



INTRWALL[®]

*Separating and Corridor Wall Systems
for Multi-Residential Buildings*

KNAUF

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All works undertaken to prescribe the use of or to install Knauf's products and systems must be performed by experienced and, where required by applicable laws, appropriately licensed personnel. Knauf's products and systems must be installed in accordance with Knauf's installation manual, Systems+, and any other product or system specific literature issued by Knauf. If installation works are not performed in compliance with such product literature, by experienced and licensed personnel, or are incorrectly performed by experienced or licensed personnel, there is a serious risk that the works, application and performance of the relevant system or products will be compromised, which could result in property damage, injury or death.

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This product manual is intended to provide general information on plasterboard products and should not be used as a substitute for professional building advice. We recommend you use a qualified person to install Knauf plasterboard. To ensure the information you are using is current, Knauf recommends you review the latest building information available on the Knauf website Knauf.com. For further information contact TecASSIST or your Knauf representative.

INTRODUCTION

Multi-residential construction is now estimated to account for almost half of total dwelling approvals across Australia, with a large proportion of these being apartment buildings.

Developers, builders and subcontractors require new solutions for this growing market in order to reduce overall construction costs and time. Constantly innovating to deliver value solutions to the Australian building industry, Knauf has developed building code-compliant wall systems aimed specifically at multi-residential buildings – IntRwall.

Knauf IntRwall is a lightweight separating wall system that offers a number of advantages compared to traditional fire-rated plasterboard systems and alternative solutions. IntRwall has been successfully used in a large number of apartment projects throughout Australia, including the landmark Eureka Tower in Melbourne, Raffles in Perth, Allegro in Brisbane, Elysee Residences on the Gold Coast, Bishopsgate Apartments in Newcastle and many others.



GENERAL INFORMATION

What is IntRwall?

Knauf IntRwall is the next generation of separating inter-tenancy and corridor wall systems designed specifically for residential apartments. Based on similar panelised Shaftliner MouldStop construction used in Knauf's PartiWall, IntRwall represents the latest advancement in lightweight fire and acoustic technology.

Shaftliner MouldStop panels are held in position by lightweight steel H-studs to form the fire barrier of the system, this can include a screw laminated layer of FireStop when using the Over-Partition Design.

The fire barrier does not require jointing or finishing. Internal linings are installed using conventional installation methods, as outlined in the Knauf Plasterboard Installation Manual.

IntRwall Systems

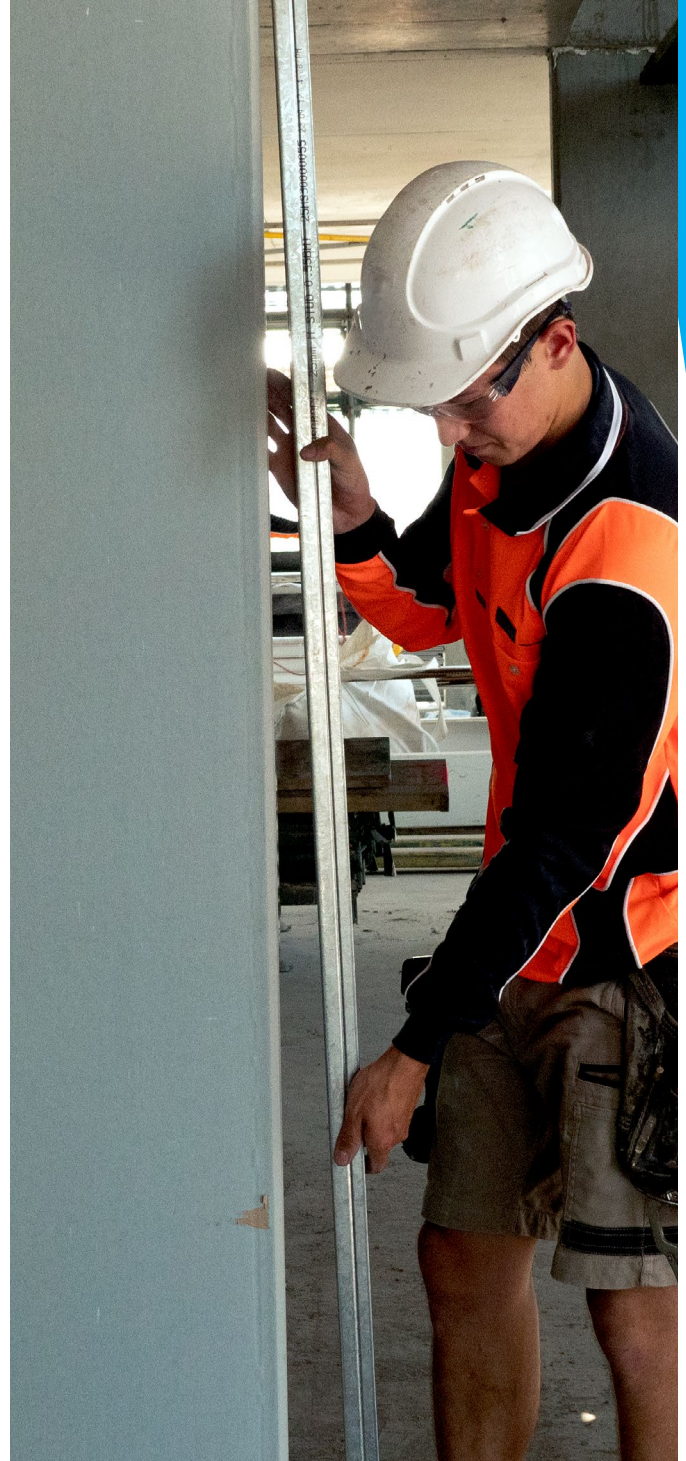
IntRwall systems consist of one or two layers of 25 mm Shaftliner MouldStop plasterboard held in position by light-gauge steel H-studs, with non-fire resistant outer linings fixed to free-standing steel C-studs located 20–46 mm clear of Shaftliner MouldStop on both sides.

Acoustic insulation is incorporated in wall cavities on one or both sides as required to achieve specified acoustic ratings. Outer linings can extend for the full height of the wall or terminate at ceiling level.

This publication provides an overview of single layer Shaftliner MouldStop systems: IW60.3 separating walls and IW60.4 corridor walls.

Advantages

- Simple and quick to install panelised system
- Lightweight components can be manually handled without requiring heavy lifting equipment
- Outer linings can be terminated at ceiling level without affecting acoustic performance
- Services can be easily incorporated in wall cavities on one or both sides
- Services penetrations in non-fire resistant outer linings do not require fire rating



DESIGN CONSIDERATIONS

Fire Resistance

- IntRwall systems IW60.3 and IW60.4 achieve Fire Resistance Level -/60/60
- IntRwall Fire Resistance Levels are supported by fire tests at CSIRO laboratories at North Ride in Sydney, and assessments by CSIRO and Exova

Acoustic

- IW60.3 separating walls satisfy National Construction Code (NCC) requirements of $R_w + C_{tr}$ 50 and acoustic impact insulation. IW60.4 corridor walls satisfy NCC requirement of R_w 50
- Where acoustic insulation is specified in the stud cavities, IntRwall systems provide $R_w + C_{tr}$ 40 for soil and waste pipes located on the opposite side of Shaftliner MouldStop panels. All IntRwall systems achieve minimum $R_w + C_{tr}$ 25 for services on the opposite side of Shaftliner MouldStop panels

Structural and Seismic

- IntRwall systems have a maximum height of 3.0 m at 0.25 kPa lateral pressure. For greater wall heights contact Knauf for advice
- Free standing steel studs on both sides of the wall must be designed to support required lateral pressure. For lateral pressures up to 0.25 kPa refer Steel Stud Walls Lined One Side in Section C of Knauf Systems+. Consult Knauf for lateral pressures greater than 0.25 kPa or other imposed loads

Limitations

IntRwall systems are not suitable for use around lift shafts or in other similar applications where they may be subjected to cyclical loading.

Materials

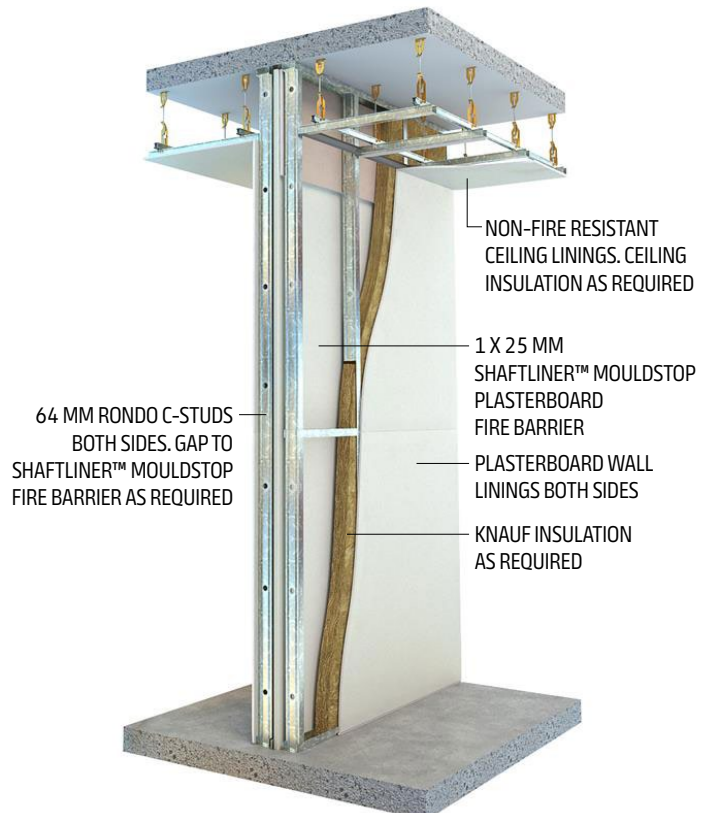
The following materials are used in construction of IntRwall systems:

- Knauf Shaftliner MouldStop plasterboard 25 mm thick x 600 mm wide
- Knauf FireStop plasterboard 16 mm thick (if required in ceiling space)
- Knauf non-fire resistant plasterboard linings
- Knauf 25 mm light-gauge steel H-studs
- Rondo lipped 64 mm C-studs, tracks and angles as specified in IntRwall technical manual
- Knauf insulation
- HB Fuller Firesound or another approved fire grade sealant
- Approved screws and all-steel masonry anchors
- Knauf jointing paper tape and compounds (for finishing of outer linings).

Installation


For installation details refer to Knauf online CAD Finder or contact TecASSIST for information.

System IW60.3



SEPARATING WALLS

Table 1: System IW60.3


Fire Resistance Level NLB -/60/60 From both sides FRL Basis: FCO-3367	Acoustic Ratings Basis: TK778-21F01					
	System	Lining Side 1	Lining Side 2	Nom Wall Width (Gaps Side 1/Side 2) mm	Insulation	$R_w(R_w + C_w)$
 <p>System Description</p> <p>Side 1:</p> <ul style="list-style-type: none"> • Lining (refer to table) • 64 mm C-studs at 600 mm centres • Gap between C-studs and fire barrier (refer to table) • Insulation (refer to table) <p>Fire Barrier:</p> <ul style="list-style-type: none"> • 1 x 25 mm Shaftliner MouldStop between 25 mm H studs at 600 mm centres <p>Side 2:</p> <ul style="list-style-type: none"> • Lining (refer to table) • 64 mm C-studs at 600 mm centres • Gap between C-studs and fire barrier (refer to table) • Insulation (refer to table) 	IW60.3A	1 x 13 mm SHEETROCK ONE	1 x 13 mm SHEETROCK ONE	271(46/46)	KI 90G14 (both cavities)	65(50)
	IW60.3D	1 x 13 mm WetStop	1 x 13 mm WetStop	251(36/36)	KI 90G11 (both cavities)	67(52)
	IW60.3F	1 x 13 mm SHEETROCK ONE	1 x 13 mm WetStop	251(36/36)	KI 90G11 (both cavities)	66(51)
	IW60.3N	1 x 13 mm SHEETROCK ONE	1 x 6 mm Villaboard	244(36/36)	KI 90G11 (both cavities)	65(50)
	IW60.3V	1 x 13 mm ImpactStop	1 x 13 mm ImpactStop	219(20/20)	KI 75G11 (both cavities)	66(51)
	IW60.3W	1 x 13 mm ImpactStop	1 x 13 mm WetStop	239(30/30)	KI 90G11 (both cavities)	67(52)
	IW60.3X	1 x 13 mm ImpactStop	1 x 6 mm Villaboard	232(30/30)	KI 90G11 (both cavities)	67(51)

* KI 75G11 - 75 mm glasswool insulation 11 kg/m³
 KI 90G11 - 90 mm glasswool insulation 11 kg/m³
 KI 90G14 - 90 mm glasswool insulation 14 kg/m³

Notes Non-fire rated linings permitted to terminate at or above ceiling level for IW60.3 provided that 16 mm FireStop is laminated to Side 1 of the Shaftliner MouldStop barrier in accordance with the Knauf overpartition detail. Refer to Knauf for details.

CORRIDOR WALLS

Table 2: Systems IW60.4 & IW60.5

Fire Resistance Level NLB -/60/60 From both sides FRL Basis: FCO-3367	Acoustic Ratings Basis: TK778-21F01					
	System	Lining Side 1	Lining Side 2	Nom Wall Width (Gaps Side 1/Side 2) mm	Insulation	R _w (R _w + C _v)
 <p>System Description</p> <p>Side 1:</p> <ul style="list-style-type: none"> • Lining (refer to table) • 64 mm C-studs at 600 mm centres • Gap between C-studs and fire barrier (refer to table) • Insulation (refer to table) <p>Fire Barrier:</p> <ul style="list-style-type: none"> • 1 x 25 mm Shaftliner MouldStop between 25 mm H studs at 600 mm centres <p>Side 2:</p> <ul style="list-style-type: none"> • Lining (refer to table) • 64 mm C-studs at 600 mm centres • Gap between C-studs and fire barrier (refer to table) • Insulation (refer to table) 	IW60.4A	1 x 13 mm SHEETROCK ONE	1 x 13 mm SHEETROCK ONE	199(20/0)	KI 50G11 (side 1 cavity)	51(37)
	IW60.4B	1 x 13 mm SHEETROCK ONE	1 x 13 mm WetStop	199(20/0)	KI 50G11 (side 1 cavity)	55(41)
	IW60.4C	1 x 13 mm SHEETROCK ONE	1 x 6 mm Villaboard	192(20/0)	KI 50G11 (side 1 cavity)	55(41)
	IW60.4J	1 x 6 mm Villaboard	1 x 6 mm Villaboard	185(20/0)	KI 50G11 (side 1 cavity)	56(43)
	IW60.5A	1 x 13 mm SHEETROCK ONE	1 x 13 mm SHEETROCK ONE	179(0/0)	KI 50G11 (side 1 cavity)	51(37)
	IW60.5C	1 x 13 mm SHEETROCK ONE	1 x 6 mm VILLABOARD	172(0/0)	KI 50G11 (side 1 cavity)	52(38)

* KI 50G11 - 50 mm glasswool insulation 11 kg/m³

Notes

Non-fire rated linings permitted to terminate at or above ceiling level for IW60.4 provided that 16 mm FireStop is laminated to Side 1 of the Shaftliner MouldStop barrier in accordance with the Knauf overpartition detail. Refer to Knauf for details.



Sales Enquiries

1800 003 377

To purchase Knauf plasterboard and other building materials including insulation, cornice, compounds, ceilings and accessories visit the *Where To Buy* page on our website for a list of Knauf Fulfilment Centres and distributors.

TecASSIST

1800 811 222

Our National TecASSIST helpline is available to answer technical questions and provide free advice to builders, contractors, architects, engineers and home owners throughout Australia.

Technical Resources

knauf.com/en-AU/tools/download-center

Find all of Knauf's technical literature in our comprehensive Download Centre. From CAD files to certifications, installation guides and data sheets - our most up to date product and system information is at your fingertips.



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