Fire Crunch Australian Certified Building Solutions

FireCrunch Party Wall - Single 19mm Sheet

Install using 19mm K-Fire TG SL4 4 sided TG,
Sheet Size 2700x600mm
Eliminates H Studs, J Track, gantries and adhesive mixing, plus no 16mm Fyrchek at floor joists and truss zones, plus just low cost 10mm plasterboard each side

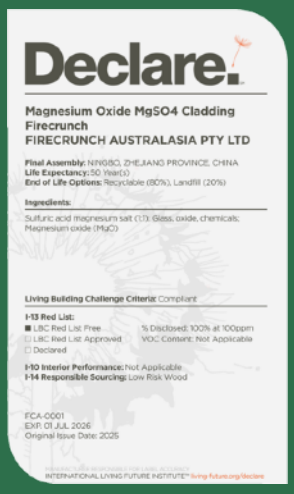
K-FIRE 19 SL4 SHAFT LINER SYSTEM

Party Wall: Systems are designed to provide a separating fire wall and acoustic Rw50 construction between adjacent buildings or tenancies in Class 1 to Class 10 buildings.

NATA Labs Australia Fire Tested Systems
AS1530.4/2014-2029 CSIRO and Acoustic Rw62 + Ctr = 52

FRL 60/90/90 (timber frame) load bearing
FRL 90/120/120 (steel frame) load bearing

FireCrunch holds the **Declare** label for all of its products via **International Living Future Institute USA**.

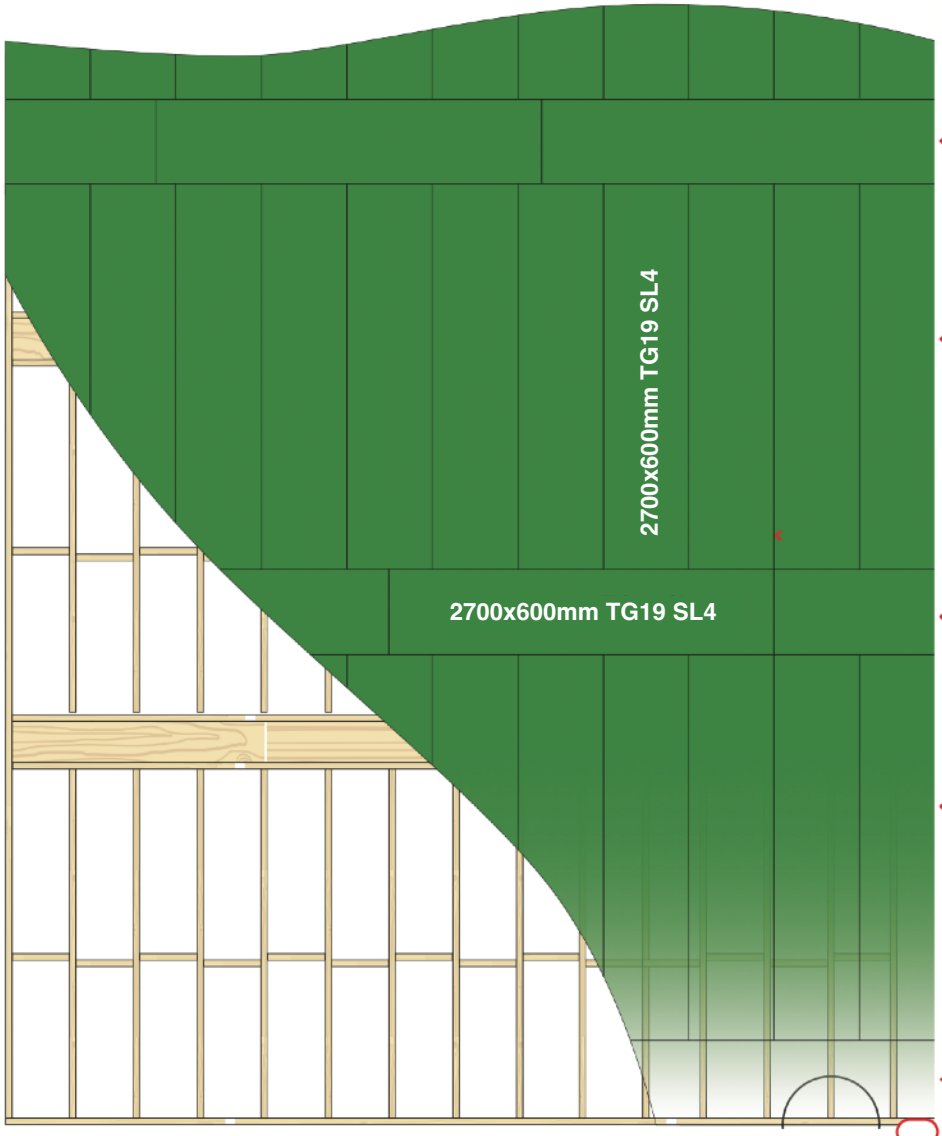

Declare.
Magnesium Oxide MgSO4 Cladding
Firecrunch
FIRECRUNCH AUSTRALASIA PTY LTD
Final Assembly: NINGBO, ZHEJIANG PROVINCE, CHINA
Life Expectancy: 50 Year(s)
End of Life Options: Recyclable (80%), Landfill (20%)
Ingredients:
Sulfuric acid magnesium salt (1:1), Glass, oxide, chemicals; Magnesium oxide (MgO)
Living Building Challenge Criteria: Compliant
I-13 Red List:
■ LBC Red List Free
□ LBC Red List Approved
□ Declared
% Disclosed: 100% at 100ppm
VOC Content: Not Applicable
I-10 Interior Performance: Not Applicable
I-14 Responsible Sourcing: Low Risk Wood
FCA-0001
EXP: 01 JUL 2026
Original Issue Date: 2025
INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.org/declare

- 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 K-FIRE 19 SL4 SHAFT LINER FIRE PARTY WALL (4-sided TG)



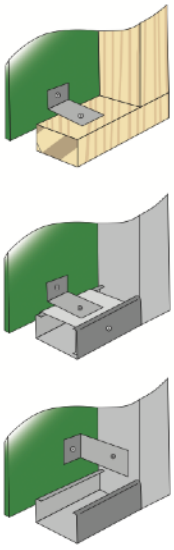
19mm TG sheet size 2700x600mm laid **HORIZONTAL** groove side down

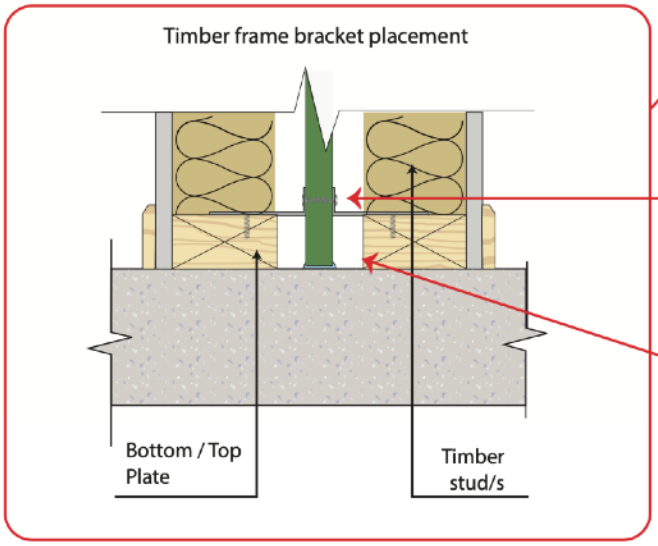
19mm TG sheet size 2700x600mm laid **VERTICAL**

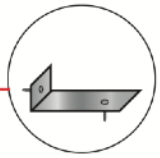
19mm TG sheet size 2700x600mm laid **HORIZONTAL** groove side down

19mm TG sheet size 2700x600mm laid **VERTICAL**

19mm TG sheet size 2700x600mm laid **HORIZONTAL** groove side down







Aluminium Stud Bracket size 45x75mm 1.60 BMT

Bottom Plate

K-FIRE 19 SL4 SHAFT LINER USER BENEFITS
Fire and Acoustic Party Wall FRL up to 60/90/90
Very fast 4-component assembly 30% lower cost

GENERAL DESCRIPTION AND SPECIFICATION

The FireCrunch K-Fire 19 system is designed to use thinner walls and less securing materials, while maintaining a high 90-minute FRL and a high acoustic value Rw62 plus Ctr = net Rw50.

Faster installs less material and thinner walls providing more end user space.

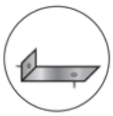
K-Fire MgSO4 composite sheets also eliminate the weather issues always experienced by builders in protection of the central 25mm plasterboard with expensive H studs and U track before the roof can be assembled in place, often requiring expensive removal and replacement. **MgSO4 cladding is impervious to water or flooding.**

This eliminates the cumbersome heavy 25mm thick 3m x .06 mm central plasterboard sheets, which then require H studs and U tracks to be fixed into position to hold these central fire panels in vertical secured positions before the firebreak aluminium clips can be installed.

K-Fire 19 uses 4 sided TG panels allowing a vertical and horizontal fast sheets erection with simpler 1.6mm BMT 45x 75mm right angled brackets screw fixed to the vertical stud sides and base plate. (No 16mm Fyrchek plates)

The first 2700x600mm panel is laid horizontally with fire AS1530.4 sealant gunned into groove side down on base plate. On completion of the horizontal lay, the same size 2700x600mm vertical set panels set vertically into each other and interlock with the horizontal TG joint. These are installed in half the time without H studs or U track further reducing direct hard labour cost and the extra 16mm Fyrchek material costs with overall cost benefits at least 30% less per m2.

Components Description Table



Aluminium Stud Bracket size 45x75mm 1.60 BMT

Tek Screw 10gx20mm Hex Head Screw for fixing to FireCrunch sheet

Tek Screw 10gx30mm Hex Head Screw for stud and plate fixing

R2.0 glass wool batts

4 hr Fire Rated Sealant (AS1530.4)

NO EXPENSIVE EXTRA 16mm FYRCHEK REQUIRED AT FLOOR LEVEL OR TRUSS AREA

WHAT YOU NEED FOR TIMBER OR STEEL FRAME

1. K-Fire 19 SL4 sheets TG 2700x600mm
2. Standard 10mm plasterboard sheets or K-Clad 10mm sheets (optional)
3. 75x45mm A19 aluminium fixing brackets (FCA supplies)
4. Hex Head screws 20mm or 30mm
5. AS1530.4 fire sealant for grooves

System	FRL	Acoustic	Insulation	Description	O/A Size
FCA 01 Timber Frame	60/60/60	Rw+Ctr=50	R2.0 glass wool batts x 90mm	★ 10mm plasterboard or K-Clad 10mm sheets (optional) ★ 70x45mm double stud timber frame ★ R2.0 glass wool batts to cavity ★ 20mm min. space ★ 19mm K-Fire 19 SL4 size 2700x600mm ★ 20mm min. air space ★ R2.0 glass wool batts to each cavity ★ 10mm plasterboard or K-Clad 10mm sheets (optional)	260mm
FCA 02 Steel Frame	60/90/90	Rw+Ctr=50	R2.0 glass wool batts x 90mm	★ 10mm plasterboard or K-Clad 10mm sheets (optional) ★ 90x45mm double stud steel frame 0.75 BMT ★ R2.0 glass wool batts to cavity ★ 20mm min. space ★ 19mm K-Fire 19 SL4 size 2700x600mm ★ 20mm min. space ★ R2.0 glass wool batts to cavity ★ 10mm plasterboard or K-Clad 10mm sheets (optional)	260mm

NEW FIRECRUNCH FIRE WALL SHAFT LINER K-FIRE 19 SL4 (4-SIDED TG)

LESS TIME, MONEY, MATERIALS AND INCREASES THE PROJECT ROI
70mm or 90x45mm Timber FRL 60/60/60 or 90x45mm 0.75 BMT Steel FRL 60/90/90

FireCrunch K-Fire 19 SL4 Shaft Liner is NATA Labs tested FRL 60/90/90 to 90/120/120 and is a fast, easy, and lightweight SINGLE AND DOUBLE STUD discontinuous fire wall system with RW52 net Ctr acoustics for applications in party walls, common walls, fire separation walls between townhouses, units, inter-tenancy, and fire exits, lift wells, etc. **AS1530.4/2014-2029**.

No H studs, J track, U track or gantries to install. Cuts, drills and fixes with timber tools. Routs in seconds. No 16mm plasterboard at floor joists.

To achieve FRL 60/90/90, only 1 x 10mm standard plasterboard is required on each side of the frame.

FireCrunch K-Fire 19 is unaffected by external weather during construction before roof cover is on.

Unlike other party wall systems, the FireCrunch Shaft Liner K-Fire 19 has only three components and is a high-density virtual non-organic composite cladding, with nothing to rot or deteriorate.

Protects against fire - flooding - impact - termites - mould: 50 to100 year material life

K-Fire, like all shaft liner systems has to be centrally installed first, however it remains unaffected by rain until the roof is on. Unlike 25mm Fyrchek and similar weak plasterboard products, which cannot be used when rain-soaked, unless the very expensive MR type is used, but it still has paper linings!

COST BENEFITS OVERALL SYSTEM

Compares directly with CSR, Boral and Hebel fire walls at a far better rate while using a high carbon capture tree-friendly cladding 19mm shaft liner product, MgSO4 - not heavy CO2 polluting 25mm Fyrchek or similar plaster board. FireCrunch helps being a "**good responsible citizen corporation**" under the new Australian Federal Government's guidelines for 2030, in diversion to low CO2 construction products. Optional 10mm FireCrunch K-Clad can also be used.

NO SPECIAL EXPENSIVE SUPPORT EQUIPMENT

NATA Labs tested products - AS 1530.1, AS 1530.4, AS 3837, AS 5637, AS 717.1, AS 4964

- ★ No cranes
- ★ No gantries
- ★ No H stud joiners
- ★ No U or J track
- ★ No extra hard to fix 16mm Fyrchek fire protection overlap at floor and truss junctions
- ★ No special cementitious glues or compounds
- ★ Our unique self-fitting 4-sided TG board fixes in half the time and lower cost

Lock the system in place with our SL19 aluminium brackets, specially low priced, which are needed for the correct separation of the boards. The fast set TG fire joints are gunned-in sealed with standard AS1530.4 fire rated sealant using regular off-the-shelf screws which are all available from your local trades supplier.

FireCrunch K-Fire 19 Shaft Liner is a lightweight, fast-to-install, easy to understand system that will **save** you time, resources, on-site labour and most importantly, **money**. See *Cost Comparison* below.

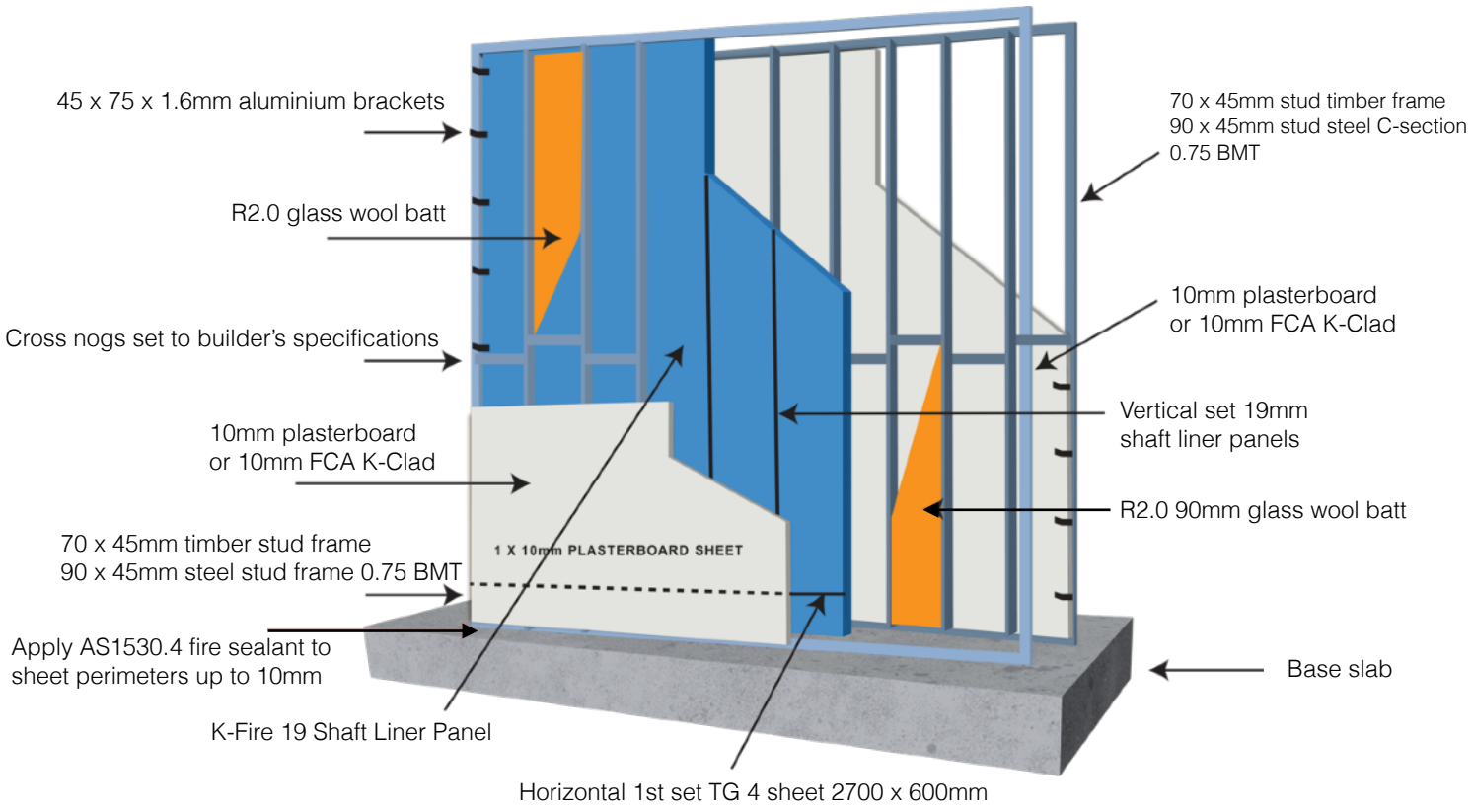
The K-19 system will improve your time management on-site and improve your bottom line ROI. FireCrunch is fully tested by NATA certified labs in Australia and approved for use in all party wall fire applications. **And, it is acoustic RW62 and Rw52 net of Ctr to FRL 60, 90 and 120 minutes.**

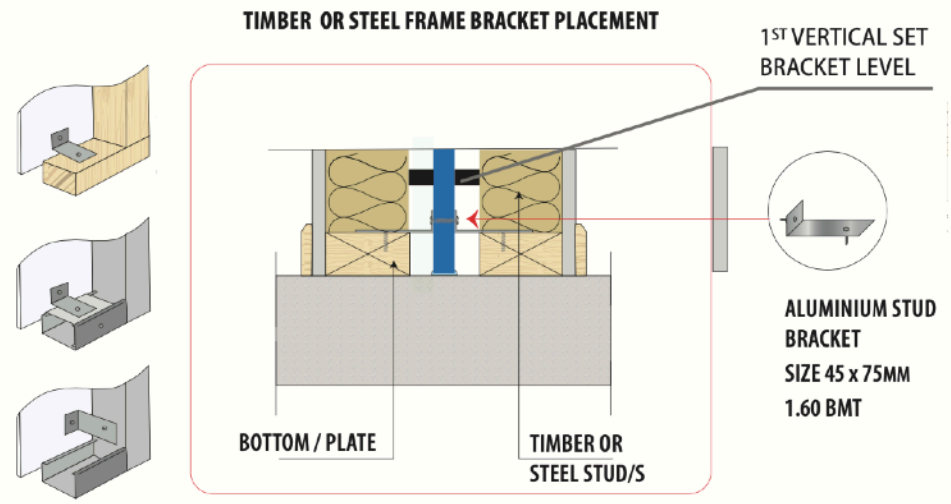
NEW!

K-FIRE 19 SL 4-SIDED TG LOAD BEARING SHAFT LINER FIRE SEPARATION WALL FRL 60/90/90 Using Low Cost 10mm Plasterboard Sheets 1 each side

COST BENEFITS

K-Fire 19 NATA Labs tested for FRL ../90/90 and FRL 60/90/90 in Timber or Steel. Also use this K-Fire 19 system for two and three level townhouses, semi-detached or cluster housing construction. K-Fire does NOT require any expensive 16mm Fyrchek plasterboard patches at each floor or truss junction. K-Fire requires no H-studs, J-track or side track and is fully supported by the unique 4-sided 19mm SL TG sheets, some 35% under market price. Overall, cuts assembly time by 50%, eliminates square butt end joints with FireCrunch SL4 unique 4-sided TG sheets 2700x600mm. No extra fire blocking and sealing and no weak overlap fire joints like other offerings with fast fix 4-sided TG sheets.





CERTIFICATE

NCC Compliance Certificate

IGNE-9074-99-01C I01 R01

Valid for NCC 2022
Issue Date 16.06.2025
Expiry Date 15.06.2030

K FIRE 19 SL4 Wall System

AS 1530.4:2014

SPONSOR
FireCrunch Australasia Pty Ltd
Level 3 – 55 Pyrmont Bridge Road
Pyrmont, NSW 2009

ASSESSMENT BODY
Ignis Labs Pty Ltd
ABN 36 620 256 617
3 Cooper Place
Queanbeyan NSW 2620
Australia
www.ignislabs.com.au
(02) 6111 2909
Test body is the test location

Introduction

Ignis Labs undertook an assessment of the K FIRE 19 SL4 double timber framed intertenancy wall system in line with the Performance Requirements of Clause C1P1 of the NCC 2022. Clause C1P1 requires that all building elements must, to the degree necessary, maintain structural stability during a fire. For wall systems, compliance with this Performance Requirement is demonstrated through meeting the Fire Resistance Leve (FRL) requirements of Specification 5, where the FRL is determined through testing to AS 1530.4:2014.
The K FIRE 19 SL4 intertenancy wall system has been tested at a pilot scale to AS 1530.4:2014 by Ignis Labs, with the results detailed in Test Report IGNL-9074-04-02R dated 16 June 2025. The structural adequacy of the system has been evaluated based on the internal temperatures by Ignis Labs in the engineering assessment IGNE-9074-99-01R dated 16 June 2025.

System Description

The K FIRE 19 SL4 intertenancy wall system is comprised of 10 mm Gyprock plasterboard on the exposed and unexposed faces, 19 mm central shaft liner panel, two MGP10 timber frames, right-angled aluminium brackets and R2.0 Knauf Earthwool insulation. The exposed frame perimeter was sealed using SIKA 400 fire rated sealant.
The temperatures of the internal timber frame were monitored with thermocouples fixed directly to the studs.

FRL: 60/90/90

Test Method

The wall system was tested vertically at a pilot scale to AS 1530.4:2014. The temperatures of the internal timber frame were monitored with thermocouples fixed directly to the central stud.

Reference Documents

This certificate is based on the following documents:

- Ignis Labs Test Report IGNL-9074-04-02R dated 16 June 2025.
- Ignis Labs Structural Adequacy Assessment IGNE-9074-99-01R dated 16 June 2025.

Notes

1. Clause A5G3 (1)(d) and A5G3 (1)(e) of the BCA allows for evidence of suitability in relation to a report from an accredited lab and a professional engineer that certifiers that a material, product, form or construction or design fulfils specific requirements of the BCA, sets out the basis on which it is given and the extent to which relevant standards, specifications, rules, codes of practice or other publications have been relied upon to demonstrate it fulfils specific requirements of the BCA.
2. This report is provided in accordance with BCA Clause A5G3 (1)(d) and A5G3 (1)(e) as a report from an accredited lab professional engineer. Ignis Labs holds accreditation to AS 1530.4:2014 with NATA. In accordance with BCA Clause A2G2(1)(b) it is demonstrated that the material demonstrates compliance with the requirements of the NCC 2022.

Lead Engineer
Tom Lewis
BEng (ANU)

Chartered Professional Engineer
Benjamin Hughes-Brown
FIEAust CPEng NER APEC Engineer IntPE(Aus)
CPEng, NER (Fire Safety / Mech) 2590091, RPEQ11498, BDC-1875, PRE0000303, DEP0000317, PE0001872
MFireSafety (UWS), BEng (UTS), GradDipBushFire (UWS), DipEngPrac (UTS), DipEng (CIT)

Declare.

Magnesium Oxide MgSO4 Cladding Firecrunch
FIRECRUNCH AUSTRALASIA PTY LTD

Final Assembly: NINGBO, ZHEJIANG PROVINCE, CHINA
Life Expectancy: 50 Year(s)
End of Life Options: Recyclable (80%), Landfill (20%)

Ingredients:

Sulfuric acid magnesium salt (1:1); Glass, oxide, chemicals; Magnesium oxide (MgO)

Living Building Challenge Criteria: Compliant

I-13 Red List:

■ LBC Red List Free
☐ LBC Red List Approved
☐ Declared

% Disclosed: 100% at 100ppm
VOC Content: Not Applicable

I-10 Interior Performance: Not Applicable
I-14 Responsible Sourcing: Low Risk Wood

FCA-0001
EXP. 01 JUL 2026
Original Issue Date: 2025

MANUFACTURER RESPONSIBLE FOR LABEL ACCURACY
INTERNATIONAL LIVING FUTURE INSTITUTE™ living-future.org/declare

Cost Comparison 2025 - Fact Sheet FCA

FIRECRUNCH SHAFT LINER K-FIRE 19 vs. CSR, BORAL & HEBEL
using faster, simpler construction AS1530.4 NATA/CSIRO

BASED ON A 12m LONG 80m2 FIRE WALL GROUND LEVEL

Hebel 8 hrs x 2 men @$65/hr	$1040
CSR/Boral 8 hrs x 2 men @ $65/hr	$1040
FireCrunch 4 hrs x 2 men @ $65/hr	**$520**

1st FLOOR - No H Studs or J Track - No extra 16mm Fyrchek at joist link or in truss areas

Hebel 12 hrs x 2 men @$65/hr	$1560
CSR/Boral 10 hrs x 2 men @ $65/hr	$1300
FireCrunch 4 hrs x 2 men @ $65/hr	**$520**

TRUSS ZONE

Hebel 8 hrs x 2 men @$65/hr	$1040
CSR/Boral 6 hrs x 2 men @ $65/hr	$780
FireCrunch 4 hrs x 2 men @ $65/hr	**$520**

- ★ **No gantry hire required** with FireCrunch K-Fire 19 SL4.
- ★ Hebel also requires mix-up of glue with water on site.
- ★ **No extra 16mm board at floor joint and truss.** CSR/Boral has to fit an extra 16mm board at the floor bearers joints and truss zones.
- ★ FireCrunch TG19 SL4 (MgSO4) is **unaffected by rain** before roof cover is on.

OVERALL LABOUR COMPARISON 80m2

Hebel	$3640 = $45.50/m2 plus gantry
CSR/Boral	$3120 = $39.00/m2 plus U track, H studs
FireCrunch	**$1560 = $19.50/m2 - NO GANTRY, U TRACK OR H STUDS, MgSO4 CLADDING**

COMPARISON BASED ON 80m2 SHAFT LINER DOUBLE STUD FRAME FIRE WALL TIMBER OR STEEL AS1530.4/2014-2029 NCC 2022

Hebel	$45.50/m2
CSR/Boral	$39.00/m2
FireCrunch	**$19.50/m2**

Date	26 August, 2025
Reference	PKA102FCA R01v2
Project	FireCrunch K-Fire Party Wall Acoustic Opinion
Contact	Ian Ritchie
Email	Ian.Ritchie@firecrunch.com.au
Company	FireCrunch Australia
Address	87 Marigold St Revesby NSW 2212
File	*PKA102FCA R01v2 FireCrunch K-Fire Party Wall Acoustic Opinion.docm*

Dear Ian,

Re: FireCrunch K-Fire Party Wall Acoustic Opinion

The purpose of this letter is to provide an acoustic opinion for the FireCrunch K-Fire Party Wall system, and compare to the airborne sound insulation requirements of the National Construction Code (NCC) separating sole-occupancy units within Class 1 dwellings.

FireCrunch K-Fire Board

The primary product for assessment is the 19mm FireCrunch K-Fire shaft liner (18kg/m^2, 950kg/m^3) board which is a magnesium oxide lining.

The FireCrunch Board was tested as a 10mm product at the Kilargo Acoustic Laboratory (now Resolute Acoustic Laboratory) in Banyo, QLD [Ref: AC-011-15/CT dated March 2015].

Kilargo Acoustic Laboratory Test	Wall Description	Airborne	
		R_w	$R_w + C_{tr}$
AC739WA7/2015	10mm FireCrunch board (9.5kg/m^2) one side of 90mm Rondo steel studs 0.55BMT (cc 600mm)	29	27

Based on the available data we have calculated the 19mm FireCrunch K-Fire shaft liner as a stand-alone board to achieve the following airborne sound insulation performance:

Acoustic Assessment	Wall Description	Airborne	
		R_w	$R_w + C_{tr}$
PKA102FCA	19mm FireCrunch K-Fire shaft liner (18kg/m^2)	32	30

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NCC Sound Insulation Requirements

The National Construction Code (NCC), previously the Building Code of Australia (BCA), in Volume 2 Section H406 "Sound Insulation" requires walls to safeguard occupants from illness or loss of amenity as a result of undue sound being transmitted between adjoining dwellings.

The following summarises the acoustic laboratory design requirements, brevity necessitates detail in the NCC taking precedence over the tables below.

Wall Description	Airborne	Impact	NCC 2022	NCC 2019
Separating sole-occupancy units (SOUs) habitable areas	$R_w + C_{tr} \geq 50$		10.71(1)(a)	3.8.6.2(a)(i)
Separating SOUs wet to habitable areas	$R_w + C_{tr} \geq 50$	Discontinuous Construction	10.71(1)(a) 10.71(1)(b)	3.8.6.2(a)(i) 3.8.6.2(a)(ii)

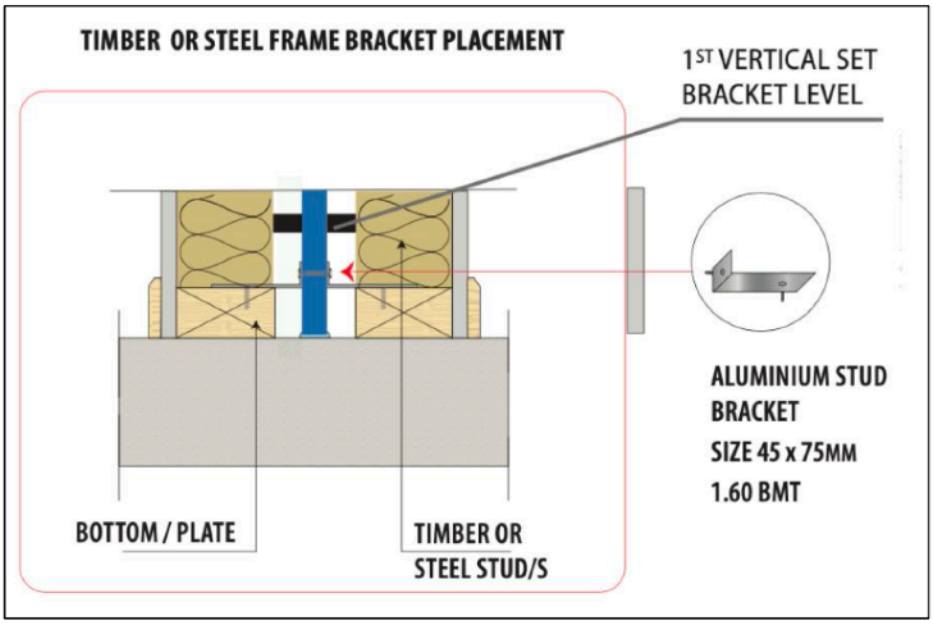
Regarding kitchens, the NCC in Section 10.71 and Section 3.8.6.2(a)(ii) excludes a kitchen as being a habitable room, however this refers to a fully enclosed kitchen which is typically not found in modern low-rise apartments. PKA, along with the majority of acoustic consultants, deem it necessary to provide discontinuous construction for open plan configurations such as kitchen to kitchen, bathroom to kitchen etc.

NCC Discontinuous Construction Configuration

The NCC denotes "Discontinuous Construction" as follows:

Wall Type	Discontinuous Construction Requirement
Masonry	Wall having a minimum 20mm cavity between the 2 separate leaves, with resilient wall ties if necessary
Other than masonry	Wall having a minimum 20mm cavity with no mechanical linkage except at the periphery

For low-rise partywall configurations, the FireCrunch K-Fire shaft liner is located in the core of the wall with studwork either side. As the panel is non-loadbearing, the panel requires connection to the load-bearing studwork by way of aluminium brackets as shown in the diagram below:



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Acoustic Assessment

The following acoustic assessment is for a party wall system where the 19mm FireCrunch K-Fire shaft liner is the centre panel.

This acoustic assessment is based on PKA's extensive experience calculating the acoustic properties of lightweight wall systems. The acoustic predictions contained in this assessment are the expected values when tested in an acoustic laboratory and results are calculated in according with the relevant Australian Standards as per the National Construction Code (NCC):

- Airborne R_w and C_{tr} in accordance with AS/NZS ISO 717.1-2004 Acoustics - Rating of sound insulation in buildings and of building elements - Airborne sound insulation

These acoustic predictions result in tolerances within $R_w \pm 2$ when validated against acoustic laboratory test results and other supporting information, which have their own inherent variability.

Both Sides	**Lining Options**	min. 13mm standard plasterboard (min. 8.4kg/m^2) min. 10mm water-rated plasterboard (min. 7.9kg/m^2) with floor-to-ceiling tiles
	Stud Options	min. 70mm x 35mm timber studs (cc 450mm or 600mm) min. 90mm 0.75BMT steel studs (cc 450mm or 600mm)
	Insulation Options	min. 75mm glasswool 11kg (min. 11kg/m^3)
	Fixing	Aluminium L brackets at the periphery to achieve discontinuous construction.
	Gap	min. 20mm gap between Panel and Studwork
Panel Installation		19mm FireCrunch K-Fire shaft liner (18kg/m^2)

Studs Both Sides	Insulation Both Sides	Lining Both Sides	R_w	R_w + C
70mm timber	75mm glasswool 11kg	13mm standard plasterboard	62	50
		10mm water-rated plasterboard with floor-to-ceiling tiles	62	50
90mm steel	75mm glasswool 11kg	13mm standard plasterboard	62	50
		10mm water-rated plasterboard with floor-to-ceiling tiles	62	50

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The acoustic opinion of the FireCrunch K-Fire party wall achieves $R_w + C_{tr}$ 50 which meets the NCC sound insulation requirements for party walls separating Class 1 dwellings.

Yours faithfully,

Joel Parry-Jones, Principal

PKA Acoustic Consulting

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