

TIMBER SINGLE FRAME BOUNDARY WALL DOUBLE STUD FRAME BOUNDARY WALL

**FRL 60/60/60 &
FRL90/90/90 (TIMBER AND STEEL)**

FIRE RATED WALL - LOAD BEARING

TIMBER FRAME CONSTRUCTION **FRL 60/60/60******

FIXING NOTES: (TESTED/ Solution NCC / BCA)

- Timber framed walls, floors and ceilings are to be constructed strictly in accordance with AS/NZS 1684 (Timber structures), the Building Code of Australia and all relevant Standards.
- Fasten to the studs, joists min. 10 to 12mm from the edge and 50mm from the corner of boards and staggered each side at a maximum of 200mm centres .
- Fasteners should finish with the head just below the surface of the FireCrunch. USE TWO PACK FILLER and sand off.
- The boards are strong but care should be taken not to damage the core or face.
- Movement or control joints should be provided where the FireCrunch abutts dissimilar materials, where the construction changes within the plane of the wall, and at not more than 5 meter centres.
- External joints are to be filled with a recommended expandable fire sealant. AS/1530.4 Approved product information is available on our support website
- Timber stud walls are to have a minimum cavity of 90mm.
- All walls are to have a cavity depth to accommodate a 90mm R 2.5 GLASSWOOL BATT fire batt for single framed timber stud walls. minimum R2.5 for TIMBER FRAMING Radiata Pine/ MGP 10 or similar softwoods to FRL.....60/60
ALL STUDS to MAX 400mm CENTRES or LESS.
(if 450mm in place an extra stud will be required to meet 300mm overrun on 1200 wide boards/sheets.

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.

**** LOAD BEARING WALL NOTES:-

Please note that Timber frames 90mm x 45mm have been tested in a non load bearing format.
 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 timber framing dimensions to meet required load bearing in timber and timber type FIRE TEST REPORTS AVAILABLE. see web site for manuals. If this is not a viable solution in timber then the frame must be built of steel as per CSIRO/NATA FRL 60/60/60 and FRL 90/90/90 fire tests assessment to MIN LOAD BEARING OF 55kN achieved on 1.15BMT . (CERTIFICATES OT TEST WEB SITE)

Screwing

For steel framing, we recommend using self Countersink Ribbed Head bugle screws. Stainless steel screws should be used in external or wet applications



For screwing FireCrunch panels to timber framing, we recommend stainless steel or corrosion proof screws plated 8-10 self Countersink Bugle Head Class 2 / 3 Needle Point screws (depending on timber hardness).
 Maximum depth between surface of screw head and surface of FireCrunch should not more than 3.0mm.



All fasteners must be corrosion proof .Quality stainless steel or Galvansed fasteners to be used for external and wet areas.

Recommended Screw Sizes

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

TIMBER SINGLE FRAME BOUNDARY WALL

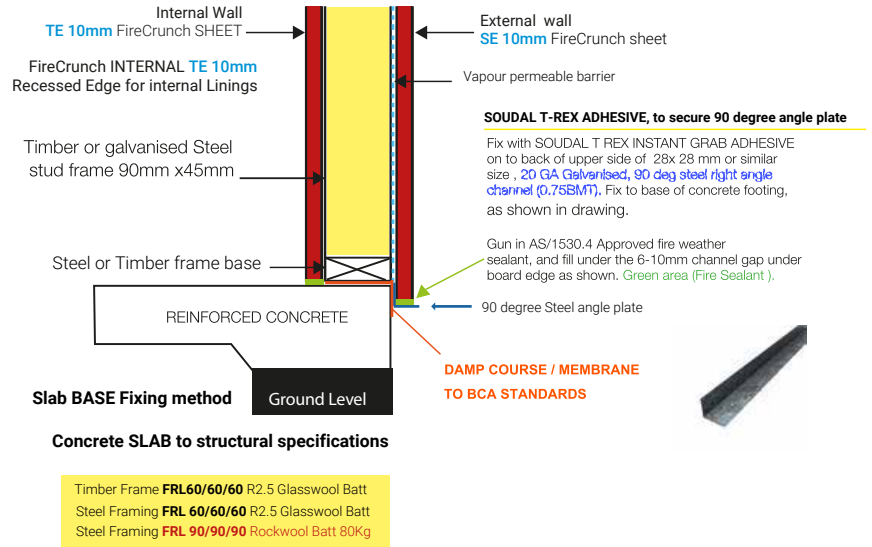
FRL 60/60/60

TIMBER FRAME WALLS

FRL 60/60/60 (LOAD BEARING)

90mm x45mm Timber
MGP10 single stud frame

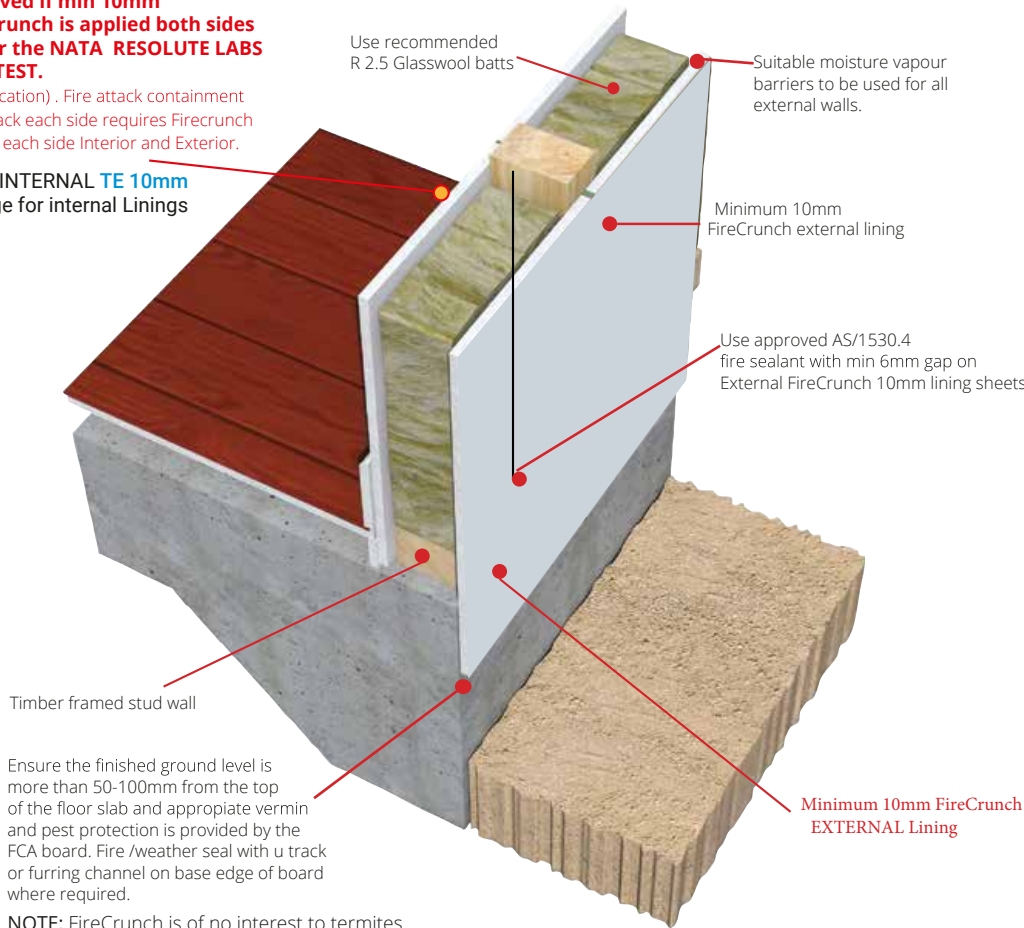
TE & SE 10mm size:
2400mm x 1200mm
2700mm x 1200mm
3000mm x 1200mm



FRL 60 /60/60 can only be achieved if min 10mm FireCrunch is applied both sides as per the NATA RESOLUTE LABS FIRE TEST.

(Certification). Fire attack containment for attack each side requires FireCrunch 10mm each side Interior and Exterior.

FireCrunch INTERNAL TE 10mm Recessed Edge for internal Linings



plaster board 13mm can be used for interior walls in free standing homes, However FireCrunch CSIRO Certificates can not be used and a separate assessment is required by a fire engineer as if the test materials are changed it invalidates the certificates.

**** LOAD BEARING WALL NOTES:-

Please note that Timber frames 90mmX45mm have been tested in a non load bearing format.

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 timber framing dimensions to meet required load bearing in timber and type for 60 or 90 minutes. FIRE TEST REPORTS AVAILABLE technical@firecrunch.com.au For timber walls a structural engineer will be required to assess the project timber framing material 1st figure "STUCTURAL ADEQUACY" for the FRL required 60 OR 90, the 2nd figure material "INTEGRITY" and the "INSULATION" the 3rd figure have both passed the fire tests in 60 and 90 minutes. As all walls vary in LOAD bearing requirement, the structural engineer for each project will need to confirm the capability of the load bearing in timber framing. If this is not a viable solution in timber then the frame must be built of steel as per CSIRO/NATA FRL 60/60/60 and FRL 90/90/90 fire tests to MIN LOAD BEARING OF 55kN achieved on 1.15BMT.

TIMBER SINGLE FRAME BOUNDARY WALL FRL 60/60/60

FIRE RATED WALL TIMBER FRAME CONSTRUCTION Alternative Performance Fire Wall System

INSTALLATION - INTERNAL & EXTERNAL FIRE WALLS

FireCrunch has been FIRE TESTED at: FRL 60/60/60**** for TIMBER framing.
FIRE ENGINEERING CERTIFICATE (NCC) RE RESOLUTE LABS FIRE TESTS

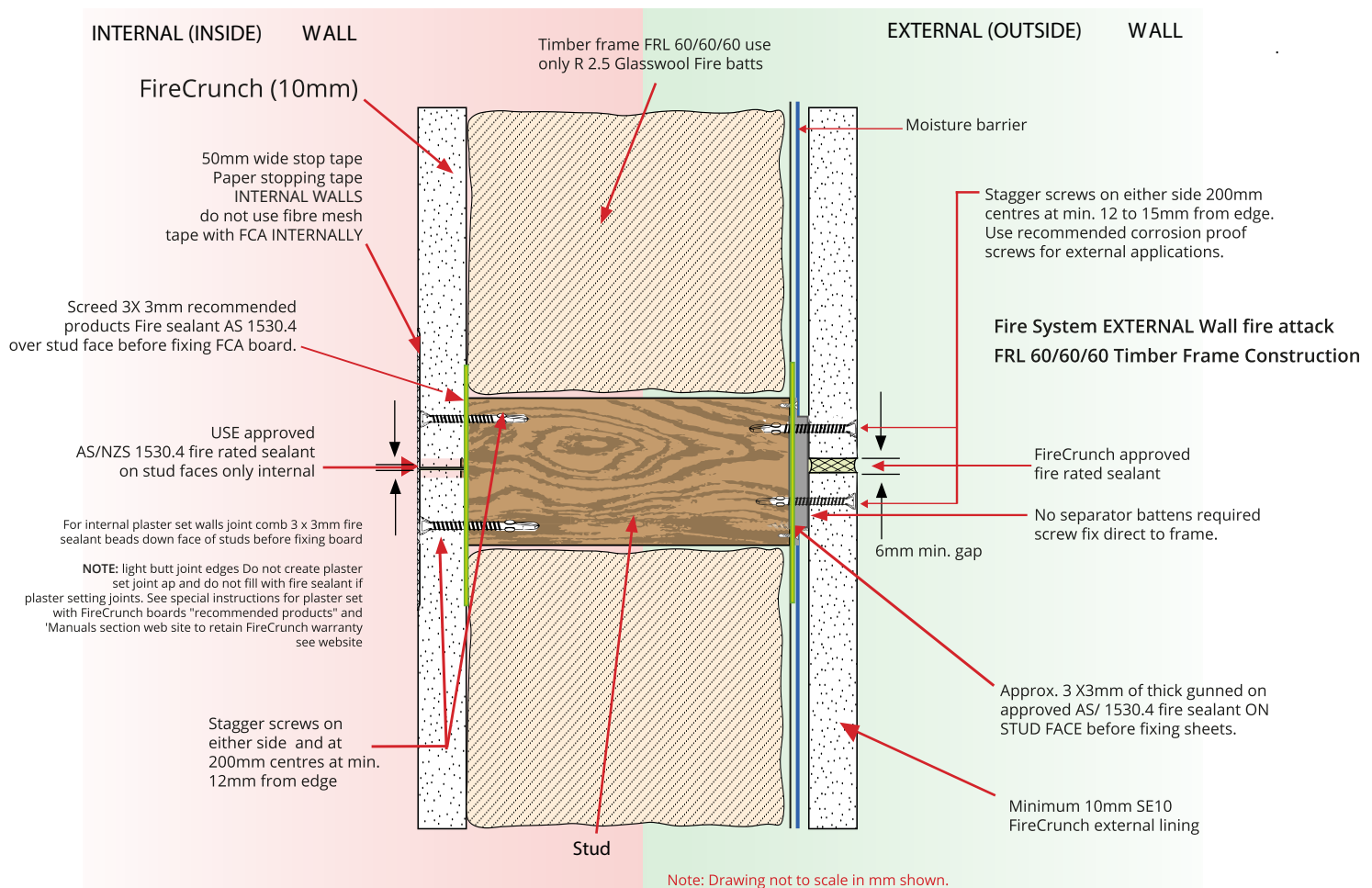
- One layer of 10mm FireCrunch fixed directly to each SIDE frame, timber stud wall framing, and noggings.
- Board is SCREW FIXED directly to timber framing over sarking. Do not nail, nailing will void the warranty.
- Stud adhesive should not be used.

1. Studs should be at 400mm to avoid 300mm run off with 1200mm wide boards.
2. All FCA 10mm boards are 1200mm wide.
3. All fire joints must be backed by studs and or noggings
4. Screw at 200 centres at edges and on studs and noggs. Stagger edge fixing on vertical studs.
5. Approved AS 1530.4 fire rated sealant must be used on all joints.

FRL (FireCrunch side)	STUD CAVITY depth	CAVITY INFILL* (DTS SOLUTION)	* use recommended product only
60/60/60 1 layer 10mm	Min. 90mm x 45mm	90mm thick R 2.5 GLASSWOOL BATT NCC /BCA TESTED	

INTERNAL/EXTERNAL FIRE WALLS - FIRE RATED CONTROL JOINTS

PLAN VIEW TOP HAT SECTION



Sealer Painting MUST USE Sealer on 1st : of AquaCrunch S1 Sealer /Primer

2nd : Dulux Precision Maximum Strength Adhesion Primer + 3rd : Dulux top coat colour

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

DOUBLE STUD FRAME BOUNDARY WALL FRL90/90/90 (TIMBER AND STEEL)

FIRE TESTED DOUBLE FRAME, PARTY WALL SYSTEM

INSTALLATION - TIMBER FRAME CONSTRUCTION

FRL 90/90/90 ****

FireCrunch can be used in many situations where adjoining or party walls are required to be fire and acoustic rated. The FireCrunch BOARD IS TESTED to FRL /90/90 on 90mm X 45mm TIMBER FRAMES and APPLIES TO LOAD BEARING FRL 90/90/90***** ON SUITABLY SPECIFIED LOAD BEARING WALL SYSTEMS.

On a timber frame, one layer of 10mm FireCrunch, each side with a Minimum R 2.5 90mm thick Glasswool Batt and 10mm FCA boards suitably jointed with approved fire sealant will provide a minimum Fire Resistance Level (FRL) of FRL .../90/90 AND FRL 90/90/90 WITH APPROVED FIRE WALL SPECIFICATION FOR LOAD BEARING for fire attack equally from both sides and an acoustic minimum of Rw 62 plus ctr, net Rw 52 Over Rw 62....use Hi density acoustic batt..

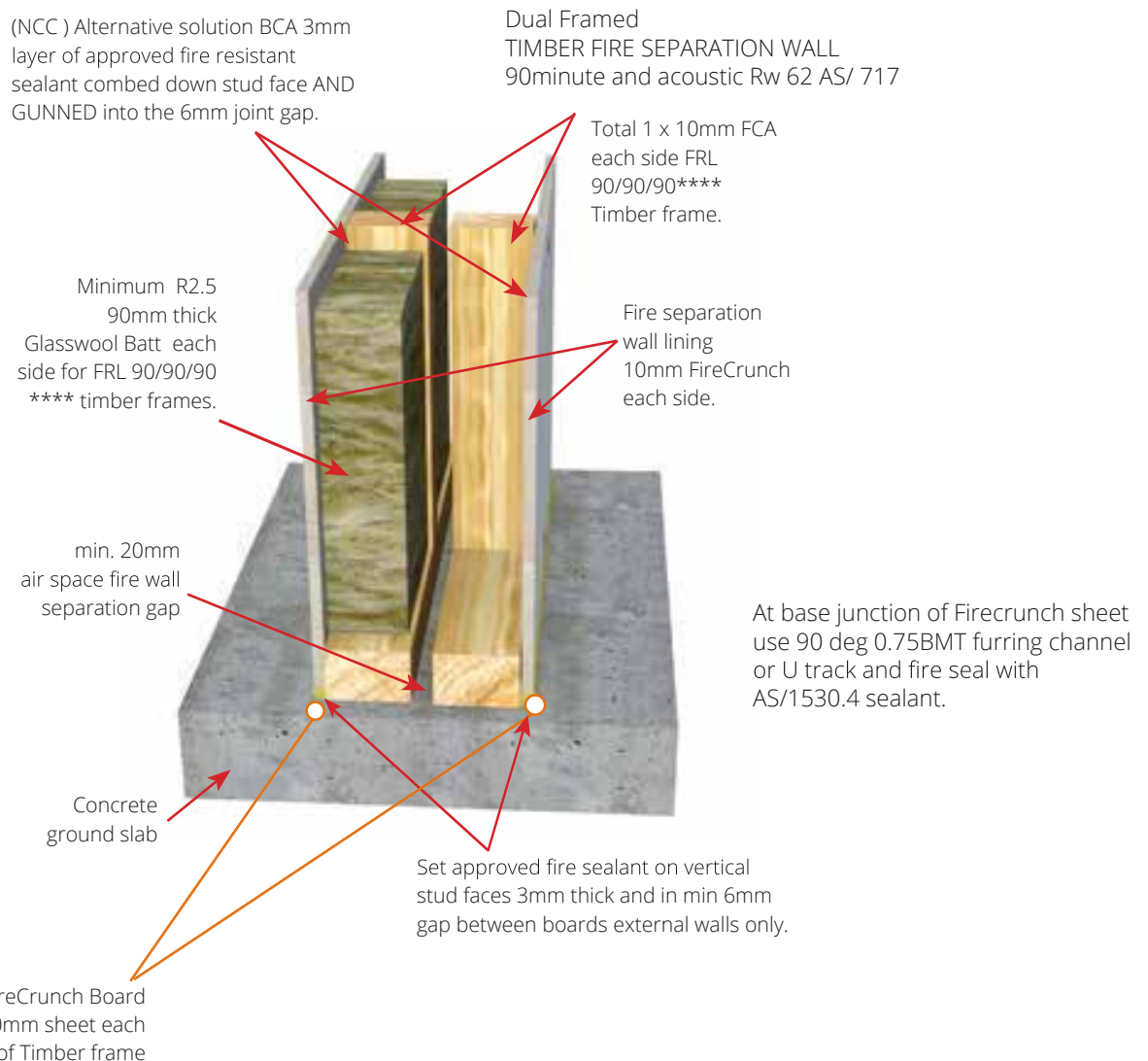
NOTE: Use only vertically set panels for "load bearing" Fire walls .

Use corrosion proof fasteners as per GENERAL TECHNICAL DATA sheet web site Fire separation walls between apartments meet BCA definition of 'discontinuous construction'. UNDER BCA (DTS) and NCC Alternative performance system assessment by an independant Fire engineer See all FireCrunch certificates on web site.

NOTE **** LOAD BEARING (1st FIG)TO BE ESTABLISHED BY STRUCTURAL ENGINEER FRL 90/90/90

FIRE TESTED DOUBLE FRAME, PARTY WALL SYSTEM

INSTALLATION - TIMBER FRAME CONSTRUCTION FRL 90/90/90



DOUBLE STUD FRAME BOUNDARY WALL FRL90/90/90 (TIMBER AND STEEL)


FIRE TESTED DOUBLE FRAME, PARTY WALL SYSTEM


INSTALLATION - TIMBER and STEEL FRAME CONSTRUCTION

FRL 90/90/90 ****

Generic illustration

FRL 90/90/90 Load Bearing

Install: Steel Frame	System	Nom Width	FRL	Insulation	Rw	Rw+Ctr
	<ul style="list-style-type: none"> TOTAL 220mm width 1 x 10mm FireCrunch sheet each side. 3 x 3mm thick beads approved AS/1530.4 sealant on stud face between frame and board. Min 6mm fire joint between sheets Steel Stud frame (90mm) with insulation R 2.5 glass wool batts. Min. 20mm fire wall separation air gap Acoustic TESTED system 1 layer 10mm each side Rw 62/net ctr 52. 	Min 220mm width 1 x 10mm Firecrunch sheets system	Load Bearing min. 90/90/90 both sides , NATA CSIRO TESTED	Steel frame (R 2.5) 90mm R2.5 Glasswool Fire batts	62	52

Install: Timber Frame	System	Nom Width	FRL	Insulation	Rw	Rw+Ctr
	<ul style="list-style-type: none"> 1 x 10mm FireCrunch boards each side of frame. 2/3mm thick approved AS/1530.4 fire sealant on stud face between frame & board. Min 6mm fire joint between boards/sheets (Exterior only) Timber Stud (min.90mm)cavity with insulation R 2.5 Glass wool batts. Acoustic is Rw 62 and Rw 52 net of ctr with 1 10mm sheet each side and R2.5 Glass wool batt in both cavities 	Min. 220mm width 1 x10mm sheet each side system.	Non load bearing FRL /90/90 and LOAD BEARING FRL 90/90/90**** with APPROVED STRUCTURAL ENGINEERS SPECS	Timber frame R 2.5 90mm thick Glasswool fire batt	62	52
	<p>****May require further fire engineer and structural engineers assessment for specific value for the load bearing tonnage exterior timber framed wall.</p>					

Sealer Painting MUST USE Sealer on 1st : of AquaCrunch S1 Sealer /Primer

2nd : Dulux Precision Maximum Strength Adhesion Primer + 3rd : Dulux top coat colour

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

FIRECRUNCH (NCC) ALTERNATIVE SYSTEM

FIRE SEPARATION WALL Timber and Steel FRAMING

FRL 90/90/90

This assessment was effected under the (BCA) Alternative FIRE PERFORMANCE TESTED system (NCC) using NATA /CSIRO fire test report.

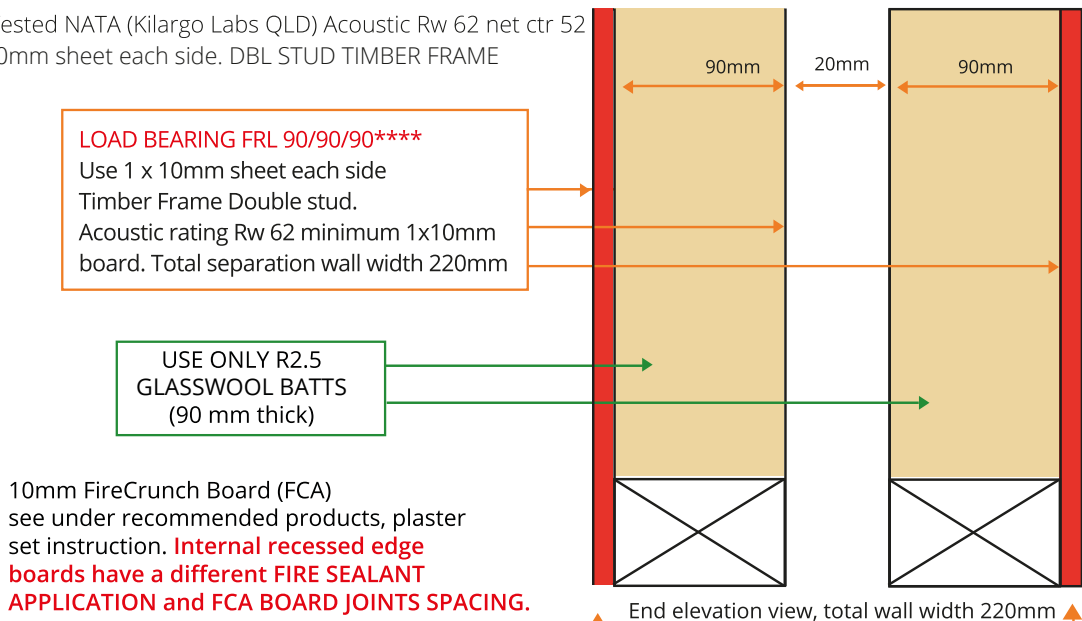
FSV 1708/15017025 ISO IEC 17025 and subsequent 90mmx 45mm Timber Framing with 600mm centre studs test by Resolute Labs QLD SEPT 2018 (NON LOAD BEARING) Assessed by YGL Fire Engineering Group SYDNEY NSW UNDER NCC ALTERNATIVE TESTED PERFORMANCE SYSTEMS 2019

FRL.... /90/90 AS/ 1530.4-2014

NATA LABS TESTS BY RESOLUTE QLD PROVED THE MATERIAL INTEGRITY 2nd FIG AND THE INSULATION 3rd FIGURE MEET THE AS1530.4 -2014 STANDARD IN MATERIALS INTEGRITY . THE STRUCTURAL ADEQUACY (1st fig) IS TO BE DESIGNATED BY THE STRUCTURAL ENGINEER IN EACH CASE AS ALL STRUCTURES and PROJECTS ARE DIFFERENT. Timber Framing. STEEL FRAMING IS TESTED UNDER DTS BY NATA LABS CSIRO TO FRL 90/90/90 . SEE MANUALS on WEB SITE.

END ELEVATION DOUBLE FRAME TIMBER FRL .../90/90 AND FRL 90/90/90***

Acoustic testing Tested NATA (Kilargo Labs QLD) Acoustic Rw 62 net ctr 52 obtained on 1 x10mm sheet each side. DBL STUD TIMBER FRAME



FIRE Collars NOTE: (Fire wall penetrations) NATA CSIRO ASSESSED

For interactive electrical and plumbing FRL protection to . FRL ../90/90 use SNAP SYSTEMS fire collars for carriage, in between and through fire separation walls. Both Snap and FireCrunch single sheet 10mm board have been fire tested (individually by the CSIRO) and ASSESSED TOGETHER to FRL ../90/90 eliminating 2/3 layers of 16mm fyrehek plaster board with 1 layer of 10mm FCA . See web site use CSIRO tested switches and power points with intumescent seal foam fire bloc, HPM , Clipsal etc (FireCrunch tested with Clipsal)

Studs to max 450 Centres ON 90 minute fire walls.
 SET BOARDS VERTICALLY WITH 6mm FIRE GAP BETWEEN BOARDS.
 ALLOW FOR 6mm STUD CREEP EVERY 1200mm ON CONSTRUCTION OF FRAMES, AS YOU NEED TO KEEP TO CENTRE OF STUD FACE FOR FIXINGS TO SECURE TRACTION.