

FIRECRUNCH INSTALLATION MANUAL - **EXTERNAL WALLS**

FRL 60/60/60 to FRL 90/90/90

NATA Labs Australia Fire Tested Systems AS1530.4 and more



FIRE PROOF



FLOOD PROOF



IMPACT RESISTANT



TERMITE PROOF



MOULD & BACTERIA PROOF



**FIRE TESTED BY
CSIRO / NATA
AND OTHERS**



**NATA
CERTIFIED
NO METAL
CORROSIVE
CHLORIDE
MgSO4
Sulphate Board**



FireCrunch

FireCrunch offers a new era in eco-friendly and 95% carbon neutral building products and building materials. FireCrunch is a composite of steel processing derivatives bonded with integral magnesia mix composite materials and processed volcanic scoria. Finely carbonated with a specified level of magnesium sulphate IP which eliminates any metal corrosion found in regular MgO boards which all have a metal corrosive chloride bonder (Mgchl₂). FCA also uses HD fibre mesh composite sheetings which provides its enhanced strength. FireCrunch has no asbestos, chloride, formaldehyde or any toxic derivatives, toxic chemicals of VOC that can cause harm to health. FireCrunch is one board with many applications. See "Safety Data Sheet K Product Range FireCrunch" under [Manuals & Drawings](#) on web site. See "NATA Labs Non-Asbestos Non-Chloride Certificate" under [Certifications](#) on web site.

Key Features

The fine, densely bonded, mineral fibre structure (1.15g/cm³) ensures excellent machining and working properties using normal woodworking equipment or hand tools. In addition, the smooth face surface provides an ideal base once primed and sealed with recommended products for paint finishing (class 4 to 5 top rate commercial) with all industrial and domestic coatings. The back surface of FireCrunch is characterised by a coarse, wire screen texture which makes it ideal for rendering and tiling when reversed, although both sides respond equally. FireCrunch is available in a range of accurately dimensioned sheet sizes and in thicknesses but requires 10mm for ceilings over 300mm batten centres.

Australian BCA Standards Certification

- ★ BCA Volume Two 2014: Part 3.5.3.4, Fibre Cement Sheeting.
- ★ BCA Volume One 2014: C1.8 Lightweight Construction, C1.10 Fire Hazard Properties and C1.12 Non-Combustible Components, including state variations for NSW AS1530.1.
- ★ BCA Volume Two 2019: Part 3.5.3.3, Fibre Cement Planks and Weatherboard Cladding.
- ★ BCA Volume Two 2019: Part 3.5.3.4, Fibre Cements Sheet Wall Cladding.
- ★ BCA Volume Two 2019: Part 3.5.3.5, Eaves and Soffits Linings.
- ★ BCA Volume Two 2019: Part 3.7.1, Fire Separation for FRL, including state variations in SA. (Refer to limitation e).
- ★ BCA Volume Two 2019: Part 3.7.4, Bushfire areas to Part 3.7.4.0 and 3.7.4.1, incl. state variations NSW, Qld, SA, Tas.

Fire Properties

FireCrunch is totally fire resistant. It will not burn in a fire storm.

FireCrunch boards also meet the requirements of the following methods for fire tests on building materials.

- ★ AS1530.4 - Fire resistant test to building material - relative standard.
- ★ AS1530.4 - Components and structures (FRL 60/60/60, FRL 90/90/90 - FRL .../120/120)
- ★ AS1530.1 - Non-combustibility test for materials.
- ★ AS3837 - Simultaneous determination of ignitability, flame propagation, heat release and smoke release.
- ★ AS1530.4 - Fire resistance test of elements of construction.
- ★ AS1530.8.1 - Tests on elements of construction buildings exposed to bushfire attack - Radiant heat and small flaming sources.
- ★ AS1530.8.2 - Tests on elements of construction buildings exposed to simulated bushfire attack - Radiant heat and large flaming sources.
- ★ Complies under AS1530.4 Registered Fire Engineers Test Assessment Report (NCC) and Blue Mountains City Council NSW Chief Surveyors Assessed Approval 2019/20.

FireCrunch is applicable in BAL Low, 12.5, 19, 29, 40 or FZ (Flame Zone - over 50Kw m² irradiation, 1200°C) regulation areas and meets the AS3959-2019 mods requirements, when used to protect timber framing. See [Certifications](#) on web site.

Product Applications

FireCrunch has a very wide range of uses for residential, commercial and industrial buildings, schools, hospitals, Government and social housing, utility buildings etc. The board has additional applications in the fire safety, electrical switchboard backing blocks, electrical wiring channels and internal electrical risers in multi-story and commercial buildings.

INTERNAL APPLICATIONS

Internal walls, ceilings, floor sub base, tile backer, counter tops, kitchen furniture, built-in wardrobes, hot areas.

WET AREA APPLICATIONS

Bathrooms, shower recess, kitchen - sealed correctly. FireCrunch is suitable for any wet areas or humidity prone areas. FireCrunch is mould resistant and will not degrade in standing water or flood conditions it remains inert and can simply be dried, re-plaster set and repainted.

EXTERIOR APPLICATIONS

Wall boards, soffits, lining or decking assessed for AS3959 BAL Flame Zone Regulation. Must be fully weather sealed. Can be painted, papered, tiled, rendered or veneered.

Environmental Properties

During the manufacturing process, in carbonation, FireCrunch draws back 90% of the CO₂ created in manufacturing and makes it a virtually carbon neutral product. FireCrunch is a 45% recycled waste product and is 100% recyclable. See FireCrunch web site for more environmental properties.

Storage & Handling

Store flat, under cover on a horizontal pallet or on supports spaced at not more than 450mm centres. Must be kept under cover away from all weather conditions before use. Always handle with at least one person at each end of the board. With hands, apart, lift the board and tilt to prevent sagging.

Occupational Health & Safety

The work involved in sawing, drilling, sanding or otherwise treating FireCrunch sheets, should minimise dust generation and be carried out in a well-ventilated area. Use an extractor on power bench saws with replaceable filter or disposable half respirator to avoid respiratory problems, and wear long sleeved shirts. Industrial safety glasses or non-fogging goggles should also be worn.

What Tools Do I Need?

No special tools are required to use FireCrunch. It can be sawn, drilled, screwed and planed using timber tools.

Cutting & Machining

FireCrunch is easy to work and machine with normal woodworking tools and equipment. Cut sheets with a fine tooth handsaw or power saw. Edges may be trimmed with a smoothing plane, power plane or sandpaper. Where holes are required, clean cutter bits or twist drills are satisfactory. Woodworking shapers, spindle moulders and high speed routers may be used to shape or mould the edges of FireCrunch. Tungsten carbide tipped cutters are preferred for long production runs.

General Fixing & Installation Recommended Board Thickness

Board Thickness	Recommended Use	Edges
10mm Cladding SE/TE	K-Clad Walls and Ceilings (Interior & Exterior)	SQ, Recessed
12mm Groove Board	K-Wall (Weatherboard), BAL FZ	Shiplap
16mm Decking Board	K-Deck (TG16 Exterior Decking) BAL FZ	TG
19mm Flooring	K-Floor/K-Roof TG19 BAL FZ	TG

AS1530.4/2014-2029

Interior/Exterior Lining

Position fasteners a min. of 50mm from corners and min. 12mm from edges. All facing surfaces must be pre-sealed with Murobond MP Primer (see [Recommended Products](#) web site) and finished with Dulux based paints for fine finish. Stud adhesives should only be used for board positioning, not fastening. Installed boards must be screw fastened.

Timber Framing

General wall installation to conventional wood or steel frame construction. Use self countersunk ribbed head screws spaced 200mm on centre at panel edges and intermediate framing battens spaced up to 300mm centres for field of sheets.

Steel Framing

General wall installation to conventional min. 20GA Bluescope steel or similar metal frame construction. Use min. No. 8-18 x 8.5mm suitable length long, ribbed head bugle corrosion proof screws spaced 200mm centres at panel edges and intermediate framing battens, spaced up to 300mm centres (ceilings) depending on use.

Joint Treatment

FireCrunch TE recessed edge boards can be fastened at a butting board edge but must be centred on the backing battens at max. 300mm centres.

IMPORTANT: Do not fire seal the plaster set butt joints on internal cladding work.

Gun 3 beads of fire sealant down the backing batten face, use Bostik Fire Ban or any AS1530.4 approved fire sealant. Do not gun fire sealant between the boards on internal plaster set walls.

Screwing

All screws must be corrosion proof in all areas, stainless steel or galvanised. For screwing FireCrunch to timber or steel framing, we recommend using 8-10 self countersunk ribbed head Class 2/3 needle point screws (depending on timber hardness). Use self countersunk corrosion proof winged screws for steel framing. Max. depth between surface of screw head and surface of FireCrunch should not be more than 2-3mm (10, 12, 16 and 19mm boards).

Recommended screw sizes

Board Thickness	Screw Length	Board Thickness	Screw Length
10mm & 12mm	30mm	16mm & 19mm	45-50mm



SEALER + UNDERCOAT + PAINTING OR RENDERING:

For both internal/external paint application. Failure to follow these procedures and use the specified products will void the warranty. See [Recommended Products](#) on web site.

- STEP 1 Ensure all surfaces are clean and dry to max 10% sheet hydration.
- STEP 2 Apply one coat of the **Murobond MP Primer**.
- STEP 3 After Murobond MP primer is dry to manufacturer's specification, apply the recommended **undercoat** for your finish top coat paint brand.
- STEP 4 Apply two coats of **water-based acrylic paint**.

Murobond MP Primer is obtainable on order from FireCrunch Australia.

DO NOT ALLOW FireCrunch boards to get wet or hydrate over 10% BEFORE sealing with Murobond MP primer.

Fixing Notes Timber Frame

- ★ Timber-framed walls, floors and ceilings are to be constructed strictly in accordance with AS1684 (timber structures), the Building Code of Australia and all relevant standards.
- ★ Fasten to the studs, joists and rafters min. 15mm from the edge and 50mm from corners of boards and staggered at a maximum of 200mm centres.
- ★ Fasteners should finish with the head just below the surface of the FireCrunch board.
- ★ The boards are strong but care should be taken not to damage the core or face.
- ★ Exterior cladding must be properly weather-sealed on the face, at the ends, edges and joints and drainage provided for any moisture that may develop.
- ★ Movement or control joints should be provided where the FireCrunch board abuts dissimilar materials, where the construction changes within the plane of the wall, and at not more than 5 metre centres.
- ★ External joints are to be filled with a suitable weather sealant strip.
- ★ Timber stud walls are to have a minimum cavity depth of 90mm.
- ★ All external walls should be filled with insulation batts equal to R value for specific climatic requirements.

Fixing Notes Steel Frame

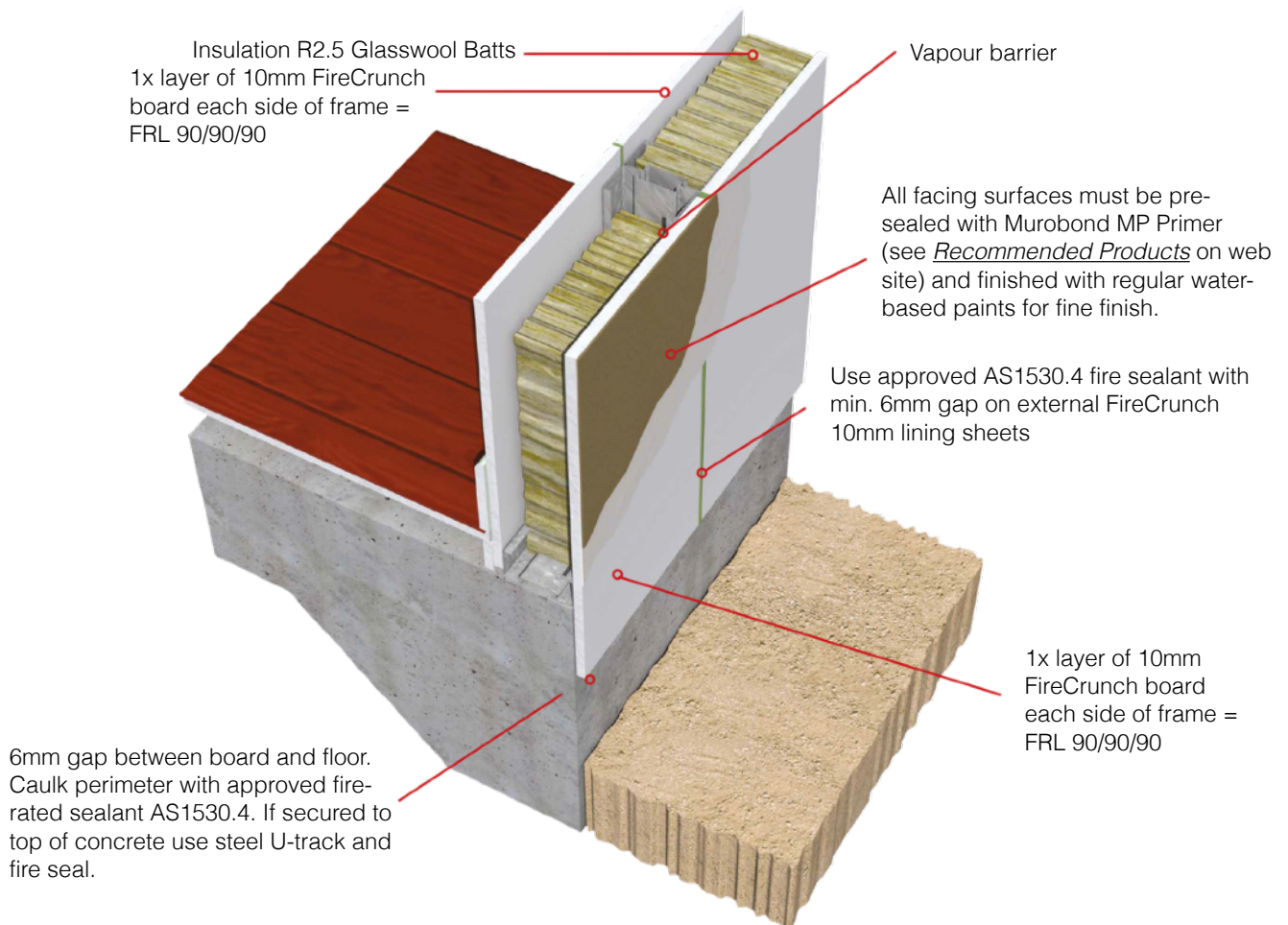
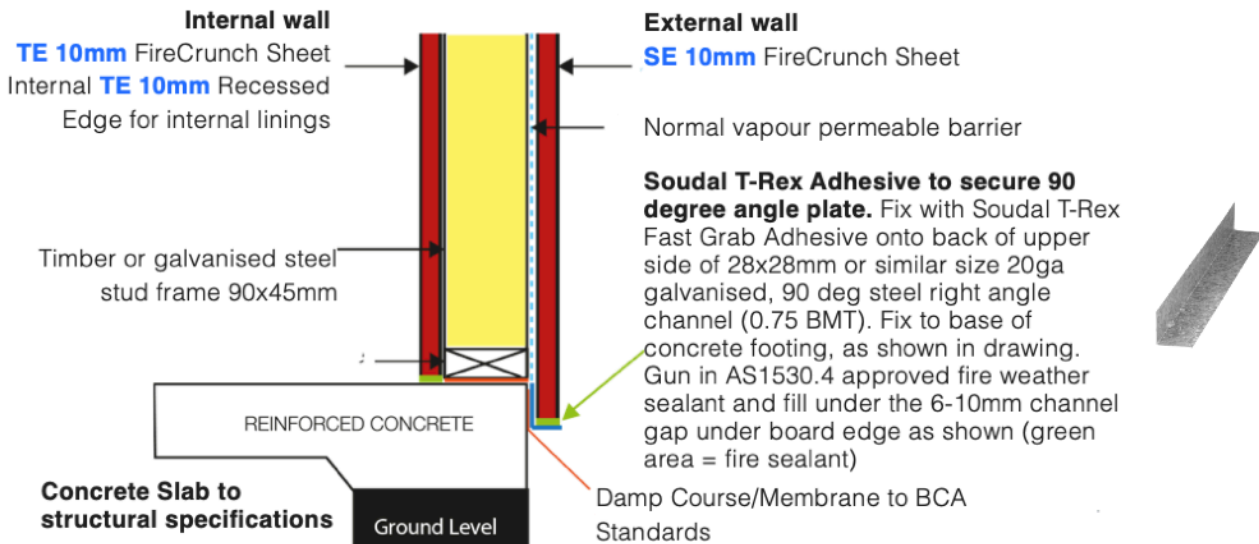
- ★ Steel-framed walls, floors and ceilings are to be constructed strictly in accordance with AS/NZS4600 (cold formed steel structures), the Building Code of Australia and all relevant standards.
- ★ Fasten to the studs, joists and rafters min. 15mm from the edge and 50mm from corners of boards and staggered at a maximum of 200mm centres.
- ★ Fasteners should be ribbed head bugle screws and finish with the head just below the surface of the FireCrunch board.
- ★ The boards are strong but care should be taken not to damage the core or face.
- ★ Exterior cladding must be properly weather-sealed on the face, at the ends, edges and joints and drainage allowed by not sealing the bottom edge for any moisture that may develop.
- ★ Movement or control joints should be provided where the FireCrunch board abuts dissimilar materials, where the construction changes within the plane of the wall, and at not more than 6 metre centres.
- ★ External joints are to be filled with an expandable weather sealant strip.
- ★ Steel stud walls are to have a minimum thickness of 75mm.
- ★ In areas of high humidity or in coastal regions, metal exposed to the board must be painted with corrosion proof paint.

Steel or Timber Frame Construction

FireCrunch can be used externally as well as internally and provides the quality to ensure the longevity of your project. Installing FireCrunch externally on either timber or steel frames protects the interior from termites, noise, weather and fire, when the board is installed to the requirements of the FireCrunch Fire Manual.

Slab Base Fixing Method

Timber Frame **FRL 60/60/60** R2.5 Glass Wool Batt
 Steel Framing **FRL 60/60/60** R2.5 Glass Wool Batt
 Steel Framing **FRL 90/90/90** Rockwool Batt 80kg



FIRE RATED WALL: COLD FORMED STEEL FRAME CONSTRUCTION

External Fire Wall FRL 90/90/90 and FRL .../90/90

Board Thickness	Stud Cavity Depth	Cavity Infill (DTS Solution)	FRL Non Load Bearing
10mm FireCrunch	min. 90mm 1.15 BMT	90mm min. R2.5 glass wool batt	90/90/90 and .../90/90



Screws: Use only self countersunk ribbed head screws - 10 gauge 16 TPI, 25mm CSK rib, X Drive #1 DP. For 64mm and 76mm steel stud frames consult FCA under NCC. Maximum depth of screw head of 3mm, use 2 pack filler. Exteriors minimum fastening distance from edge of board should be 12mm.

NOTE: Vertical cladding must be used in load bearing fire walls. Do not use horizontal cladding.

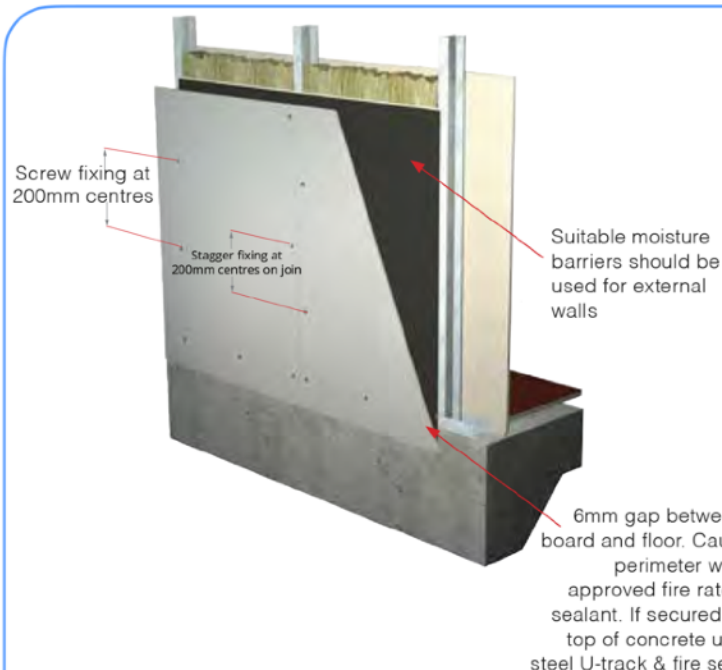
Single Layer Vertical Installation Load Bearing Wall

Install FireCrunch sheets in a vertical arrangement SE10 sheets K-Clad. Internal plaster set use TE10.

All fixings at 200mm centres

Fastener Position	Fastener Spacing
Centre of board	200mm max centres
Recessed edges	200mm max centres staggered
Butt joints	200mm max centres
Corners & openings	200mm max centres
Top & bottom frame	200mm max centres

Approved AS1530.4 fire rated sealant must be used on all joints as per the instructions. *Recommended Products* on web site.



NOTE: Horizontal single sheet cladding with back blocking on all horizontal joints can only be used in **non load bearing** fire walls.

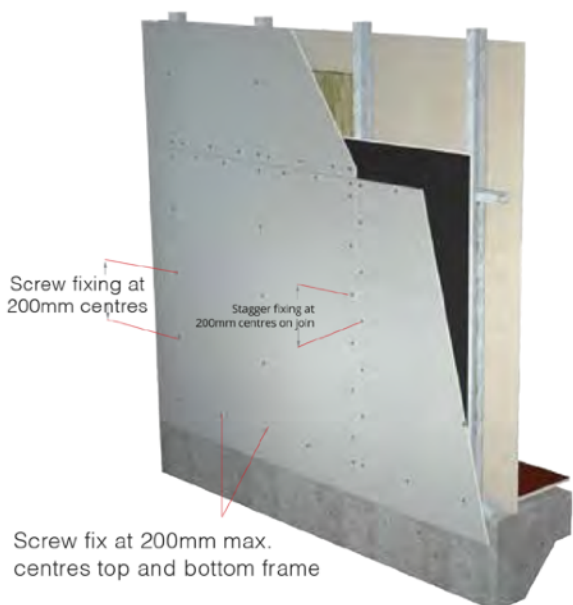
Single Layer Horizontal Installation Non Load Bearing Wall

Install FireCrunch sheets in a horizontal arrangement. Use TE10 K-Clad to plaster set joints.

All fixings at 200mm centres

Fastener Position	Fastener Spacing
Centre of board	200mm max centres
Recessed edges	Fix at each stud
Butt joints	200mm max centres
Corners & openings	200mm max centres
Top & bottom frame	200mm max centres

Approved AS1530.4 fire rated sealant must be used on all joints as per the instructions. *Recommended Products* on web site.



FIRE RATED WALL: STEEL FRAME CONSTRUCTION

External Fire Wall Load Bearing FRL 60/60/60

Board Thickness	Stud Cavity Depth	Cavity Infill (DTS Solution)	FRL Load Bearing
10mm FireCrunch	min. 90mm 1.15 BMT	90mm min. R2.5 glass wool batt	60/60/60 and .../60/60

Screws: Use only self countersunk ribbed head screws - 10 gauge 16 TPI, 25mm CSK rib, X Drive #1 DP. For 76mm steel stud frames consult FCA under NCC. Max. depth between surface of screw head and surface of FireCrunch should not be more than 3mm. 2 pack fill exteriors. Min. fastening distance from edge of board should be 10-12mm. For screwing FireCrunch to steel framing use recommended stainless steel or corrosion proof screws.



Single Layer Vertical Installation Load Bearing Wall

Install FireCrunch sheets in a vertical arrangement. External use SE10 K-Clad.

All fixings at 200mm centres

Fastener Position	Fastener Spacing
Centre of board	200mm max centres
Recessed edges	200mm max centres staggered
Butt joints	200mm max centres
Corners & openings	200mm max centres
Top & bottom frame	200mm max centres

Approved AS1530.4 fire rated sealant must be used on all joints as per the instructions. *Recommended Products* on web site.

NOTE: Horizontal single sheet cladding with back blocking on all horizontal joints can only be used in non load bearing fire walls.

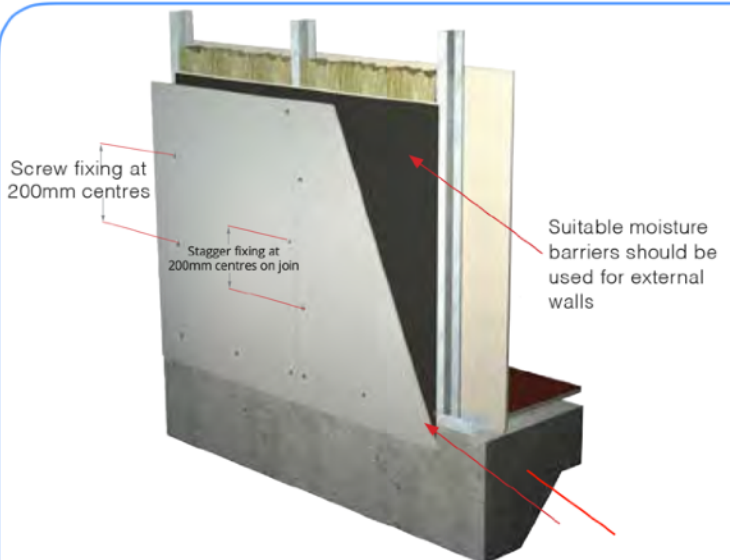
Single Layer Horizontal Installation Non Load Bearing Wall

Install FireCrunch single sheets in a horizontal arrangement and back block all horizontal joints and fire seal.

All fixings at 200mm centres

Fastener Position	Fastener Spacing
Centre of board	200mm max centres
Recessed edges	Fix at each stud
Butt joints	200mm max centres
Corners & openings	200mm max centres
Top & bottom frame	200mm max centres

Approved AS1530.4 fire rated sealant must be used on all joints as per the instructions. *Recommended Products* on web site.



6mm gap between board and floor. Caulk perimeter with approved fire rated sealant. If secured to top of concrete use steel U-track & fire seal

