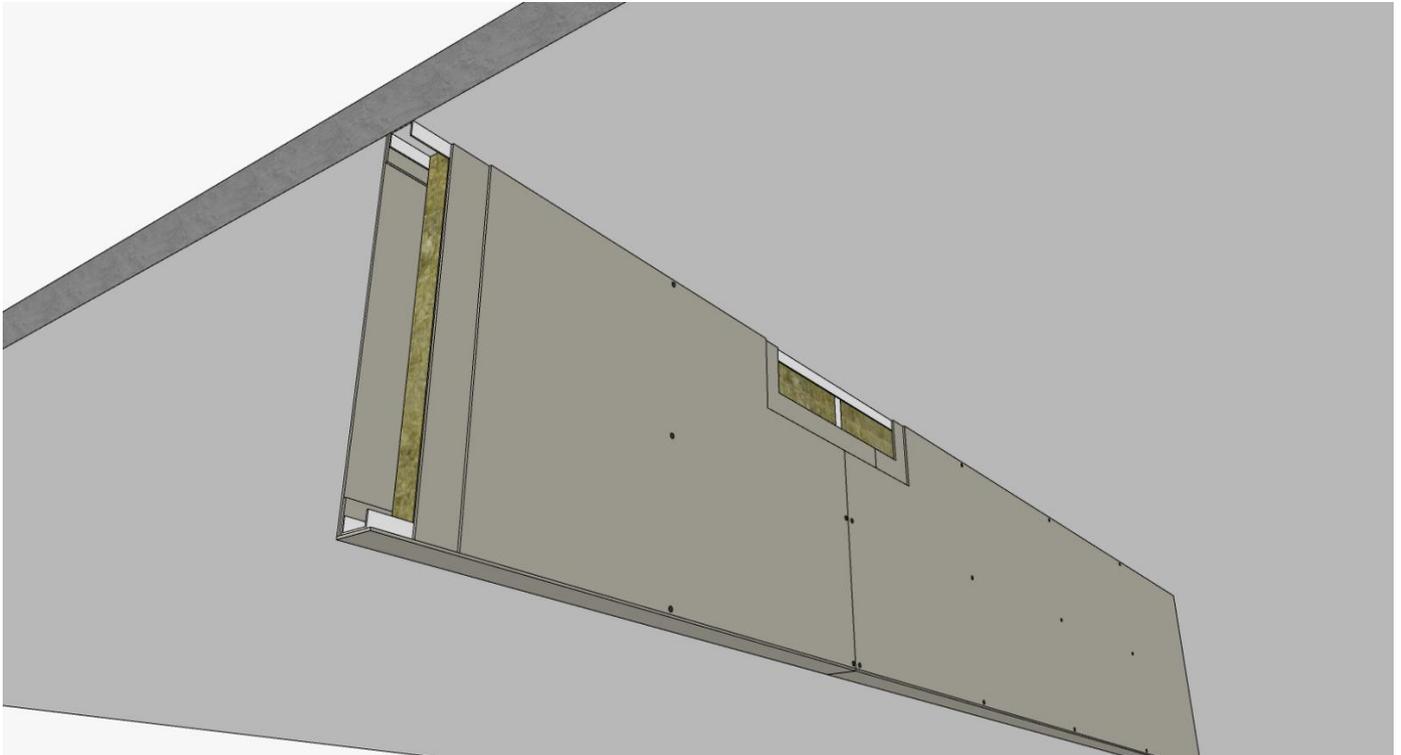
Board Configuration	Single layer of 9 mm thick boards with 9 mm thick by 100 mm wide fillet on each side of framework								
Rock Mineral Wool	No Rock Mineral Wool is required in the system								
	Vertical Stud				Top Channel				
Maximum Suspended Height	Studs Centre	Stud Web	Stud Flange	Stud Thickness	Stud Web	Stud Flange	Stud Thickness	Minimum Anchor Bolt Size	Anchor Spacing
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm,c/c)
<1500	610	50	50	0.6	50	50	0.8	M6	610
1501-2400	610	50	50	0.8	50	50	1.0	M8	610

Construction details for the 60&120 mins FRR Smoke Barrier with Insulation



Board Configuration	Single layer of 9 mm thick boards with 9 mm thick by 100 mm wide fillet on each side of framework									
Rock Mineral Wool	50 mm thick of 80 kg/m ³ "RED MOAT" Rock Mineral Wool									
	Vertical Stud				Top Channel					
Maximum Suspended Height (mm)	Studs Centre	Stud Web	Stud Flange	Stud Thickness	Stud Web	Stud Flange	Stud Thickness	Minimum Anchor	Anchoring spacing	FRR
	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	Bolt Size	(mm,c/c)	(mins)
<1500	610	50	50	0.5	50	50	0.8	M6	500	60
	610	50	50	0.8	50	50	1.0	M6	500	120
1501 -2400	610	50	50	0.6	50	50	0.8	M8	500	60
	610	50	50	0.8	50	50	1.2	M8	500	120

Construction details for the 240 mins FRR Smoke Barrier with Insulation



Board Configuration	Two layers of 9 mm thick boards on each side of framework								
Rock Mineral Wool	100 mm thick by 100 kg/m ³ "RED MOAT" Rock Mineral Wool								
	Vertical Stud				Top Channel				
Maximum Suspended Height	Studs Centre	Stud Web	Stud Flange	Stud Thickness	Stud Web	Stud Flange	Stud Thickness	Minimum Anchor Bolt Size	Anchor Spacing
(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)	(mm)		(mm,c/c)
<1500	610	100	50	1.0	100	50	1.0	M8	500
1501-2400	610	100	50	1.2	100	50	1.2	M8	400