



inter**home**

Separating Wall System for Low-rise Multi-Residential Construction

etex inspiring ways of living

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About Siniat

Siniat is one of the Etex Group's flagship commercial brands, and one of the leading global manufacturers of interior and exterior materials for drywall construction.

In Australia, Etex has Siniat manufacturing facilities located in Sydney, Melbourne, Bundaberg and Brisbane. Etex supplies Siniat branded plasterboard, compounds, cornice, steel profiles and associated products and systems to the Australian building industry through its national distribution network.

Siniat's comprehensive range of quality wall and ceiling lining products are developed with specific characteristics to enhance performance and provide fire, water, acoustic and decorative solutions to all construction projects.

The Siniat team is committed to providing excellent technical service and sales support to help with innovative solutions for your next project.

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Introduction

This **inter**home systems and installation guide is suitable for load bearing walls with an FRL of 60/60/60 supporting non-fire rated floors and roofs. These **inter**home walls start at the ground slab or other fire rated support and finish under a roof.

Applications

- Dividing Class 1 buildings such as duplexes and townhouses
- Dividing Class 1 buildings from Class 10a

Features Summary

- Fire Resistance Level (FRL) 60/60/60
- > Sound insulation performance for separating walls of: Rw + Ctr 50 + Discontinuous Construction
- Sound insulation performance for soil and waste pipes of: Rw + Ctr 25 and Rw + Ctr 40
- Provisions for installation in wet areas.

* WARNING. The **inter**home system is not suitable for use in timber or steel framed buildings with tenancies separated by timber or steel framed floors that require an FRL such as timber framed multi-residential buildings in which sole occupancy units are above one another. Refer to Siniat Blueprint for suitable wall systems.

Refer to the **inter**home high-rise guide for **inter**home systems installed between concrete slabs and for ceiling treatment options on the top floor of a Class 2 building with a framed roof.

Refer to the **inter**home FRL 90/90/90 Supplement for load bearing **inter**home systems for Class 2 Type A buildings where the wall starts at the ground, slab or other fire rated support and finishes under a roof.

Features

There are 4 specific design elements that set **inter**home apart from conventional separating wall systems.

1. A central fire barrier supported by aluminium clips

interhome differs from a conventional double stud separating wall as it contains a central fire barrier built between timber or steel house frames.

The central fire barrier is:

- Composed of 1 layer of 25mm shaftliner or intershield.
- The shaftliner is encased in interhome H-Studs spaced at 600mm centres
- Structurally supported by interhome aluminium clips to the two stud frames.

The central fire barrier limits the spread of fire from one dwelling to adjoining dwellings. [Refer to Figure 1]

intershield has mould and water resistance and may replace **shaft**liner in all **inter**home systems.



interhome aluminium clips are used to structurally support the central fire barrier and are purposely made from aluminium. They are designed to melt in a fire, so the frame of the dwelling exposed to the fire can detach from the central fire barrier. The dwelling affected by the fire may therefore degrade, and even collapse, without spreading the fire to the adjoining dwelling.

2. Laminating method for protecting floor junctions and roof cavities

The laminating method is an important feature of **inter**home fire protection of floor junctions and roof cavities. It prevents complicated conventional construction methods where fire rated plasterboard has to be fixed to timber trusses or secondary wall frames built above ceiling level.

3. Integrated services and penetrations

interhome is an easier solution when it comes to installing penetrations for electrical and plumbing services. With masonry and conventionally framed separating walls, incorporation of services like electrical cables, power-points and plumbing pipes is always a difficulty. Maintaining the fire protection and sound insulation performance in these cases can be an issue. These conventional systems are time consuming to install and are difficult to inspect once completed.

interhome uses the central fire barrier to maintain fire protection and sound insulation performance. Services may run through the wall cavity [Figure 2] and penetrations [Figure 3] may be made in the outer layers of plasterboard without the need for fire baffles in the cavity. There is no requirement for fire rated power-point boxes and fire collars around PVC pipes.*

In addition, installation of back-to-back services has been verified in the fire and acoustic testing conducted on **inter**home, without degrading performance.

*Service penetrations in **shaft**liner are recommend to be installed in the roof space for acoustic reasons. They must be in accordance with a certified detail or NCC Volume One Section 3.7.1.8.

FIGURE 1 Central Fire Barrier





FIGURE 2 Services Installed in the Wall Cavity

Benefits

interhome has been designed as a superior solution over masonry, conventional double stud framed separating walls and other party wall systems.

Saves time through a modular construction method

- The central fire barrier is built during the construction of the timber wall frame in 3 or 3.6 metre high modular sections, and can be installed by the carpenter
- There is no requirement for the central fire barrier to be jointed with compounds
- The outer layers of plasterboard are installed to nonfire rated installation methods
- > The co-ordination between trades is smoother.

Simple and safe for builders and contractors

- > Hassle-free installation of penetrations and services
- > A low risk solution for easier certification.



FIGURE 3 Services with Outer Layer of Plasterboard Installed

4. Non-fire rated installation of outer wall linings

The outer layers of all **inter**home systems are installed using non-fire rated installation techniques. The internal linings contribute to the fire and acoustic performance of the system.

Performance

Structural Performance

For safety reasons the **inter**home central fire barrier must be adequately propped until the dwelling is enclosed for wind loading purposes. **inter**home aluminium clips joining the timber/steel frame to the **inter**home H-stud must be installed at the same time as the central fire barrier for structural stability.

Timber framed **inter**home systems must be designed to Australian Standard AS1684 'Residential timber-framed construction' or AS1720 'Timber structures'. Timber studs must be 70mm minimum in depth.

Steel framed **inter**home systems must be designed to Australian Standard AS4600 'Cold-formed steel structures', AS4100 'Steel structures' or NASH Standard for Residential and Low-rise Steel Framing Part 1 and Part 2.

Any axial load contribution of the plasterboard lining to either the timber or steel framed systems is not permitted.

The load bearing capacity of **inter**home is maintained for the designated FRL of the timber or steel frame opposite to fire attack.

The central fire barrier has a maximum height of 12m.

Water Resistance

There are several **inter**home systems available for wet areas (bathroom, toilet or laundry). Consult the latest Siniat Plasterboard Installation Guide on the website for installation, waterproofing and finishing of plasterboard in these areas.

Fire Resistance

interhome systems meet the Fire Resistance requirements of the NCC as certified by an Accredited Fire Testing Laboratory. The systems have been tested and/or assessed to AS1530.4 'Methods for fire tests on building materials, components and structures – Fire resistance test of elements of construction'.

The internal lining and insulation of any **inter**home system can be used on one side of a different **inter**home system without reducing its FRL.

Acoustic Performance

Acoustic performance has been determined by either laboratory testing at CSIRO, Marshall Day Insul software,

or calculated based on laboratory testing.

In most cases, site acoustic performance of installed systems is lower than those measured in the laboratory due to the transmission of sound via flanking paths. Siniat cannot guarantee on-site acoustic performance and where performance is critical, recommends consulting acoustical engineers.

When the internal lining and insulation of one interhome system is used on one side of a different interhome system the acoustic rating is the lower of the two provided that the central fire barrier and stud cavity sizes are the same.

To minimise sound flanking paths, seal the perimeter with **bindex** fire and acoustic sealant to maintain acoustic integrity. Services in the wall cavities must not come into contact with the central fire barrier.

Other site conditions like sound transmitting through windows and other walls may also be detrimental to the final acoustic rating.

Installing the **inter**home aluminium clips in zones other than those shown in the Details may result in the wall not meeting NCC 'discontinuous construction' requirements.

Weather Protection

During construction, **inter**home may be exposed to the weather. Protect plasterboard in the central fire barrier from water and excessive moisture until the dwelling is enclosed. This is to prevent mould growth and degradation of the plasterboard. Use Intershield for improved mould and water resistance.

A suitable impervious covering like plastic sheeting must be used to protect the central fire barrier in adverse weather conditions. Plastic sheeting can be stapled to the central fire barrier or attached to the dwellings frame.

Pay particular attention to protecting the base of the central fire barrier where water may pool between timber bottom plates or steel tracks. The plastic sheeting must deflect any water from pooling at the base.

Only install internal linings after the dwelling is completely enclosed and weather protected.

If the plasterboard in the central fire barrier is likely to be wet before covering, then a spray application of a non-flammable waterproof/ repellent sealer can be used. The plasterboard must be completely dry before enclosing the wall cavity. 4.1

Timber Systems

IHW1	 1 layer of 10mm sour Timber stud framing w 	al	Fire Resistance Level	
	 Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Timber stud framing w 1 layer of 10mm source 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661		
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulation Rw (Rw + Ctr)	
	Cavity size = stud size + air-gap		2 x Pink [®] Batts R2.5	Acoustic Report Day Design 3094-42
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	265	64 (50)	Note: Impact Sound Resistant - Discontinuous Construction

IHW2	 1 layer of 13mm soundshield or trurock Timber stud framing with insulation 					Fire Resistance Level	
	 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 1 layer of 13mm soundshield or trurock 					rated for opposite	60/60 the wall frame to fire attack ort FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insu Rw (Rw + 0				
	Cavity size = stud size + air-gap		2 x Pink® Batts Wall R2.0	2 x Pink® Batts Wall R2.5	2 x Polyester R1.5	2 x Polyester R2.0	Acoustic Report Day Design 3094-42
	90 (eg: 70 stud + 20 gap)	231	67 (52)	68 (53)*	65 (50)	64 (51)	Note: Impact Sound Resistant -
	110 (eg: 90 stud + 20 gap)	271	67 (55)	69 (56)	66 (51)	65 (53)	Discontinuous Construction

IHW4	 1 layer of 13mm watershield Timber stud framing with insulation 						stance Level
	 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 1 layer of 13mm watershield 					rated for opposite	7 60/60 the wall frame to fire attack ort FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insu Rw (Rw +)				
	Cavity size = stud size + air-gap		2 x Pink® Batts Wall R2.0	2 x Pink® Batts Wall R2.5 HD	2 x Pink® Batts Wall R2.5	2 x Polyester R2.0	Acoustic Report Day Design 3094-42
	90 (eg: 70 stud + 20 gap)	231	-	65 (50)	65 (50)*	-	Note: Impact Sound Resistant -
	110 (eg: 90 stud + 20 gap)	271	61 (51)	66 (51)	66 (51)	63 (50)	Discontinuous Construction

IHW5	 1 layer of 6mm Villabo Timber stud framing with the stude of the		Fire Resiste	ance Level		
 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 1 layer of 6 mm VillaboardTM 						0/60 wall frame fire attack FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulat Rw (Rw + Ctr)			
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0 HD	2 x Pink [®] Batts R2.5	2 x Pink [®] Batts Wall R2.5 HD	Acoustic Report Day Design
	90 (eg: 70 stud + 20 gap)	217	-	-	65 (50)	3094-20 3094-42 Note: Impact
	110 (eg: 90 stud + 20 gap)	257	65 (50)	65 (50)	67 (51)	Sound Resistant - Discontinuous Construction

*Use Pink[®] Partition 110mm 11kg/m 3 R2.5

IHW6	 1 layer of 13mm fi Timber stud framing 					Fire Resis	stance Level
	 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 1 layer of 13mm fireshield or multishield 						60/60 he wall frame to fire attack ort FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insu Rw (Rw +				
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	2 x Pink® Batts Wall R2.0 HD	2 x Pink® Batts Wall R2.0	2 x Polyester R2.0	Acoustic Report Day Design
	90 (eg: 70 stud + 20 gap)	231	-	65 (50)	65 (50)	-	3094-42 3094-20 Note: Impact
	110 (eg: 90 stud + 20 gap)	271	64 (50)	66 (51)	66 (51)	65 (50)	Sound Resistant - Discontinuous Construction

IHW8	 2 layers of 10mm mastashield Timber stud framing with insulation Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 2 layers of 10mm mastashield 						 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Timber stud framing with insulation 			60/60 the wall frame to fire attack
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insu Rw (Rw + 0							
	Cavity size = stud size + air-gap		2 x Pink® Batts Wall R2.0	2 x Pink® Batts Wall R2.5	2 x Polyester R1.5	2 x Polyester R2.0	Acoustic Report Day Design 3094-42			
	90 (eg: 70 stud + 20 gap)	245	66 (51)	68 (52)*	-	-	Note: Impact Sound Resistant -			
	110 (eg: 90 stud + 20 gap)	285	68 (53)	69 (54)	63 (50)	65 (51)	Discontinuous Construction			

IHW16	 1 layer of 10mm mas Timber stud framing w 	atershield	Fire Resistance Level			
	 Minimum 20mm air-ga 1 layer of 25mm shaft Minimum 20mm air-ga Timber stud framing w 2 layers of 10mm max 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661				
	Minimum Cavity On Each Side (mm)	inimum Cavity Wall Width Sound Insulation				
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ ext{$\mathbb{R}$}}$ Batts Wall R2.5	Acoustic Report Day Design 5008-7		
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	275	64 (50)	Note: Impact Sound Resistant - Discontinuous Construction		

IHW17	 1 layer of 13mm mas Timber stud framing w 	atershield	Fire Resistance Level	
	• Minimum 20mm air-ge	ap liner or inter sh ap vith insulation	ield encased in inter home H-studs P ater shield	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulation Rw (Rw + Ctr)	
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ ext{(B)}}$ Batts Wall R2.0	Acoustic Report Day Design 5008-7
	90 (eg: 70 stud + 20 gap)	244	66 (53)	Note: Impact
	110 (eg: 90 stud + 20 gap)	284	66 (53)	Sound Resistant - Discontinuous Construction

*Use Pink $^{\ensuremath{\mathbb{R}}}$ Partition 110mm 11kg/m³ R2.5



Minimum Cavity On Each Side (mm) Wall Width (mm) Sound Insulation Rw (Rw + Ctr) Cavity size = stud size + air-gap 2 x Pink® Batts Wall R2.0 Acoustic Report Day Design 5008-7 90 (eg: 70 stud + 20 gap) 235 66 (50) Note: Impact Sound Resistant - Discontinue Construction 110 275 66 (51) Discontinue Construction	IHW18	 1 layer of 10mm sour Timber stud framing w Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Timber stud framing w 2 layers of 10mm ma 	vith insulation ap liner or inter sh ap vith insulation	ield encased in inter home H-studs	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661
stud size + air-gap 2 x Pink® Batts Wall K2.0 Acoustic keport 90 235 66 (50) Day Design 5008-7 110 275 66 (51) Note: Impact Sound Resistant - Discontinuous Construction					I
90 (eg: 70 stud + 20 gap) 235 66 (50) Note: Impact Sound Resistant - Discontinuous Construction				2 x Pink [®] Batts Wall R2.0	
110 275 66 (51) Discontinuous Construction			235	66 (50)	Note: Impact
109. / 0 300 + 20 gap/		110 (eg: 90 stud + 20 gap)	275	66 (51)	

IHW40	 1 layer of 13mm mas Timber stud framing w Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Timber stud framing w 	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack		
	• 1 layer of 13mm mas Minimum Cavity	Fire Report FC11661		
	On Each Side (mm)	(mm)	Rw (Rw + Ctr)	
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ extbf{@}}$ Batts Wall R2.0	INSUL v8 Acoustic Prediction
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	271	65 (50)	Note: Impact Sound Resistant - Discontinuous Construction

IHW41	 1 layer of 13mm mas Timber stud framing w Minimum 20mm air-ga 1 layer of 25mm shaft Minimum 20mm air-ga Timber stud framing w 	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack		
	• 1 layer of 13mm wat Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulation Rw (Rw + Ctr)	Fire Report FC11661
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	INSUL v8 Acoustic Prediction
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	271	66 (52)	Note: Impact Sound Resistant - Discontinuous Construction

IHW42		 1 layer of 13mm mastashield or watershield Timber stud framing with insulation 				
	 Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Timber stud framing w 1 layer of 6mm Villab 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661				
	Minimum Cavity On Each Side (mm)					
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ extsf{B}}$ Batts Wall R2.0	INSUL v8 Acoustic Prediction		
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	264	65 (51)	Note: Impact Sound Resistant - Discontinuous Construction		

IHW43	 2 layers of 10mm ma Timber stud framing w Minimum 20mm air.ga 1 layer of 25mm shaft Minimum 20mm air.ga Timber stud framing w 1 layer of 6mm Villab 	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661		
	Minimum Cavity On Each Side (mm)			
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	INSUL v8 Acoustic Prediction
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	271	69 (54)	Note: Impact Sound Resistant - Discontinuous Construction

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Steel Systems

IHW9	 1 layer of 10mm sour Steel stud framing with 	al	Fire Resistance Level	
	 Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Steel stud framing with 1 layer of 10mm source 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661		
	Minimum Cavity On Each Side (mm)	Wall Width (mm)		
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ extbf{B}}$ Batts Wall R2.5	Acoustic Report Day Design 3094-42
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	265	62 (50)	Note: Impact Sound Resistant - Discontinuous Construction

IHW10	 1 layer of 13mm soundshield or trurock Steel stud framing with insulation 					Fire Resistance Level	
	 Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Steel stud framing with insulation 1 layer of 13mm soundshield or trurock 					rated for opposite	60/60 the wall frame to fire attack ort FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insu Rw (Rw + 0			<u>.</u>	
	Cavity size = stud size + air-gap		2 x Pink® Batts Wall R2.0	2 x Pink® Batts Wall R2.5	2 x Polyester R1.5	2 x Polyester R2.0	Acoustic Report Day Design 3094-42
	90 (eg: 70 stud + 20 gap)	231	65 (52)	66 (53)*	60 (50)	62 (51)	Note: Impact Sound Resistant -
	110 (eg: 90 stud + 20 gap)	271	65 (55)	67 (56)	61 (52)	63 (53)	Discontinuous Construction

IHW12	 1 layer of 13mm wate Steel stud framing with Minimum 20mm air-ge 1 layer of 25mm shaftl Minimum 20mm air-ge Steel stud framing with 1 layer of 13mm wate 	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661					
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Vidth Sound Insulation Rw (Rw + Ctr)				
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	2 x Pink [®] Batts Wall R2.5	2 x Polyester R2.0	Acoustic Report Day Design	
	90 (eg: 70 stud + 20 gap)	231	-	63 (50)*	-	3094-42 Note: Impact	
	110 (eg: 90 stud + 20 gap)	271	62 (51)	64 (51)	61 (50)	Sound Resistant - Discontinuous Construction	

IHW50	 1 layer of 13mm mas Steel stud framing with 	Fire Resistance Level		
	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661			
	On Each Side (mm) Cavity size =	(mm)	Rw (Rw + Ctr) 2 x Pink [®] Batts Wall R2.0	N 101 II - 0
	stud size + air-gap 110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	271	65 (50)	INSUL v8 Acoustic Prediction Note: Impact Sound Resistant - Discontinuous Construction

*Use $\mathsf{Pink}^{\textcircled{R}}$ Partition 110mm 11kg/m³ R2.5

IHW51	 1 layer of 13mm mas Steel stud framing with 	Fire Resistance Level		
	 Minimum 20mm air-ga 1 layer of 25mm shaft Minimum 20mm air-ga Steel stud framing with 1 layer of 13mm watch 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661		
	Minimum Cavity On Each Side (mm)			
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ extsf{R}}$ Batts Wall R2.0	INSUL v8 Acoustic Prediction
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	271	66 (52)	Note: Impact Sound Resistant - Discontinuous Construction

IHW52	 1 layer of 13mm mas Steel stud framing with Minimum 20mm air-ge 1 layer of 25mm shaft Minimum 20mm air-ge Steel stud framing with 	Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661		
	• 1 layer of 6mm Villab Minimum Cavity On Each Side (mm)			
	Cavity size = stud size + air-gap		2 x Pink $^{\textcircled{R}}$ Batts Wall R2.0	INSUL v8 Acoustic Prediction
	stud size + air-gap 2 k Hilk Edits Value (210 110 (eg: 70 stud + 40 gap 264 65 (51) or 90 stud + 20 gap) 264 65 (51)	Note: Impact Sound Resistant - Discontinuous Construction		

IHW13	 1 layer of 13mm fires Steel stud framing with Minimum 20mm air-go 1 layer of 25mm shaftl Minimum 20mm air-go Steel stud framing with 1 layer of 13mm fires 	60/6 rated for the	ance Level 0/60 e wall frame o fire attack				
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	ion				
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	2 x Pink [®] Batts Wall R2.5	2 x Polyester R2.0	Acoustic Report Day Design	
	90 (eg: 70 stud + 20 gap)	231	-	63 (50)*	-	3094-42 Note: Impact	
	110 (eg: 90 stud + 20 gap)	271	62 (50)	64 (51)	61 (50)	Sound Resistant - Discontinuous Construction	

IHW15	 2 layers of 10mm mastaShield or watershield Steel stud framing with insulation Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Steel stud framing with insulation 2 layers of 10mm mastashield or watershield 						Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661	
	Minimum Cavity On Each Side (mm)	Wall Width	Vall Width Sound Insulation					
	Cavity size = stud size + air-gap		2 x Pink® Batts Wall R2.0	2 x Pink® Batts Wall R2.5	2 x Polyester R1.5	2 x Polyester R2.0	Acoustic Report Day Design 3094-42	
	90 (eg: 70 stud + 20 gap)	245	64 (51)	66 (52)*	-	-	Note: Impact Sound Resistant -	
	110 (eg: 90 stud + 20 gap)	285	66 (53)	67 (54)	61 (50)	63 (51)	Discontinuous Construction	

*Use Pink[®] Partition 110mm 11kg/m³ R2.5



IHW36	 1 layer of 13mm mas Steel stud framing with 	Fire Resistance Level				
	 Minimum 20mm air-g 1 layer of 25mm shaft Minimum 20mm air-g Steel stud framing wit 2 layers of 13mm ma 	60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661				
	Minimum Cavity On Each Side (mm)	Minimum Cavity Wall Width Sound Insulation				
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.0	2 x Pink [®] Batts Wall R2.5	Acoustic Report Day Design 5008-7	
	90 (eg: 70 stud + 20 gap)	244	64 (50)	64 (51)*	Note: Impact	
	110 (eg: 90 stud + 20 gap)	284	64 (50)	65 (51)	Sound Resistant - Discontinuous Construction	

IHW53	 2 layers of 10mm ma Steel stud framing with Minimum 20mm air-gr 	Fire Resistance Level 60/60/60		
	 1 layer of 25mm shaft Minimum 20mm air-ge Steel stud framing with 1 layer of 6mm Villab 	rated for the wall frame opposite to fire attack Fire Report FC11661		
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulation Rw (Rw + Ctr)	
	Cavity size = stud size + air-gap		$2 ext{ x Pink}^{ extbf{B}}$ Batts Wall R2.0	INSUL v8 Acoustic Prediction
	stud size + air-gap 2 × Tilk + bdis (Vali K2.0) 110 (eg: 70 stud + 40 gap or 90 stud + 20 gap) 271 69 (54)	Note: Impact Sound Resistant - Discontinuous Construction		

IHW26	 1 layer of 6mm Villaboard[™] Steel stud framing with insulation Minimum 20mm air-gap 1 layer of 25mm shaftliner or intershield encased in interhome H-studs Minimum 20mm air-gap Steel stud framing with insulation 1 layer of 6mm Villaboard[™] 			Fire Resistance Level 60/60/60 rated for the wall frame opposite to fire attack Fire Report FC11661
	Minimum Cavity On Each Side (mm)	Wall Width (mm)	Sound Insulation Rw (Rw + Ctr)	
	Cavity size = stud size + air-gap		2 x Pink [®] Batts Wall R2.5 HD	INSUL v8 Acoustic Prediction
	110 (eg: 70 stud + 40 gap or 90 stud + 20 gap)	257	65 (51)	Note: Impact Sound Resistant - Discontinuous Construction

Ceiling Attenuation Class Systems



Set plasterboard ceiling divided by interhome Wall System

[This system is suitable for timber or steel roof framing] [Sound insulation numbers based on minimum 200mm cavity] [Wall to ceiling junction must be square set or finished with cornice to achieve acoustic rating]



INTERHOME LOW-RISE







5

Components

Steel Profiles

Siniat 25mm interhome H-stud





Plasterboard

Central Fire Barrier

- Siniat 25mm shaftliner >
- > Siniat 25mm intershield

Wall Linings

- > Siniat mastashield
- Siniat soundshield >
- Siniat opal >
- > Siniat watershield
- > Siniat fireshield
- Siniat multishield >
- James Hardie Villaboard[™] >

Wall Insulation

- > Fletcher Pink Batts[®] Wall Insulation or Fletcher Firmasoft[™] Wall Insulation (glasswool)
- > Polyester wall insulation

Fire Rated Mineral Wool

Fletcher Fire Stop Party Wall Batts

Sealant

bindex fire and acoustic sealant



Profile

>

Aluminium Clip



FIGURE 6 interhome aluminium clip Isometric

Fasteners

Refer to 'Framing' for information on fasteners use in the interhome wall system.



General Requirements

Use a central fire barrier of **inter**home H-studs with either 25mm **shaft**liner or **inter**shield [Figures 7 and 8]

Use only **inter**home aluminium clips (CIH-L) to connect H-studs to the stud frames on either side. Aluminium will melt in a fire so the frame of the dwelling on the fire side can detach from the central fire barrier.

Leave a gap of at least 20mm between the central fire barrier and the studs of both wall frames. A gap of at least 25mm is recommended on the side that has the additional 16mm **fire**shield laminated to the **shaft**liner.

Control joints are not required in the central fire barrier.

Prevent contact between services in the wall cavities and the central fire barrier.

Apply **bindex** fire and acoustic sealant to all gaps in the central fire barrier to maintain fire and acoustic integrity. If sheets or tracks are touch fitting and no gap exists, fire sealant is not required.

Pack any gaps between the top of the central fire barrier and the underside of the roof covering with Fletcher Insulation's Fire Stop Party Wall Batts to maintain the 60 minute fire rating.

Download a step-by-step installation video from www.siniat.com.au

Fire Resistance

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All systems in this section are displayed with an FRL of 60/60/60 to indicate that they support the frame on the opposite side to fire attack. In a fire event, the framing on the fire side of the central fire barrier is considered to collapse before 60 minutes.

All **inter**home systems have a Fire Resistance Level (FRL) assigned by an Accredited Testing Laboratory in accordance with Section A5.2 of Volume One of the National Construction Code (NCC) and AS 1530.4 Fire resistance tests for elements of construction.

In the event of a fire, the **inter**home aluminium clips on the fire side are designed to melt and allow the frame to collapse, leaving the central fire barrier attached to the unaffected frame on the non-fire side.

The outer wall lining and cavity insulation of any **inter**home system can be used on one side of a different system without reducing its FRL. The linings may also transition along a wall from one **inter**home system to another.

Sound Insulation

Services installed in one cavity have an acoustic rating to the other side of the **inter**home wall of at least Rw + Ctr 40 which meets the requirements of the NCC for walls separating soil, waste or water supply pipes from a habitable room.

When the internal lining and cavity insulation of one **inter**home system is used on one side of a different **inter**home system, the acoustic rating is the lower of the two provided that the central fire barrier and stud cavity sizes are the same.

Framing

J-Tracks:

- > Position on the slab or footing 20mm minimum (25mm recommended) from the existing frame of the dwelling
- > Fix to the concrete at 600mm maximum centres and 150mm maximum from track ends using concrete anchors
- > Fix to both vertical ends of central fire barrier. Screw fix vertical J-Track to horizontal J-Tracks [Figure 7]
- Use back-to-back at the top of each row to form the top track and also the bottom tracks for the next level. Screw fix the back-to-back J-Tracks at 600mm maximum centres and 150mm from ends [Figure 9]

interhome H-studs:

- Friction fit into bottom J-Track and push down completely. They are not required to be fastenered to the top or bottom J-Tracks [Figure 7]
- Space at 600mm centres. Alternate between shaftliner or intershield panels and H-Studs until the row is complete [Figures 15 16]
- Use 3m H-Studs with 3m shaftliner or intershield panels and 3.6m H-Studs with 3.6m shaftliner or intershield panels.

Leave a gap of 20mm minimum between the central fire barrier and both of the dwelling's frames.

Maximum height is 12m for the central fire barrier

Fix **inter**home aluminium clips to both sides of each H-stud and vertical J-Track:

- > At the floor / ceiling levels on top or bottom plates
- > At the top chord of the trusses within 300mm of the top of the central fire barrier
- > At maximum 3m intervals for 3m shaftliner or intershield panels
- > At maximum 3.6m intervals for 3.6m shaftliner or intershield panels
- Within 700mm from the top of H-Studs at a horizontal joint in the shaftliner or intershield (back-to-back J-Track) [Refer to Details].

It is critical to correctly fix the **inter**home aluminium clips only in the locations listed above to comply with the discontinuous construction requirements of the NCC.



Substituting **inter**home aluminium clips will significantly effect system performance

> Plumbing and electrical services must not protrude beyond the face of the stud

Fasteners

Fixing Aluminium Clips	Fastener
interhome aluminium clips to steel (2 screws)	8g x 16mm fine thread screw
inter home aluminium clips to steel inter home H-studs through 16mm fire shield (2 screws)	6g x 30mm fine thread screw
interhome aluminium clips to softwood timber (2 fasteners)	6g x 25mm screw or 2.8 x 30mm galvanised nail
Fixing J-Track	Fastener
Back to back J-tracks	8g x 16mm fine thread screw
Laminating	Fastener
Laminating fireshield to shaftliner or intershield	10g x 38mm coarse thread laminating screws

Fasteners gauges and lengths are minimums. Screws must comply with Australian Standard 3566.1.



FIGURE 7 J-Track and H-Studs in Central Fire Barrier







INTERHOME LOW-RISE

FIGURE 9 J-Track Back-to-back in Central Fire Barrier



FIGURE 10 Aluminium Clips to H-studs and Frame



FIGURE 11 Aluminium Clips (flattened) at Central Fire Barrier Ends



Timber Frame

Steel Frame







FIGURE 16 Continue Central Fire Barrier to the Roof Lining (for Non-combustible Roof Lining Only)



FIGURE 18 Install Frame of the Next Dwelling



FIGURE 15 Install the First Row of the Central Fire Barrier



FIGURE 17 Laminate 16mm Fireshield to Central Fire Barrier

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Plasterboard Layout

Central Fire Barrier

Build the central fire barrier up to the underside of a non-combustible roof lining or 450mm above a combustible roof.

Maximum height is 12m for the central fire barrier.

Additional 16mm Fireshield or Multishield

Laminate an additional 16mm fireshield or multishield to the central fire barrier in the following locations:

- > At floor joists to 150mm above floor level [Figures 23, 28 32]
- 150mm below ceilings [Figures 28 34, 36 39, 41, 45 46, 53]
- Roof space [Figures 33 34, 36 39, 41, 45 46, 51]
- Parapets [Figure 36]

If solid timber blocking is used at the floor levels to maintain the fire rating, the additional 16mm **fire**shield does not need to be laminated to the central fire barrier. [Figure 35]

Plasterboard Fixing

The **shaft**liner or **Inter**shield of the central fire barrier is friction fit into the **inter**home H-Stud and J-Track, no screws are required.

Install internal linings with either the Fastener and Adhesive method or the Fastener Only method. Both methods may be used to achieve the fire rating for the **inter**home system.

Intershield

intershield is a plasterboard that has been formulated to resist sound and fire as well as providing enhanced water and mould resistance. It is suitable for use in **inter**home systems where an FRL (Fire Resistance Level) and sound insulation rating are required. Intershield has recycled blue liner paper.

The mould resistance technology used in **inter**shield is enhanced by a water resistant additive. Together these unique features dramatically reduce mould growth under severe conditions.

Weather Protection of Central Fire Barrier

Protect from water.

Cover during adverse weather conditions by stapling plastic sheeting to the central fire barrier and the dwellings frame.

Avoid water pooling at the base between bottom plates/tracks.

Limit weather exposure of the central fire barrier to a maximum of 30 days.

Allow to dry out before installing insulation and internal linings.

Services and Penetrations

Avoid contact of services with the central fire barrier.

Penetration of the central fire barrier is only permitted in the roof space or below floor level and must follow fire rated installation details, or for Class 1 buildings NCC section 3.7.3.3 (b).

Seal all penetrations made through the internal linings to maintain the acoustic integrity.

Electrical and plumbing services can be installed back-to-back in interhome systems without degrading the fire and acoustic performance.

Services installed in one cavity have an acoustic rating to the other side of the interhome wall of at least Rw + Ctr 40

Protection of Penetrations in Internal Linings of Interhome Systems

Penetrations Type	To Maintain Fire Rating	
PVC pipe ip to 65mm	No fire collar needed and wet area sealant is permitted.	
Copper plumbing	Wet area sealant is permitted.	
Electrical outlet (GPO)	Can be attached via stud bracket or wall mount. No GPO fire rated wall-boxes are required.	
Penetrations in roof cavity through central fire barrier	Refer to Figure 80 for cables. Any other penetration must be to a fire rated detail.	
Any other gaps	Must be sealed with fire sealant.*	

* Refer to Details for more information

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FIGURE 19 Fire Rated 1 Layer of 16mm Fireshield Laminating Screw Method

Fixing	Laminating screw method using 10g x 38mm laminating screw	
Sheet Layout	Horizontal or Vertical	
Recessed Edges and Butt Joints	Fix screws 10 - 50mm from sheet edges	
Field	Laminate to central fire barrier at 400 x 400mm maximum centres	
Fire Sealant	Use bindex fire and acoustic sealant on any gaps to maintain integrity. fire shield that has been touch fitted (no gaps) does not need to have fire sealant applied to joints. [Refer to Details]	
Jointing	No plaster jointing required. Use bindex fire and acoustic sealant on any gaps up to 20mm wide.	

Fire Rated Interhome Wall Base Details



support with FRL 60/60/60

FIGURE 23 Suspended Ground Floor FRL 60/60/60 Section

Fire Rated Interhome Wall Base With Slab Step Down



FIGURE 25 Interhome Wall Base to Slab with Larger Step-Down FRL 60/60/60 Section

Fire Rated



FIGURE 26 Interhome Wall Base to Slab with Step-Down and Timber Plate FRL 60/60/60 Section FIGURE 27 Interhome Wall Base to Slab with Step-Down and Plywood FRL 60/60/60 Section



- Timber plate (under) protected with 16mm Fireshield, Multishield or Trurock which is fixed at 300mm max centres and 50mm from sheets ends.

SECTION A-A Interhome Wall Base to Slab with Step-Down

FRL 60/60/60 Plan 6 Details



Fire Rated International States and Some max centres and Some from ends. Fill any gaps with Bindex Fire and Acoustic Sealant.

Floor joists perpendicular or parallel to separating wall

Extend 16mm Fireshield, Multishield or Trurock 150mm below ceiling 16mm Fireshield, Multishield or Trurock laminated to central fire barrier at suspended floor framing. Laminate at 400x400mm max centres and 50mm from sheet edges.

FIGURE 28 Interhome Wall to Upper Storey Floor FRL 60/60/60

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Central fire barrier must be adequately propped during

construction to prevent collapse.

and within 700mm from the top of H-Studs

Aluminium clips fixed to H-Studs on both sides of central fire barrier at wall top or bottom plates,

Alternative aluminium clip placement

Engineered timber joist

700mm max between

Aluminium clips and

top of H-studs



Section



Fire Rated Interhome Wall To Upper Storey Staggered Floors



FRL 60/60/60 Section



Fire Rated Interhome Wall With Integrated Structural Members



Section



Fire Rated Interhome Wall to Upper Storey Floors When Distance To Top Of H-Stud And Bottom Plate Is Above 700mm



FIGURE 32 Interhome Wall to Upper Storey Staggered Floor with additional Nogging installed FRL 60/60/60 Section

Fire Rated Interhome Wall To Roof Lining

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FIGURE 33 Interhome Wall to Roof Lining FRL 60/60/60 Section



Fire Rated Interhome Wall To Roof Lining



FRL 60/60/60

Section



Fire Rated Interhome Wall To Roof



FIGURE 36 Interhome Wall to Parapet Roof with Perpendicular Roof Trusses FRL 60/60/60 Section


Fire Rated





FIGURE 38 Interhome with Flattened Aluminium Clips over Horizontally Installed Shaftliner FRL 60/60/60 Section

Fire Rated Interhome Central Fire Barrier



FIGURE 39 Interhome with Horizontal Shaftliner panels FRL 60/60/60 Section

Aluminium clips fixed to H-Studs on both sides of central fire barrier at wall top or roof framing, and within 700mm from the top of H-Studs. Install additional trimmers between roof framing if necessary.



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FIGURE 40 Interhome with Step-Down in Slab FRL 60/60/60 Section

Fire Rated Interhome Wall Over Eaves



FIGURE 42 Interhome over Eave End Detail for Class 1 Buildings FRL 60/60/60

Section



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framing. Refer to NCC BCA Volume Two - Section 3.7.3.2(e)

FIGURE 44 Interhome over Eave End Detail for Class 1 Buildings FRL 60/60/60 Section





Fire Rated Interhome Wall To External Wall Above With Eave Overhanging Boundary



of the external wall above the Interhome separating wall — (System TSW473, SSW473, TSW483, SSW483) External cladding

Batten or channel

FIGURE 48 Interhome over Eaves - NCC Performance Solution Option 2 FRL 60/60/60 Section For external wall section only: A minimum of any 10mm plasterboard

must be used to maintain FRL



6 Details



Fire Rated Interhome Wall To External Wall Above



FIGURE 51 Interhome Wall to External Wall Above FRL 60/60/60

Section



Fire Rated Interhome Junctions





FIGURE 54 Interhome Wall Intersection FRL 60/60/60 Plan

Fire Rated **Interhome Junctions**



Plan

Retrofit detail - FRL 60/60/60 Plan









Plan



Plan





FRL 60/60/60

Plan







Steel Frame - FRL 60/60/60

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Fire Rated Interhome Overhanging Nib Wall

FRL 60/60/60

Refected Ceiling Detail



Fire Rated Interhome Overhanging Nib Wall



FRL 60/60/60

Refected Ceiling Detail





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Fire Rated Interhome Overhanging Nib Wall



Fire Rated

Penetration Details

Central fire barrier

FRL 60/60/60

Plan



Extend 16mm Fireshield, Multishield or Trurock 150mm above bath Nogging to support base of wall lining -Waterproof membrane Flexible wet area sealant compatible with tiles Bindex Wet Area Sealant Nogging to support bath tub Bathtub Mortar bed **CULTURE**

FIGURE 79 Interhome Wall with Integrated Bath Tub in Wet Areas FRL 60/60/60 Plan

Fire Rated Penetration Details

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FIGURE 80 Single Cable Penetration Through Central Fire Barrier in Roof Cavity Telecommunication and Power cables Maintains FRL 60/60/60 of Interhome Wall System



Fire Rated Patching Of Central Fire Barrier - 50x50mm maximum opening

Section - FRL 60/60/60



Fire Rated Patching Of Central Fire Barrier - 300x300mm maximum opening



FIGURE 82 Fire Rated Patch for Shaftliner panel Section - FRL 60/60/60





Fire Rated Patching Of Central Fire Barrier - Crack in Shaftliner

Check List







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warranty

Siniat's products are guaranteed by a 10 year warranty. For details visit siniat.com.au

customer service and technical advice

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