BOUNDARY WALLS STEEL FRAMING

STEEL FRAME CONSTRUCTION FIRE RATED WALL - *LOAD BEARING FRL 90/90/90/ and over*

FIXING NOTES:

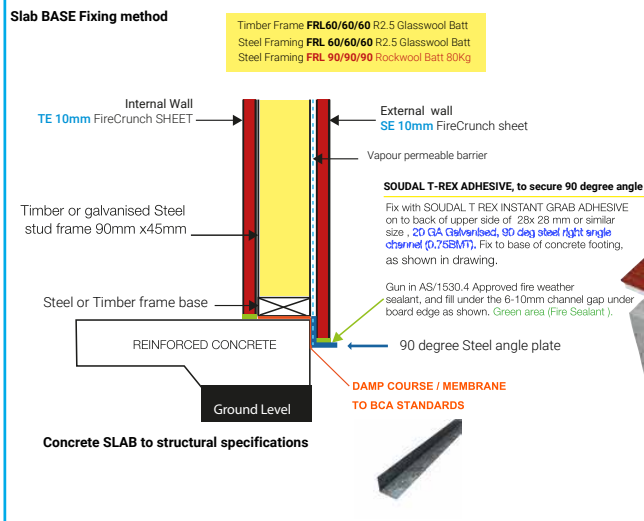
- Steel framed walls, floors and ceilings are to be constructed strictly in accordance with AS/NZS 4600 (Cold Formed Steel Structures), the Building Code of Australia and all relevant Standards.
- Fasten to the studs, joists and rafters min 15mm from the edge and 50mm from the corner of boards and staggered each side of sheets joints at maximum of 200mm centres.
- Fasteners should be recommended corrosion proof, ribbed head bugle screws and finish with the head 2mm below just below the surface of the FireCrunch boards and 2 pack fill.
- The boards are strong but care should be taken not to damage the core or face.
- All external wall must be surface sealed with approved MgO sealer primers to front face only and both side and top edges back left unsealed, see recommended products products web site before, or immediately after installation. Net cavity of 90mm and 20ga min (1.15 BMT) galvanised steel frame filled with 90mm min R 2.5 glass wool batts for single and double steel frames.
- Movement or control joints should be provided where the FireCrunch 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 recommended fire sealant AS/1530.4 Tested and approved product information is available on our support website (AS/ 1530.4 APPROVED)
- For FRL 90/90/90 steel stud walls are to have a minimum cavity of 90mm, minimum 20ga (min 1.15 BMT) galvanised steel and external walls are to be filled with Glasswool batts. (as per FRL required, SEE DETAILED NOTES THIS MANUAL)
- Use corrosion proof screws.

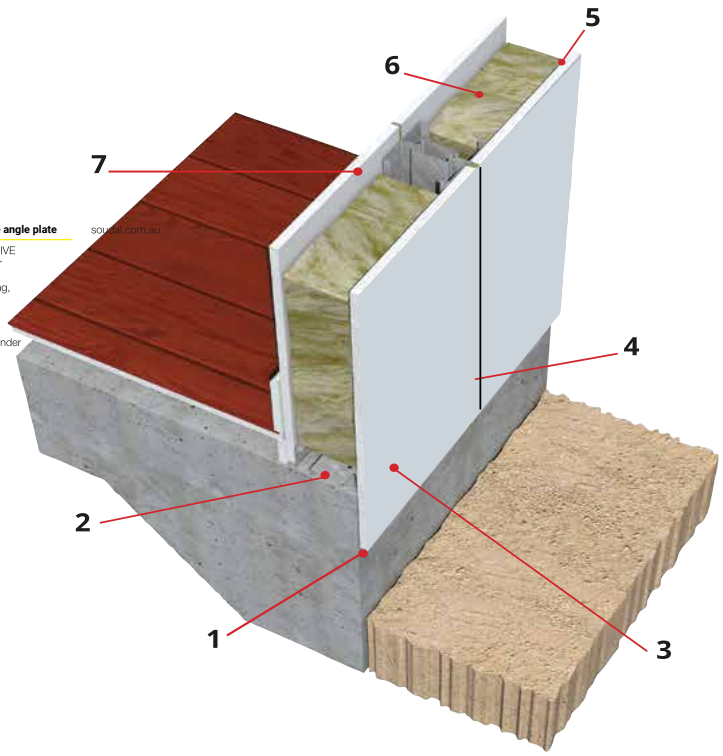
Sealing / Painting FireCrunch Boards manual link :
https://firecrunch.com.au/wp-content/uploads/2020/12/02_01_FireCrunch-Sealer_Prime-and-Painting-Manual.pdf

Table of : 01- Numbers related to drawings

COLD ROLL FORMED SECTION - STEEL FRAME CONSTRUCTION

1. Screw fix Boards to walls and at base which should be concrete plinth, if no concrete slab . use 0.75BMT galvanised steel U track or 90 deg steel angle section and fire seal the FireCrunch board to these joints sets.
2. 92 x45mm 20ga steel frame. use 1.15 BMT , for load bearing or check with structural engineer for project.
3. Minimum 10mm FireCrunch external lining.
4. Fire sealant, AS/1530.4 , Gun down 3x 3mm thick beads on stud face and comb down face before applying the next board and fixing with min 6mm gap and gun fire sealant into 6mm gap ,tool down 2 to 3mm for shadow line panel effect.
5. A vapour barrier/sarking must be used for all fire walls. between frame and FireCrunch board.
6. Use min R 2.5 GLASSWOOL for FRL 30, 60, 90, minutes.
7. 10mm FireCrunch Internal boards are NATA LABS CSIRO TESTED FRL 90/90/90 from both side. FireCrunch INTERNAL TE 10mm Recessed Edge for internal Linings.





RECOMMENDED PRODUCTS

Check website for all recommended PRODUCTS for use with FireCrunch boards which are first updated on the web site The latest products that have been tested and approved for use on the FireCrunch product can be viewed on the website.

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STEEL FRAMING UP TO FRL 90/90/90 (LOAD BEARING)
BOUNDARY WALLS STEEL FRAMING

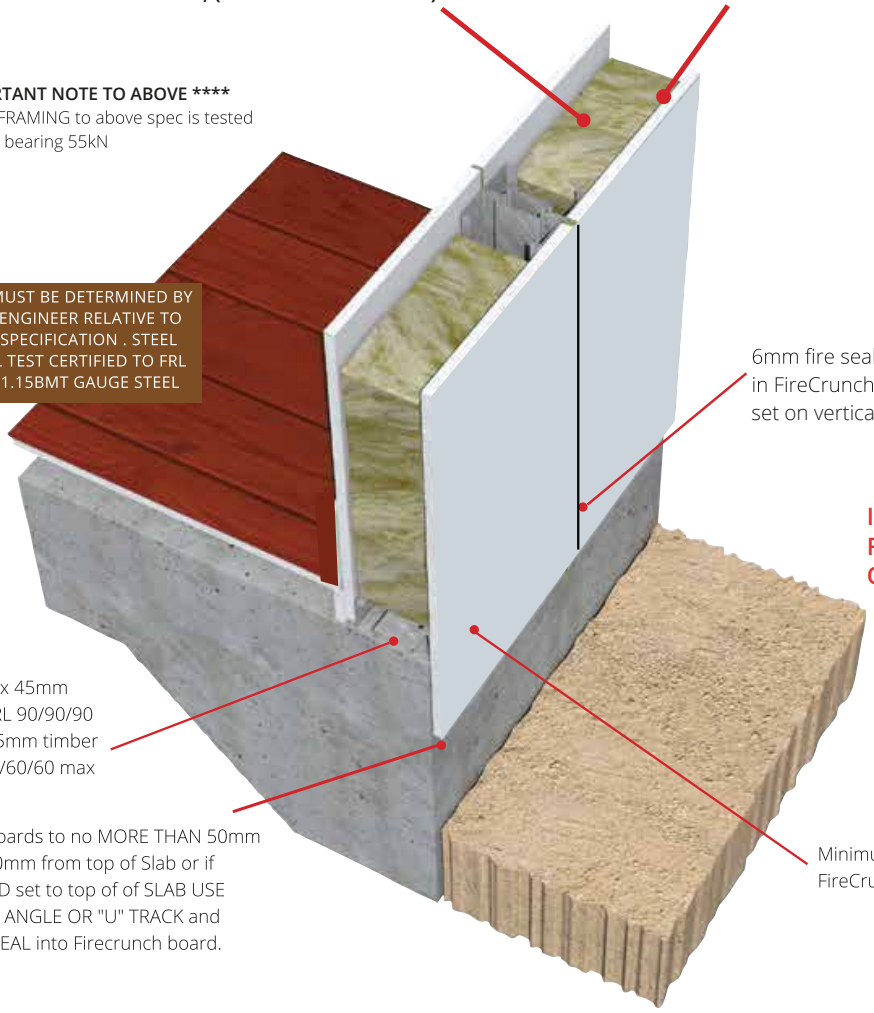
FRL /60/60/60*****
& 90/90/90*****

R2.5 Glass wool batts, (min 1.15 BMT STEEL).
.

Suitable moisture barriers (BCA) must be used for all external walls between frame and board.

IMPORTANT NOTE TO ABOVE **
STEEL FRAMING to above spec is tested to load bearing 55kN

LOAD BEARING MUST BE DETERMINED BY A STRUCTURAL ENGINEER RELATIVE TO EACH PROJECT SPECIFICATION . STEEL FRAMNG IS FULL TEST CERTIFIED TO FRL 90/90/90 using 1.15BMT GAUGE STEEL



6mm fire sealant gap joints in FireCrunch external lining sheets. set on vertical stud facings

IMPORTANT
FIRE WALL SHEETS CAN ONLY BE SET VERTICALLY.

NOTE: FireCrunch is of no interest to Termites and PROTECTS EXPENSIVE TIMBER FRAMING. It is also FLOOD PROOF and will not delaminate like plaster board, REMAINS UNAFFECTED BY WATER, just allow to dry out 72 hours clean and repaint.

(1.15 BMT) 92mm x 45mm CFS steel frame FRL 90/90/90 max or 90mm x 45mm timber stud frame FRL 60/60/60 max

SET boards to no MORE THAN 50mm to 100mm from top of Slab or if BOARD set to top of of SLAB USE STEEL ANGLE OR "U" TRACK and FIRE SEAL into Firecrunch board.

Minimum 10mm FireCrunch external lining

****** LOAD BEARING WALL NOTES:-**

The 2nd figure "MATERIAL INTEGRITY" in containing no fire pass and the 3RD Figure "INSULATION PERIOD " have all been tested to the BCA standard under (NCC.). Because all load bearing walls will vary . To "QUALIFY" the first figure "STRUCTURAL ADEQUACY" the project structural engineer must specify the steel framing dimensions to meet required load bearing in steel . FIRE TEST REPORTS AVAILABLE. technical@firecrunch.com.au or see web site browser manuals. CSIRO/NATA FRL 60/60/60 and FRL 90/90/90 fire tests assessment to MIN LOAD BEARING OF 55kN achieved on 1 .15BMT steel framing. (CERTIFICATES OT TEST see WEB SITE)

*****NOTE: NO FRL LEVEL TEST CONFIRMATION can be obtained unless there is a corresponding Firecrunch board on the INNER face of the Frame. Whilst all Firecrunch board is NON combustible AS /1530.1 and AS/3837, for a tested DTS system rated IN FRL under AS/1530.4 and AS/1530.8.2 , there must be an FCA sheet each side of frame to qualify the FRL under BCA DTS. OTHERWISE NO PRODUCT FRL CAN BE FRL TEST RATED. IF PLASTER BOARD IS WANTED ON THE INTERIOR FIRE ATTACK SIDE THE NATA CSIRO FireCrunch CERTIFICATES CANNOT BE USED AND A FIRE ENGINEER WILL NEED TO RE ASSESS FCA WITH 13mm PLASTER BOARD . FIRE ENGINEERING ASSESSMENT FEES WIL BE INCURRED BY THE APPLICANT IN SUCH INSTANCES FireCrunch CAN ASSSIST WITH THIS IF REQUIRED 1300 933 102

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FIRE TESTED FIRE SEPARATION WALL AND BOUNDARY WALL FRL:60/60/60 • 90/90/90 • 120/120/120

STEEL FRAMED CONSTRUCTION 1.15 BMT FRL 120/120/120 NCC Performance tested solution

90mm R 2.5 glasswool batt Screw at 200mm centres 12mm from EDGE

Table : 01- Numbers related to drawings

1• For 60 and 90 minute WALLS use 1 LAYER 10mm FireCrunch SE10 EXTERIOR, and 1 LAYER 10mm K-CLAD TE10 (Recessed edge) INTERIOR SIDE for plaster set joints.

2• USE K-WALL TS12 size 2700 x 1000 FOR "Timber Groove" board look INTERIORS or EXTERIORS.

3• FRAMING, use 92 x 45mm steel framed cold roll steel light gauge re wall min 20 GA (1.15 BMT). OR TIMBER MGP 10 90mm X45mm STUD FRAME

4• In wall Cavity Use 90mm thick R 2.5 glass wool batts (1 x 10mm board per side for FRL 90/90/90 and 2 sheets for FRL 120/120/120 Screw at 200mm centres 15mm from EDGE. (EXTERIOR ONLY) Gun fire sealant down stud faces (3 beads) screed down and into 6mm gap between exterior boards only .Tool down fire sealant 2/3mm for exposed panel appearance and then paint or texture coat after curing 8 hrs. Plaster SET joints required Internally use ONLY K -CLAD RECESSED EDGE BOARD (TE10) SEE recommended products plaster set compounds per instructions web site FCA (TE10) recessed edge board and light butt joint 1mm light pressured gap with fire sealant squeezed between the approx 1mmbutt joint. Do NOT LEAVE A 6mm GAP ON INTERNAL PLASTER SET JOINTS. GUN AS1530.4 FIRE SEALANT DOWN FACE OF INTERIOR FACINGS OF STUDS AND SCREED DOWN. USE 3 x 3mm beads, just LIGHT butt set TE10 boards together

5• Vapour barriers/sarking must be used between frame cladding board for all fire walls. in good construction practice

6• Use min 90mm R2.5 Glass wool batts up to and including FRL 120/120/120 NATA labs tested (NCC) aAternative performance systems.

7• FOR FRL 120/120/120 USE 2 x 10mm FireCrunch K-CLAD lining boards each side (OFFSET the JOINTS) 50mm, NATA TESTED FRL 120/120/120 from both sides.

NOTE: This is an NCC PERFORMANCE TESTED "Alternative" solution and should be discussed with your fire consultant, Fire Certifier or surveyor first. SEE TEST REPORT and FIRE ENGINEER ASSESSMENT WEBITE. firecrunch.com.au/certification/ NOTE Load bearing FIRST FIGURE),in TIMBER FRAMING) must be approved by structural Eng. for project) NOTE Timber framed single walls 90x45mm to max FRL 60/60/60 DBL frame FRL 90/90/90

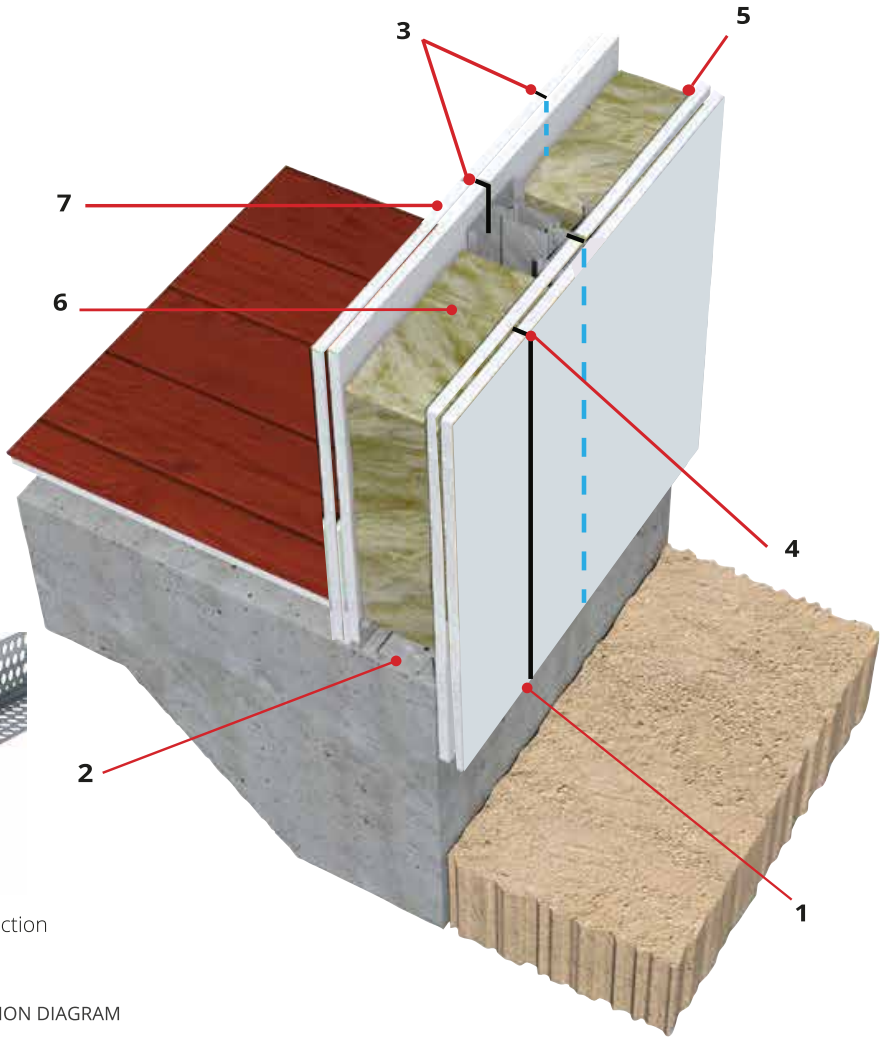
Table of : 01- Numbers related to drawings

FIRE RATED *SINGLE FRAME* FIRE SEPARATION WALL FRL 120/120/120

NOTE:
The first FRL figure is"Structural Adequacy and is determined by the project structural and fire engineer relative to these FireCrunch tests.

FireCrunch is the 2nd figure materials integrity to withstand the FIRE test duration and control the temperature to 140 deg average on the unexposed face of the test sample.

Galvanised Right angled slim corner section



INDICATIVE CONSTRUCTION DIAGRAM

FireCrunch
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FIRE RATED **FIRE SEPARATION WALL FRL 120/120/120**

STEEL FRAMED CONSTRUCTION 1.15 BMT

BOUNDARY WALLS STEEL FRAMING

PLUS VERANDA, BALCONY & BOUNDARY FIRE WALLS

FRL 60/60/60 AND FRL 90/90/90 60 AND 90 MINUTES

FIRE RATED BOUNDARY WALLS, LOAD AND NON LOAD BEARING.
FRL 60/60/60** TO FRL 90/90/90**** AS/1530.4- BCA, CSIRO, NATA, FIRE, NON ASBESTOS AND NON CHLORIDE NATA TESTED.**
(CSIRO CERTIFICATES WEB SITE)

FIXING NOTES

- Movement or expansion control joints should be provided where the FireCrunch abuts dissimilar materials, where the construction changes within the plane of the wall, and at not more than 5 metres. or around windows and door frames

External Fire joints are to be filled and extra backing studs facings applied to ensure fixed direct o the studs ,where required.
Use recommended fire sealant AS/1530.4 Tested and approved product information is available on our support website firecrunch.com.au/recommended-products (NCC) .

(NCC) ALTERNATE TESTED SYSTEM

FireCrunchSPECIFICATIONS IN ALL INSTRUCTION Manual REFLECT TESTING AND ASSESSMENT BY REGISTERED FIRE ENGINEERS UNDER THE "ALTERNATIVE PERFORMANCE SYSTEM"S SET DOWN UNDER THE NATIONAL CONSTRUCTION CODE (NCC) ADHERE TO THE MANUALS OF INSTRUCTION firecrunch.com.au/tecnical-specifications and see drop down menus web site. Any issues call technical 1300 933 102 tor email technical@firecrunch.com.au also see https://firecrunch.com.au/technical-faqs/

STEEL FRAMING

- USE STEEL FRAMING for LOAD BEARING (55kN) FRL 60/60/60 to 90/90/90 and ABOVE
- AS/1530.4 -2019 (Approved steel framing 92 x 45mm min 1.15BMT)
- Steel framed walls, floors and ceilings are to be constructed strictly in accordance with AS/NZS 4600 (Cold Formed Steel Structures), the Building Code of Australia and all relevant Standards.
- Fasten boards to the studsjoists and rafters min. 12mm to 15mm from edge of board and 50mm from the corner of boards and be staggered fixed each side of board joint at a maximum of 200mm centres.
- Fasteners, use recommended corrosion proof, ribbed head bugle screws and finish 2mm below the surface of the FireCrunch boards. (2 pack Epoxy fill)
- The boards are strong but care should be taken not to damage the core or face.
- All boards internal or external must be surface sealed with approved RECOMMENDED PRODUCTS ,WEB SITE) SEALER primers, before, or immediately after installation. Do not seal sides or back of boards Cavity of 90mm and (20Ga) min (1.15 BMT Galvanised steel frame filled with 90mm min R 2.5 Glasswool batt. Use R2.5 glasswool batts in timber and steel, see recommended products web site.
- Movement or expansion control joints should be provided where the FireCrunch abuts dissimilar materials, where the construction changes within the plane of the wall, and at not more than 5 metres, and around door and window framing
- External joints ONLY, 6mm fire sealed gap are to be filled with recommended fire sealants showing AS/1530.4 on package. Bostik Fireban, Tremstop PU,Sikka Fire stop . SEE recrunch.com.au/recommended-products/
- Steel Frames minimum 20ga (min 1.15 BMT) Galvanised steel) 90 X 45mm stud frames. STUD frames set at 400 stud centres for fire walls

SEALER + UNDERCOAT + PAINTING OR RENDERING :

FireCrunch is a fire and finish board which delivers a minimum class 4 finish. For paint application,
(INTERNAL / EXTERNAL) (WARRANTY) first ensure surface is dust free and clean, seal with :

1st step : **AquaCrunch / KLAAS Si VAPOUR PERMEABLE sealer (interior and exteriors)** ,
2nd step : you must then apply **Dulux Precision MAX ADHESION undercoat,** then apply
3rd step : **Dulux** paints or texture top coats.

AquaCrunch / KLAAS Si VP sealer primer is obtainable on order from FireCrunch Australia. A Top Class 4 /5 commercial finish is then obtained.
https://www.firecrunch.com.au/recommended-products/
DO NOT ALLOW FIRECRUNCH Boards to get WET or Hydrate over 10% BEFORE Sealing with AquaCrunch Sealant.