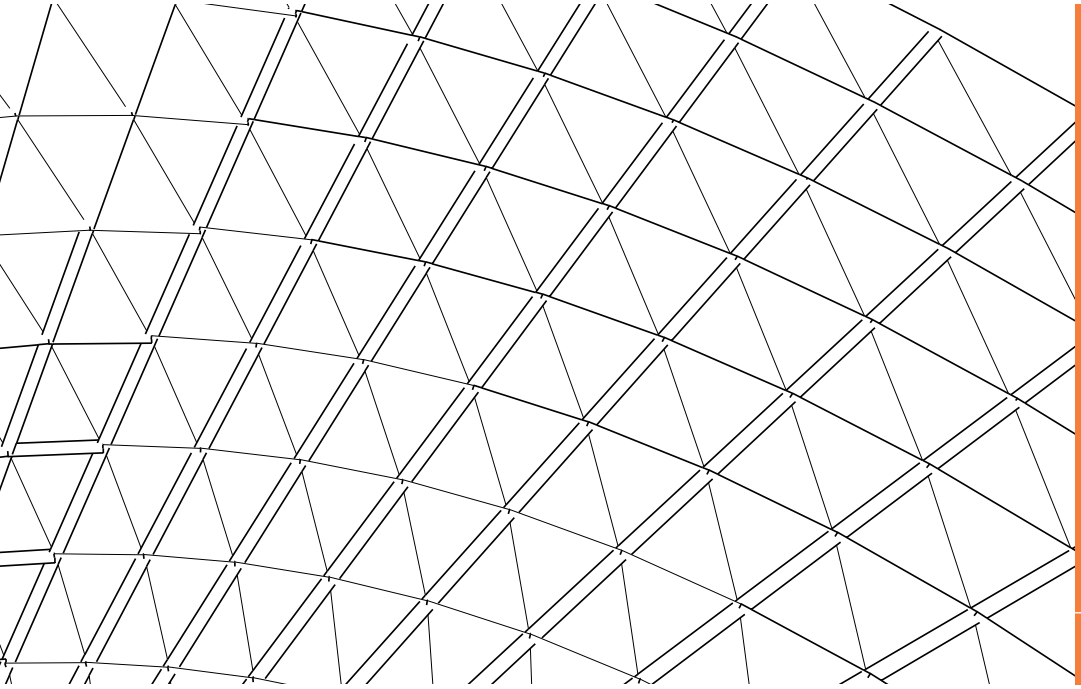

Section F

Masonry Upgrades | 10/2025

MASONRY UPGRADES

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INTRODUCTION

Description

Knauf Masonry Upgrades encompass a range of Acoustic and Fire Upgrades systems with plasterboard linings on one or both sides of masonry walls.

Design Options

Masonry Acoustic Upgrades

Masonry Acoustic Upgrades systems outlined in this manual achieve acoustic ratings up to R_w 79 and $R_w + C_{tr}$ 65.

The following types of Acoustic Upgrades systems have been included:

TABLE F1: **TYPES OF ACOUSTIC UPGRADES**

SYSTEM TYPE	WALL TYPE
MWI	Internal masonry walls
MWB	Enclosed blade columns
MWS	Shaft and stair shaft walls

Internal Walls

Acoustic ratings have been provided for the following types of internal masonry walls:

- 150 mm Concrete Panel
- 200 mm Concrete Panel
- 140 mm Concrete Block (core filled)
- 190 mm Concrete Block (core filled)
- 190 mm Lightweight Concrete Block (core filled).

Refer to Knauf for acoustic upgrades of other types of masonry walls.

Acoustic Upgrades of internal masonry walls utilise 13 mm non-fire resistant plasterboard fixed to one or both sides of the wall via:

- Direct adhesive fixings
- 28 mm Rondo furring channels
- Free standing 64 mm Rondo studs.

Blade Columns

Acoustic upgrades of enclosed blade columns are provided for 150 mm and 200 mm concrete thicknesses.

Lining configurations are based on various fire rated steel stud wall systems with the following fixing options:

- 28 mm Rondo furring channels on both sides
- 28 mm Rondo furring channel on one side and free standing 64 mm Rondo studs on the other side.

Shaft/Stair Walls

Acoustic upgrades of shaft and stair walls are based on the same masonry and lining types as upgrades of internal walls, with linings fixed only to one side of the wall via 28 mm Rondo furring channels or free standing 64 mm Rondo steel studs.

Autoclaved Aerated Concrete (AAC) Panels

Acoustic ratings have been provided for 75 mm AAC panels.

Masonry Fire Upgrades

Masonry Fire Upgrades systems outlined in this manual provide additional Fire Resistance Levels up to +90/+90/+90 from one side only or +90/+180/+180 from both sides.

Fire Upgrades systems utilise single or multiple layers of fire resistant plasterboard fixed to one or both sides of masonry walls on 28 mm Rondo furring channels.

INTRODUCTION

Materials

Masonry Acoustic Upgrades

Plasterboard Linings

- 13 mm SHEETROCK ONE
- 13 mm ImpactStop
- 13 mm / 16 mm FireStop (blade columns).

Metal components

- Rondo 129 (28 mm) Furring Channel and direct fixing clips or BetaGrip® clips where specified
- Rondo 64 mm C-studs and tracks.

Insulation

- KI 25G24 - 25 mm glasswool insulation 24 kg/m^3 density
- KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density
- KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density

Screws

Refer to General Information – Materials for plasterboard screw types suitable for fixing to metal sections.

Masonry Adhesive

Knauf Masonry Adhesive is a plaster-based setting compound that has been specifically designed for direct fixing of plasterboard linings to masonry walls.

Caulking

H.B. Fuller Firesound™ sealant.

Masonry Fire Upgrades

Plasterboard Linings

- 13 mm FireStop
- 16 mm FireStop

Metal components

- Rondo 129 (28 mm) Furring Channel and direct fixing clips.

Screws

Refer to General Information – Materials for plasterboard screw types suitable for fixing to metal sections.

Caulking

H.B. Fuller Firesound™ sealant.

Design Considerations

- Refer to the Multi-Residential section for NCC Acoustic and Fire Resistance requirements for multi-residential buildings.
- Systems with free standing steel studs satisfy NCC requirements for impact sound insulation (discontinuous construction) as well as allow a cavity space for services to run between the masonry wall and plasterboard, as a minimum 20 mm gap is specified between the studs and the substrate.
- Beware of flanking sound effects on acoustic performance (refer to General Information – Design).
- Refer Steel Stud Walls section for maximum heights of 64 mm studs lined one side.
- Refer to masonry manufacturer for Fire Resistance Levels of masonry walls.

INTRODUCTION

Installation

General

- Fire rated and acoustic upgrade systems must be assembled strictly in accordance with the installation details and specifications outlined in this manual to achieve stated Fire Resistance Levels and acoustic ratings.
- Blockwork masonry walls must be constructed in accordance with AS 3700 *Masonry Structures.*
- Concrete walls must be constructed in accordance with AS 3600 *Concrete Structures*.
- Refer to AAC manufacturer's specification for AAC system installation instructions.

Masonry Adhesive Method

NOTE:

Masonry adhesive method must not be used for installation of fire resistant linings in fire upgrade systems.

- It is essential that all new masonry surfaces be allowed to dry to normal levels before installing Knauf plasterboards.
- Masonry walls in wet areas, such as bathrooms and laundries may be lined with SHEETROCK PLUS, WetStop, ImpactStop, MultiStop ONE or FIBEROCK Aqua-Tough as per the wet area installation requirements (refer Knauf Plasterboard Installation Manual). Linings in tiled areas must be mechanically fastened.
- Masonry walls should be checked for flatness and level using a straight edge or string line before determining the fixing method.
- Wall surfaces with high/low spots over 15 mm or out of plumb by more than 15 mm will need to be straightened with a series of levelling pads.
- Masonry adhesive method should not be used for walls over 3m high or where the wall surface requires more than 25 mm of packing to bring it back to a true line.
- All services should be in place prior to plasterboard installation.
- Masonry walls must be dry and free from dust, oil, flaking paint, efflorescence, release agents, or any other material or treatment that could adversely affect bonding of masonry adhesive.
- Adhesion can also be affected by the porosity and/or previous surface treatment of a wall. Surfaces that are particularly dry or porous may need to be dampened. For best results masonry walls should be coated with a bonding agent before applying masonry adhesive.
- Masonry adhesive daubs should be about 50 mm diameter by 15 mm thickness. Space adhesive daubs at maximum 450 mm centres vertically and horizontally and 50 mm from sheet ends and edges.
- Ribbons or additional daubs of masonry adhesive must be applied at sheet ends and at cornice and skirting lines. Additional daubs of masonry adhesive are also required at external angles and fixtures.

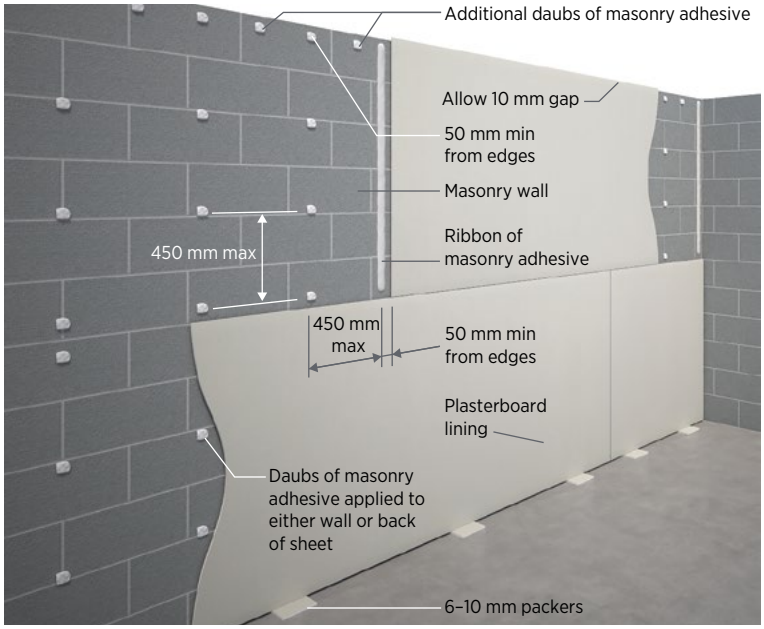


Figure F1: **Fixing to a true wall surface**

For detailed Masonry Adhesive Method installation instructions refer to Knauf Plasterboard Installation Manual.

INTRODUCTION

Installation Using Furring Channels

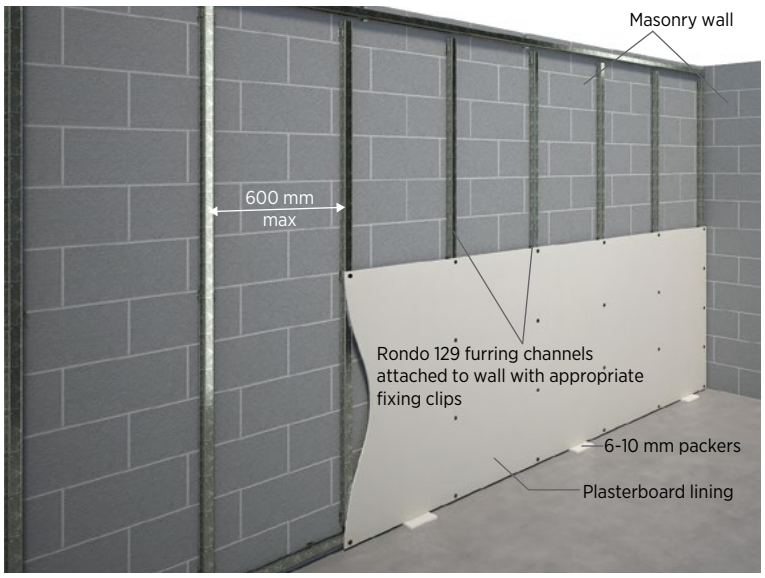


Figure F2: **Fixing to furring channels clipped to wall**

- Set out fixing clips for vertical channels spaced at maximum 600 mm centres and for top and bottom horizontal channels. Pack clips where required to achieve a true surface.
- Fix clips to masonry with suitable fasteners.
- Fix plasterboard to furring channels using an appropriate method.
- Refer to Knauf online CAD Finder and Plasterboard Installation Manual for installation instructions for fire rated and non-fire rated systems.

NOTES:

- Fire resistant linings in fire upgrade systems must be mechanically fixed. Adhesive fixing is not permitted.
- In fire upgrade systems clips must be fixed to masonry with metal only fasteners. Plastic sleeves are not permitted.

Installation on Steel Studs

Refer to Knauf online CAD Finder and Plasterboard Installation Manual for installation instructions for fire rated and non-fire rated systems respectively.

Jointing and Finishing

- Finish all joints and internal and external corners in face layers with the appropriate Knauf jointing system (refer to Knauf Plasterboard Installation Manual). Joints and junctions in inner layers of multiple layer systems are not required to be stopped.
- Paper tape must be used in fire rated and wet area systems.

Caulking

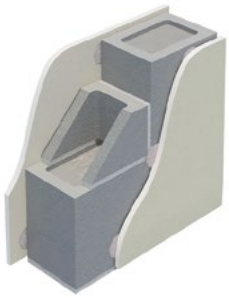
Perimeter gaps and penetrations in fire rated and acoustic systems must be caulked with an approved sealant (refer Knauf online CAD Finder).

To view the full range of system CAD details, scan QR code below.

ACOUSTIC UPGRADES – INTERNAL WALLS

MWI.1

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd, adhesive fixed

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd, adhesive fixed.

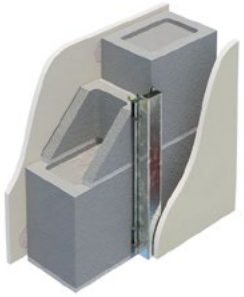
ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4)

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.1A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	180	NA	NA	Nil	50(44)
			200 mm Concrete Panel (480 kg/m^2)	230	NA	NA	Nil	52(45)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	170	NA	NA	Nil	49(44)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	220	NA	NA	Nil	51(45)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	221	NA	NA	Nil	50(44)

^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

MWI.2

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd, adhesive fixed

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to masonry wall with direct fix clips, or BETAGRIP® clips for 50 mm furring cavities
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4)

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.2A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	208	NA	30	Nil	54(45)
							KI 25G24 (furring cavity)	58(48)
			200 mm Concrete Panel (480 kg/m^2)	258	NA	30	Nil	57(47)
							KI 25G24 (furring cavity)	61(50)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	198	NA	30	Nil	52(44)
							KI 25G24 (furring cavity)	55(47)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	248	NA	30	Nil	55(46)
							KI 25G24 (furring cavity)	58(49)
				268		50	KI 50G11 (furring cavity)	60(51)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	248	NA	30	Nil	54(45)
							KI 25G24 (furring cavity)	55(46)
				268		50	KI 50G11 (furring cavity)	57(48)
MWI.2I	1x13 mm IMPACTSTOP	1x13 mm IMPACTSTOP	140 mm Concrete Block (Core Filled 295 kg/m^2)	198	NA	30	Nil	54(46)
							KI 25G24 (furring cavity)	57(49)
				218		50	KI 50G11 (furring cavity)	59(51)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	248	NA	30	Nil	56(47)
							KI 25G24 (furring cavity)	57(48)
				268		50	KI 50G11 (furring cavity)	59(50)

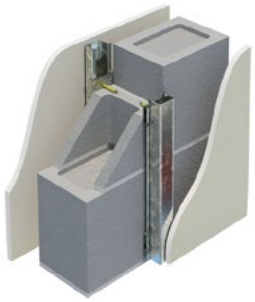
* KI 25G24 - 25 mm glasswool insulation 24 kg/m^3 density
KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**

ACOUSTIC UPGRADES – INTERNAL WALLS

MWI.3

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- One or more layers of non-fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to masonry wall with direct fix clips, or BETAGRIP® clips for 50 mm furring cavities
- Insulation (refer to table)

Masonry:
- Refer to table

Side 2:
- One or more layers of non-fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to masonry wall with direct fix clips, or BETAGRIP® clips for 50 mm furring cavities
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4)

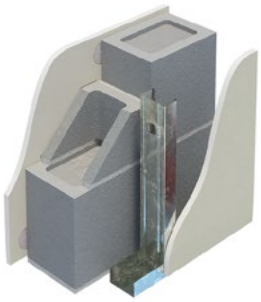
SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.3A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	236	30	30	Nil	52(38)
							KI 25G24 (both cavities)	58(43)
			200 mm Concrete Panel (480 kg/m^2)	286	30	30	Nil	55(40)
							KI 25G24 (both cavities)	61(45)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	226	30	30	Nil	50(36)
							KI 25G24 (both cavities)	56(42)
			190 mm Concrete Block (Core Filled)	276	30	30	Nil	53(38)
							KI 25G24 (both cavities)	59(44)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	276	30	30	Nil	51(36)
							KI 25G24 (both cavities)	57(42)
MWI.3F	2x13 mm SHEETROCK ONE	2x13 mm SHEETROCK ONE	190 mm Concrete Block (Core Filled 400 kg/m^2)	302	30	30	KI 25G24 (both cavities)	67(52)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	342	50	50	KI 50G11 (both cavities)	65(50)

* KI 25G24 - 25 mm glasswool insulation 24 kg/m^3 density
KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

ACOUSTIC UPGRADES – INTERNAL WALLS

MWI.4

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd, adhesive fixed

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and masonry
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4) **DISCONTINUOUS CONSTRUCTION**

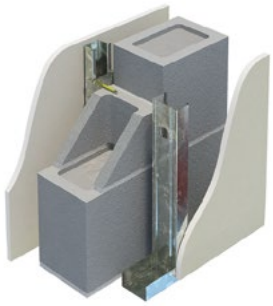
SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.4A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	260	NA	84	Nil	61(52)
							KI 75G11 (stud cavity)	67(57)
			200 mm Concrete Panel (480 kg/m^2)	310	NA	84	Nil	64(54)
							KI 75G11 (stud cavity)	70(59)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	250	NA	84	Nil	59(50)
							KI 75G11 (stud cavity)	63(54)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	300	NA	84	Nil	62(52)
							KI 75G11 (stud cavity)	66(56)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	300	NA	84	Nil	60(50)
							KI 75G11 (stud cavity)	63(53)
MWI.4G	1x13 mm IMPACTSTOP	1x13 mm IMPACTSTOP	150 mm Concrete Panel (360 kg/m^2)	260	NA	84	Nil	63(54)
							KI 75G11 (stud cavity)	69(59)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	250	NA	84	Nil	61(52)
							KI 75G11 (stud cavity)	65(56)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	300	NA	84	Nil	62(52)
							KI 75G11 (stud cavity)	65(55)

* KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

ACOUSTIC UPGRADES – INTERNAL WALLS

MWI.5

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to masonry wall with direct fix clips

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and masonry
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4) **DISCONTINUOUS CONSTRUCTION**

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.5A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	290	30	84	Nil	60(50)
							KI 75G11 (stud cavity)	66(55)
			200 mm Concrete Panel (480 kg/m^2)	340	30	84	Nil	63(53)
							KI 75G11 (stud cavity)	69(58)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	280	30	84	Nil	56(47)
							KI 75G11 (stud cavity)	60(51)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	330	30	84	Nil	59(49)
							KI 75G11 (stud cavity)	63(53)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	330	30	84	Nil	57(47)
							KI 75G11 (stud cavity)	60(50)

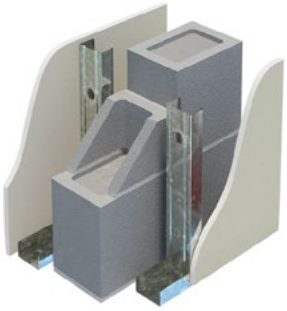
* KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**

ACOUSTIC UPGRADES – INTERNAL WALLS

MWI.6

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and masonry
- Insulation (refer to table)

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and masonry
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4) **DISCONTINUOUS CONSTRUCTION**

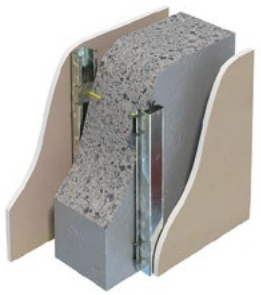
SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWI.6A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	344	84	84	Nil	63(52)
							KI 75G11 (both cavities)	69(57)
			200 mm Concrete Panel (480 kg/m^2)	394	84	84	Nil	66(54)
							KI 75G11 (both cavities)	72(59)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	334	84	84	Nil	59(48)
							KI 75G11 (both cavities)	64(54)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	384	84	84	Nil	62(50)
							KI 75G11 (one cavity)	65(54)
							KI 75G11 (both cavities)	67(56)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	384	84	84	Nil	60(48)
							KI 75G11 (one cavity)	63(52)

* KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

ACOUSTIC UPGRADES – BLADE COLUMNS

MWB.1

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side1:
- One or more layers of fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to concrete wall with direct fix clips
- Insulation (refer to table)

Concrete panel:
- Refer to table

Lining Side 2:
- One or more layers of fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to concrete wall with direct fix clips
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4)

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWB.1A	1x13 mm FIRESTOP	1x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	236	30	30	Nil	53(39)
							Kl 25G24 (both cavities)	60(45)
			200 mm Concrete Panel (480 kg/m^2)	286	30	30	Nil	56(41)
							Kl 25G24 (both cavities)	62(46)
MWB.1B	1x13 mm FIRESTOP	2x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	249	30	30	Nil	56(45)
							Kl 25G24 (both cavities)	63(51)
			200 mm Concrete Panel (480 kg/m^2)	299	30	30	Nil	59(46)
							Kl 25G24 (both cavities)	65(52)
MWB.1C	2x13 mm FIRESTOP	2x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	262	30	30	Nil	59(46)
							Kl 25G24 (both cavities)	66(52)
			200 mm Concrete Panel (480 kg/m^2)	312	30	30	Nil	62(48)
							Kl 25G24 (both cavities)	68(53)
MWB.1D	1x16 mm FIRESTOP	1x16 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	242	30	30	Nil	55(44)
							Kl 25G24 (both cavities)	62(50)
			200 mm Concrete Panel (480 kg/m^2)	292	30	30	Nil	58(46)
							Kl 25G24 (both cavities)	64(51)
MWB.1E	2x16 mm FIRESTOP	2x16 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	274	30	30	Nil	61(47)
							Kl 25G24 (both cavities)	68(53)
			200 mm Concrete Panel (480 kg/m^2)	324	30	30	Nil	64(49)
							Kl 25G24 (both cavities)	70(54)

* Kl 25G24 - 25 mm glasswool insulation 24 kg/m^3 density

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**

ACOUSTIC UPGRADES – BLADE COLUMNS

MWB.2

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)

SYSTEM DESCRIPTION

Side1:
- One or more layers of fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to concrete wall with direct fix clips

Concrete panel:
- Refer to table

Side 2:
- One or more layers of fire resistant pbd
- 64 mm steel studs @ 600 mm ctrs
- 20 mm gap between steel frame and concrete wall
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4) **DISCONTINUOUS CONSTRUCTION**

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWB.2A	1x13 mm FIRESTOP	1x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	290	30	84	Nil	61(51)
							KI 75G11 (stud cavity only)	68(55)
			200 mm Concrete Panel (480 kg/m^2)	340	30	84	Nil	64(54)
							KI 75G11 (stud cavity only)	71(58)
MWB.2B	1x13 mm FIRESTOP	2x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	303	30	84	Nil	64(54)
							KI 75G11 (stud cavity only)	71(58)
			200 mm Concrete Panel (480 kg/m^2)	353	30	84	Nil	67(57)
							KI 75G11 (stud cavity only)	74(61)
MWB.2C	2x13 mm FIRESTOP	2x13 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	316	30	84	Nil	67(56)
							KI 75G11 (stud cavity only)	74(60)
			200 mm Concrete Panel (480 kg/m^2)	366	30	84	Nil	70(59)
							KI 75G11 (stud cavity only)	77(63)
MWB.2D	1x16 mm FIRESTOP	1x16 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	296	30	84	Nil	63(53)
							KI 75G11 (stud cavity only)	70(57)
			200 mm Concrete Panel (480 kg/m^2)	346	30	84	Nil	65(55)
							KI 75G11 (stud cavity only)	72(59)
MWB.2E	2x16 mm FIRESTOP	2x16 mm FIRESTOP	150 mm Concrete Panel (360 kg/m^2)	328	30	84	Nil	69(58)
							KI 75G11 (stud cavity only)	76(62)
			200 mm Concrete Panel (480 kg/m^2)	378	30	84	Nil	72(61)
							KI 75G11 (stud cavity only)	79(65)

* KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**

ACOUSTIC UPGRADES – SHAFT/STAIR WALLS

MWS.1

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)

SYSTEM DESCRIPTION

Side 1:
- Nil linings

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 28 mm furring channels @ 600 mm ctrs fixed to masonry wall with direct fix clips
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4)

SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWS.1A	Nil	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	193	NA	30	Nil	53(44)
							Kl 25G24 (furring cavity)	57(47)
			200 mm Concrete Panel (480 kg/m^2)	243	NA	30	Nil	56(46)
							Kl 25G24 (furring cavity)	60(49)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	183	NA	30	Nil	51(43)
							Kl 25G24 (furring cavity)	54(46)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	233	NA	30	Nil	54(45)
							Kl 25G24 (furring cavity)	57(48)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	233	NA	30	Nil	53(44)
							Kl 25G24 (furring cavity)	56(47)

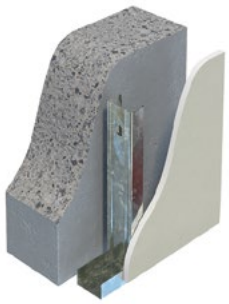
* Kl 25G24 - 25 mm glasswool insulation 24 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**

ACOUSTIC UPGRADES – SHAFT/STAIR WALLS

MWS.2

FIRE RESISTANCE LEVEL
(refer masonry manufacturer)



SYSTEM DESCRIPTION

Side 1:
- Nil linings

Masonry:
- Refer to table

Side 2:
- 1x13 mm non-fire resistant pbd
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and masonry
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S09(R4) **DISCONTINUOUS CONSTRUCTION**

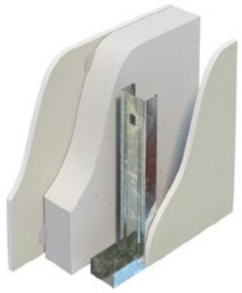
SYSTEM	LINING SIDE 1	LINING SIDE 2	MASONRY TYPE	NOM WALL WIDTH mm	CAVITY mm		INSULATION*	R_w (R_w+C_{tr})
					SIDE 1	SIDE 2		
MWS.2A	Nil	1x13 mm SHEETROCK ONE	150 mm Concrete Panel (360 kg/m^2)	247	NA	84	Nil	58(52)
							KI 75G11 (stud cavity)	64(57)
			200 mm Concrete Panel (480 kg/m^2)	297	NA	84	Nil	61(54)
							KI 75G11 (stud cavity)	67(59)
			140 mm Concrete Block (Core Filled 295 kg/m^2)	237	NA	84	Nil	56(50)
							KI 75G11 (stud cavity)	60(54)
			190 mm Concrete Block (Core Filled 400 kg/m^2)	287	NA	84	Nil	59(52)
							KI 75G11 (stud cavity)	63(56)
			QLD MARKET^ 190 mm Lightweight Block (Core Filled 360 kg/m^2)	287	NA	84	Nil	57(50)
							KI 75G11 (stud cavity)	60(53)
MWS.2E	Nil	1x13 mm IMPACTSTOP	150 mm Concrete Panel (360 kg/m^2)	247	NA	84	Nil	59(53)
							KI 75G11 (stud cavity)	65(58)

* KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density
^ Acoustic ratings are based on tests of lightweight concrete blocks by National Masonry

ACOUSTIC UPGRADES – AAC PANELS

AAC.1

FIRE RESISTANCE LEVEL (refer AAC panel manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm pbd adhesive fixed to AAC panels (refer to table)

Fire Barrier:
- 75 mm AAC panel min 500 kg/m^3 density

Side 2:
- 1x13 mm pbd (refer to table)
- 64 mm C-studs @ 600 mm ctrs
- 20 or 35 mm gap between steel frame and AAC panels
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S11 — **DISCONTINUOUS CONSTRUCTION**

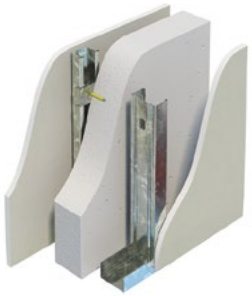
SYSTEM	LINING SIDE 1	LINING SIDE 2	NOM WALL WIDTH (GAP) mm	INSULATION*	R_w (R_w+C_{tr})
AAC.1A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	185(20)	KI 50G11	58(48)
			200(35)	KI 75G11	60(50)
AAC.1E	1x13 mm MULTISTOP ONE	1x13 mm MULTISTOP ONE	185(20)	KI 50G11	61(50)

MULTISTOP ONE HI may be a direct substitute for MULTISTOP ONE for FRL and acoustic performance of the same board thickness

* KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density
KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density

AAC.2

FIRE RESISTANCE LEVEL (refer AAC panel manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd (refer to table)
- 28 mm furring channels @ 600 mm ctrs fixed to AAC panels with direct fix clips, or BETAGRIP® clips for 43 mm furring cavities

Fire Barrier:
- 75 mm AAC panels min 500 kg/m^3 density

Side 2:
- 1x13 mm non-fire resistant pbd (refer to table)
- 64 mm C-studs @ 600 mm ctrs
- 20 or 35 mm gap between steel frame and AAC panels
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S11 — **DISCONTINUOUS CONSTRUCTION**

SYSTEM	LINING SIDE 1	LINING SIDE 2	NOM WALL WIDTH (GAP) mm	INSULATION*	R_w (R_w+C_{tr})
AAC.2A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	215(20)	KI 50G11 (stud cavity only)	54(43)
			243(35)	KI 75G11 (stud cavity) KI 50G11 (furring cavity 43 mm)	60(50)
AAC.2I	1x13 mm WETSTOP	1x13 mm SHEETROCK ONE	228(20)	KI 75G11 (stud cavity) KI 50G11 (furring cavity min 43 mm)	60(50)
AAC.2L	1x13 mm WETSTOP	1x13 mm WETSTOP	228(20)	KI 75G11 (stud cavity) KI 50G11 (furring cavity min 43 mm)	60(50)

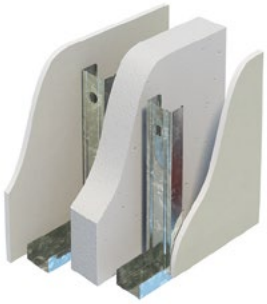
* KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density
KI 75G11 - 75 mm glasswool insulation 11 kg/m^3 density

For the full range of Knauf systems refer to **knauf.com/en-AU/knauf-gypsum/services/tools/eselector**
Blue text indicates systems and products suitable for wet areas.

ACOUSTIC UPGRADES – AAC PANELS

AAC.3

FIRE RESISTANCE LEVEL
(refer AAC panel manufacturer)



SYSTEM DESCRIPTION

Side 1:
- 1x13 mm non-fire resistant pbd (refer to table)
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and AAC panels
- Insulation (refer to table)

Fire Barrier:
- 75 mm AAC panels min 500 kg/m^3 density

Side 2:
- 1x13 mm non-fire resistant pbd (refer to table)
- 64 mm C-studs @ 600 mm ctrs
- 20 mm gap between steel frame and AAC panels
- Insulation (refer to table).

ACOUSTIC RATINGS BASIS: RT&A TE405-20S11 — **DISCONTINUOUS CONSTRUCTION**

SYSTEM	LINING SIDE 1	LINING SIDE 2	NOM WALL WIDTH (GAP) mm	INSULATION*	R_w+C_{tr}
AAC.3A	1x13 mm SHEETROCK ONE	1x13 mm SHEETROCK ONE	270(20)	KI 50G11 (both cavities)	66(52)

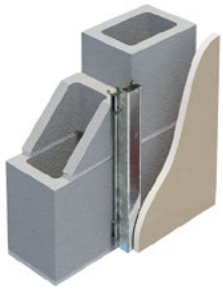
* KI 50G11 - 50 mm glasswool insulation 11 kg/m^3 density

FIRE UPGRADES

MW

FIRE RESISTANCE LEVEL
(refer to table)

FRL Basis: FC16195



SYSTEM DESCRIPTION

Lining Side 1:
- Refer to table

Masonry wall:
- fire rated or non-fire rated masonry wall

Lining Side 2:
- Refer to table.

FIRE RATINGS

SYSTEM	ADDITIONAL FRL	LINING SIDE 1	LINING SIDE 2
MW30.1A	+30/+30/+30 from lined side only	1x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	Nil
MW30.2A	+30/+60/+60 from both sides	1x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	1x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs
MW60.1A	+60/+60/+60 from lined side only	2x13 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	Nil
MW60.2A	+60/+120/+120 from both sides	2x13 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	2x13 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs
MW90.1A	+90/+90/+90 from lined side only	2x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	Nil
MW90.2A	+90/+180/+180 from both sides	2x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs	2x16 mm FIRESTOP on 28 mm furring channels @ 600 mm ctrs

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