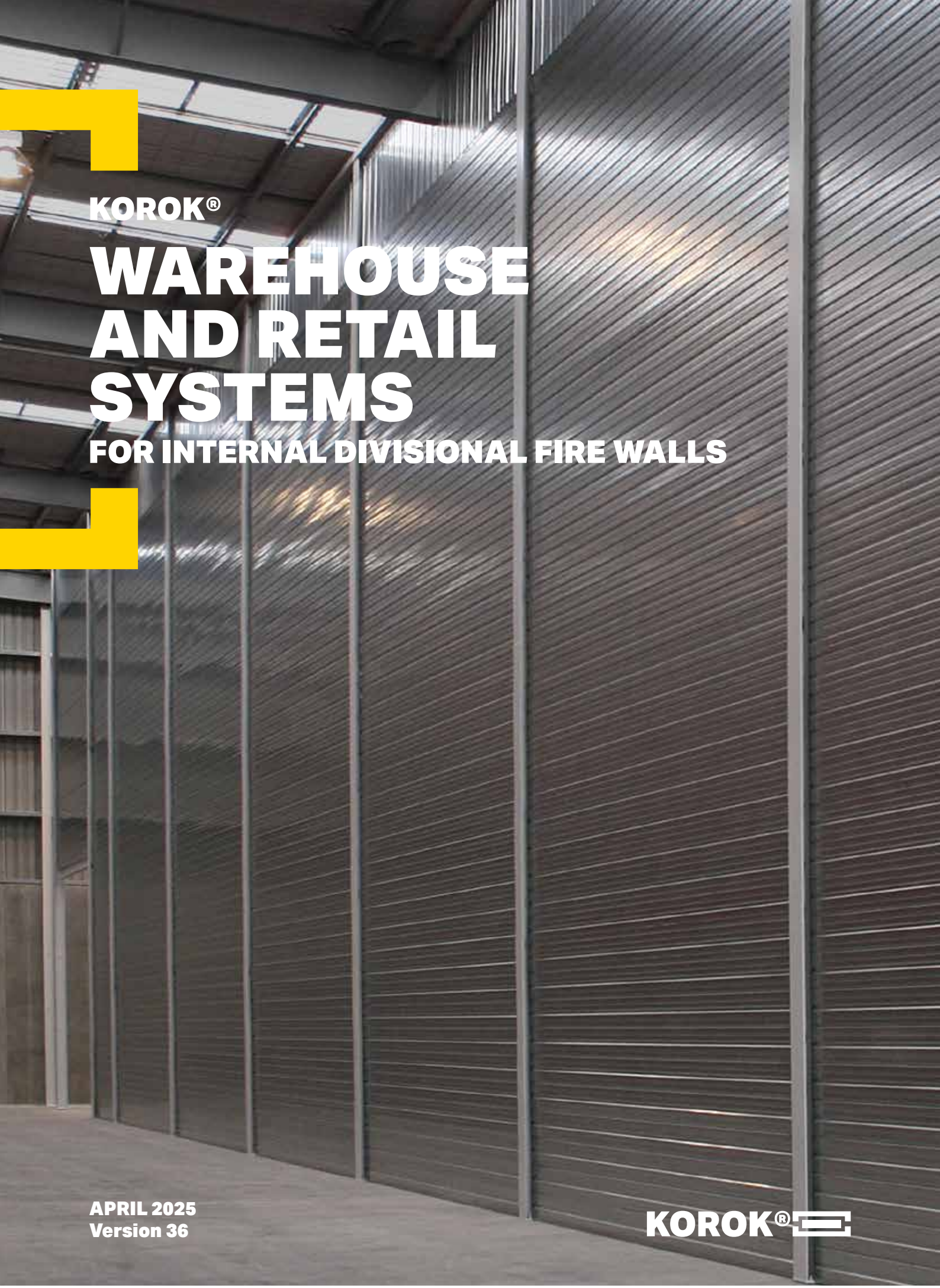


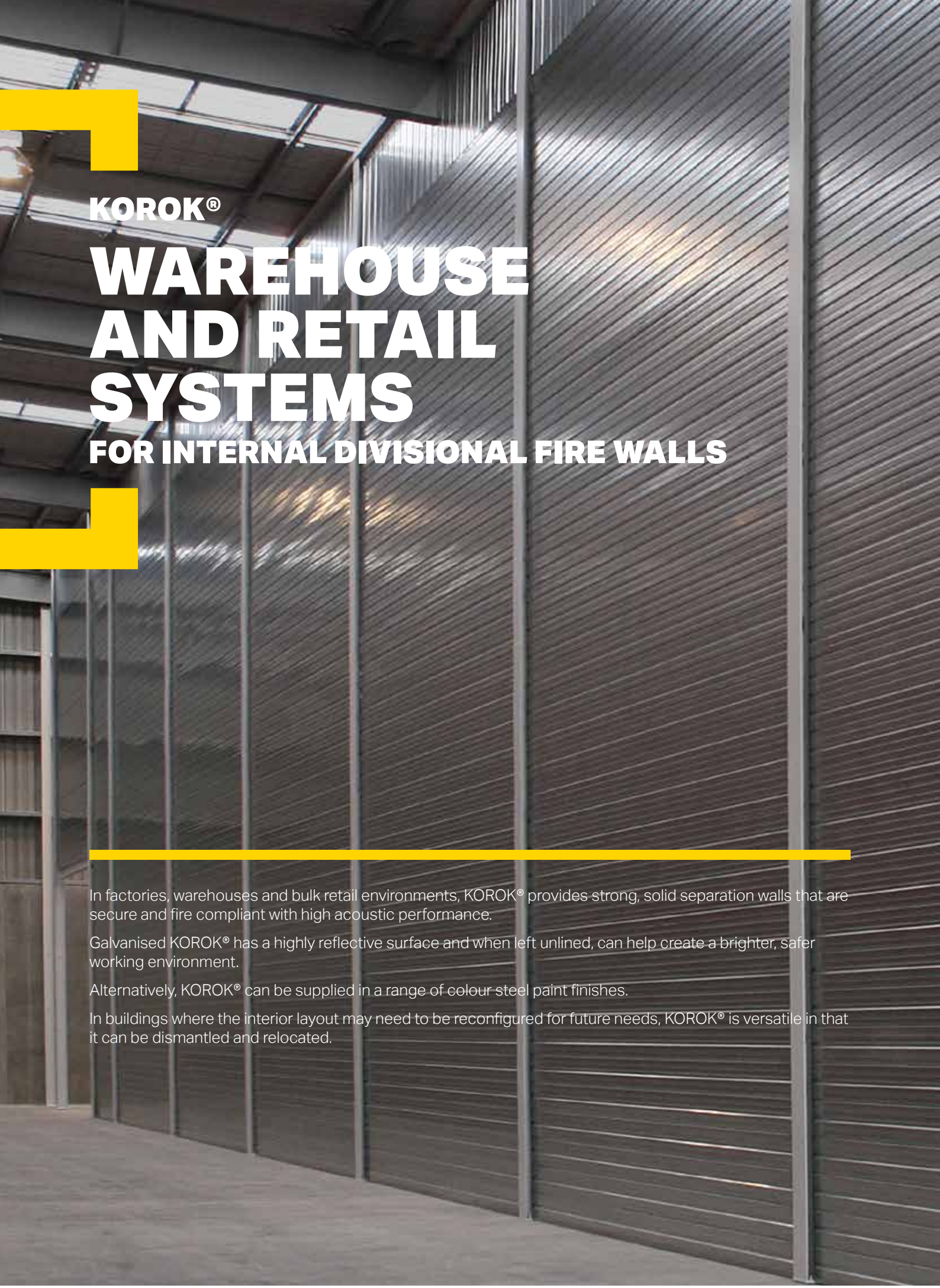
KOROK®

WAREHOUSE AND RETAIL SYSTEMS

FOR INTERNAL DIVISIONAL FIRE WALLS

APRIL 2025
Version 36

KOROK®



KOROK®

WAREHOUSE AND RETAIL SYSTEMS

FOR INTERNAL DIVISIONAL FIRE WALLS

In factories, warehouses and bulk retail environments, KOROK® provides strong, solid separation walls that are secure and fire compliant with high acoustic performance.

Galvanised KOROK® has a highly reflective surface and when left unlined, can help create a brighter, safer working environment.

Alternatively, KOROK® can be supplied in a range of colour steel paint finishes.

In buildings where the interior layout may need to be reconfigured for future needs, KOROK® is versatile in that it can be dismantled and relocated.

This manual has been developed using recognised Australian and New Zealand standards together with sound engineering principles substantiated through BRANZ.

This manual in no way supersedes the requirements of any Statutory Authority or New Zealand Building Code but is rather a guide to the performance of KOROK® under certain loading conditions.

The manual provides builders, engineers, designers and architects with a user-friendly format for installing and designing KOROK® for non-load bearing applications.

In brief, KOROK® has:

- Fire rated systems ranging from 30 minutes to 240 minutes.
- Acoustic systems ranging from STC 36 to STC 76.
- Panel dimensions of 250 mm wide, in lengths up to 9.3 metres.
- Panels that weigh (nominally) 10.2kg per lineal metre.
- Panels available in galvanised or colour steel.

Typical Applications are:

- Dividing and boundary walls for sheds, factories and warehouses.
- Cinema walls.
- Intertenancy walls for apartments, terraced housing, hotels and retirement complexes.
- Lift shaft and duct walls.
- Acoustic barriers.

Due to its unique composition, KOROK® provides exceptional fire resistance over a long period of time.

However, to achieve the stated fire resistance ratings, it is critically important to adhere strictly to the design, installation and construction details otherwise the fire resistance rating may be degraded.

KOROK® panels have been tested and appraised by the Building Research Association of New Zealand (BRANZ). In some cases, a fire resistance rating has been based on an appraisal from the same organisation.

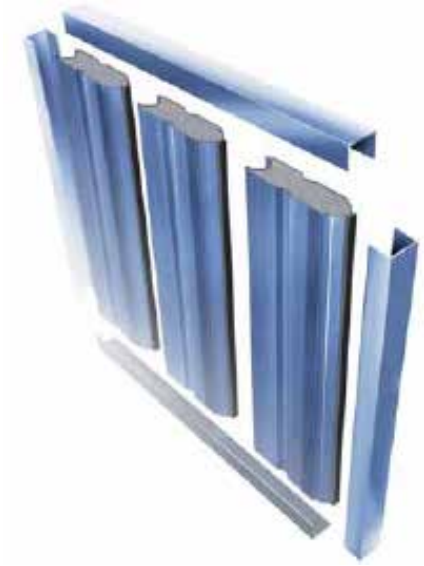
Where specific acoustic control performance is required, KOROK® can provide a number of proven, acoustic-rated wall systems, or can assist in developing a fully customised solution.

CONTENTS

INTRODUCTION

SUPERIOR FIRE AND ACOUSTIC PERFORMANCE WITH CLIP-TOGETHER SIMPLICITY

- BRANZ appraised.
- Roll formed galvanised steel or colour steel outer shell.
- Lightweight with aerated concrete core.
- Fire ratings up to –/240/240.
- Acoustic ratings up to STC 76.
- Panels interlock with clip-together simplicity for rapid installation.
- Can be dismantled and reassembled to accommodate changing requirements.
- Can be installed horizontally or vertically.



When acoustic and fire regulations demand a high performance, no-risk solution, KOROK® will exceed New Zealand Building Code requirements for internal and external non-load bearing walls simply and cost effectively.

Exceptionally strong yet lightweight, the interlocking panels can be easily erected by a small crew, making KOROK® much faster to install than conventional wall systems.

Construction using KOROK® also allows a building to be made weather resistant much earlier in the construction cycle allowing internal work and finishing to be started sooner.

ACOUSTIC PERFORMANCE

KOROK®'s inherent mass and interlocking design gives it outstanding acoustic reduction properties making it highly suitable in buildings where acoustic performance is critical, such as cinemas, lecture theatres, apartments, recording studios and industrial/commercial intertenancy situations.

The unique interlocking design eliminates the risk of sound "leaks" between panels, and makes installation much faster and more simple than traditional systems.

FIRE PERFORMANCE

KOROK® delivers proven two-way fire resistance over a long period of time. KOROK® has been tested and appraised by the Building Research Association of New Zealand (BRANZ).

100% REUSABLE, MINIMUM WASTE

KOROK® is manufactured in New Zealand and offers unique benefits in terms of sustainability and environmental performance:

Walls can be reused by simply dismantling the panels and reinstalling them in another location.

The raw components (steel and concrete) are 100% recyclable.

Panels are custom manufactured to size, minimising waste at the factory and on the construction site.

DECLARE - KOROK® has Declare Certification for our panels, the most accessed sustainability certification in the building industry https://declare.living-future.org/products/korok-panel. See page 43.

INTRODUCTION

USE ONLY THE CURRENT SPECIFICATION

This publication may be superseded by a new publication. KOROK® Building Systems NZ Ltd accepts no liability for reliance upon publications that have been superseded. If you are unsure whether this is the current publication, visit www.korok.com or call 0800 773 777.

This may be freely copied (in full) or reproduced (in full) and is available by contacting us at KOROK® on 0800 773 777 or info@korok.com, or from www.korok.com

BEWARE OF SUBSTITUTIONS

All KOROK® systems have been designed and tested to ensure they are suitable for New Zealand conditions and provide specific resistance to fire and acoustic transmission.

As such, only tested KOROK® panels and components can be used in the construction of each KOROK® system, ensuring that the finished wall will meet its performance specification.

KOROK® is unable to support system performance where substitute products are used as they have not been tested by us as part of our systems and we cannot be responsible for the ongoing quality and performance of these products.

PURPOSE

KOROK® provide warehouse systems that physically separate spaces, providing secure divisional walls and intertenancy sound and fire transmission resistance.

SCOPE OF USE

New Zealand Building Code (NZBC) compliance

The NZBC sets out both the legal minimum sound transmission between tenancies (Clause G6) and minimum levels of fire resistance (Clauses C3 and C6). The KOROK® Warehouse Systems Manual provides guidance on the specification and construction of systems that will both meet and exceed those minimum levels. However, designers must consider the comfort of occupants when selecting a system that will satisfy the occupants' expectations when using the space rather than the minimum required by law.

NZBC Clause B1 – Structure

The KOROK® Systems meet the requirements for loads arising from self-weight, earthquake, wind, impact and creep and shrinkage.

NZBC Clause B2 – Durability

Under normal conditions of dry internal use KOROK® Warehouse Systems have a serviceable life in excess of 50 years and satisfy the requirements of NZBC Clause B2 – Durability.

NZBC Clauses C3 - Fire affecting areas beyond the source

KOROK® Warehouse Systems can be used to provide passive fire protection in accordance with the requirements of NZBC Clause 3 – Spread of fire

NZBC Clause C6 - Structural Stability

Compliance with (NZBC) Clause C6 'Structural Stability'.

In order to satisfy the requirements of the New Zealand Building Code (clause 6) relating to "structural stability" designers must ensure that KOROK® elements are supported by primary elements that have at least the same fire rating as the KOROK® system that is used.

Where the primary elements supporting the KOROK® system are outside the fire cell, there is no requirement to apply the same FRR as the KOROK® system. Notwithstanding, post fire stability requirements of the NZBC must also be satisfied.

NZBC Clause G6 – Airborne and Impact Sound

KOROK® Warehouse Systems, both meet and exceed the minimum requirements outlined in NZBC Clause G6. Consideration must be given to both the minimum requirements and the comfort of occupants.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

Contact your KOROK® representative on 0800 773 777 for a solution specific to your project.

INTRODUCTION

TRANSPORT

Generally the lengths of KOROK® are delivered to site by long trailers and articulated trucks. Therefore access to and on building sites must be adequate to accommodate these types of vehicles.

Off loading and site storage or cranage onto site is the responsibility of the client and suitable arrangements must be made prior to delivery.

KOROK® products are packed and protected against damage during delivery but care must be exercised during unloading.

Lengths must be adequately supported during unloading and where packs are broken and panels lifted by hand, care must be taken not to slide or drag the panel and scrape the finished surfaces of the product.

HANDLING AND STORAGE

KOROK® panels must be stored under clean, dry and ventilated conditions.

Where it is necessary for KOROK® panels to be stored on-site they must be placed away from the building operations, if possible, in the order in which they will be fixed.

Storage must provide a firm and dry base, protected from the weather, accidental damage and moisture.

The panels must be stored on bearers no more than 2000mm apart. Stack heights are limited to 8 pallets.

Adequate cover must be provided and water must not lie on or between the panel surfaces, which will cause staining and degradation of the surface coatings.

If pallets become wet the KOROK® panels must without delay be separated, wiped with a clean cloth and stacked so that the circulation of air will complete the drying process.

ON SITE HANDLING AND STORAGE

Handle KOROK® panels carefully prior to installation. Avoid knocks, bumps and scratches, which may lead to maintenance issues later.

Store KOROK® panels on site flat or in their pallets and ensure that KOROK® panels are dry prior to installation.

CLEANING

At the completion of the job and at the finish of each day's work, it is essential that the completed area be thoroughly cleaned of all swarf, rivet stems, nails drillings and screws, etc. normally associated with the installation of metal panels.

STRIPPABLE FILM

KOROK® panels may be coated with a plastic film to provide protection during handling and transportation. This film has a very short life when exposed to exterior conditions and must be removed immediately after installation.

It must not be left lying in the sun or at the site for more than a few hours. Failure to remove the film will lead to difficulties later with its removal.

CUTTING OF KOROK® PANELS

Its recommended that KOROK® panels are cut using a Hilti DCH300 Electric Concrete Cutter with dust removal system. Hot swarf must not be allowed to contact pre-painted or galvanized sheet material. Any grinding, welding or drillings carried out above the wall level must be done with the panels appropriately covered to avoid swarf contact.

Failure to do so will result in unsightly staining of the surface as the metal particles rust or oxidise.

INSTALLATION

Specific design advice must be sought where KOROK® is to be subject to point loads or other distributed loading other than wind.

Ensure connections between KOROK® panels are properly made.

Ensure connections of KOROK® panels to the structure are adequate.

STRUCTURAL

MAXIMUM PERMISSIBLE HEIGHT

The total height of the KOROK® system is related to the surrounding environment and primary structure.

Span Tables are based on ambient conditions.

When used as part of a fire rated system, the maximum unsupported vertical span of the KOROK® 78 mm panel is 6.0 metres. The maximum unsupported horizontal span of the KOROK® 78 mm panel is 5.0 metres. Greater spans or walls where additional load carrying capacity is required are subject to specific engineering design and/or fire engineering assessment.

For horizontal panel unsupported spans over 5.0 m, for maximum wall heights please contact us at KOROK® on 0800 773 777.

FRAMING

Frames must be designed to meet the requirements of NZBC Part B and consider the loading imposed on them by the KOROK® wall.

PLASTERBOARD LININGS

All plasterboard linings must be fixed in accordance with the manufacturer's instructions.

DESIGN CONSIDERATIONS

FIRE

KOROK® Warehouse and Retail Systems provide a range of Fire Resistance Ratings (FRR) as outlined in the Summary Table.

USE OF SPAN TABLES

Span Tables are based on ambient conditions.

When used as part of a fire rated system, the maximum unsupported vertical span of the KOROK® 78 mm panel is 6.0 metres. The maximum unsupported horizontal span of the KOROK® 78 mm panel is 5.0 metres. Greater spans or walls where additional load carrying capacity is required are subject to specific engineering design and/or fire engineering assessment.

For horizontal panel unsupported spans over 5.0 m, for maximum wall heights please contact us at KOROK® on 0800 773 777.

Shelf loading requires specific engineering design.

Vertical Panel Tables have been generated to a maximum unsupported span of 8m height.

Horizontal Panel Tables have been generated based on a 14m high wall.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

Contact your KOROK® representative on 0800 773 777 for a solution specific to your project.

ACOUSTIC PERFORMANCE

The KOROK® Warehouse and Retail System has been independently tested to ensure compliance with the NZBC requirements for warehouse and retail construction.

DEFINITIONS

STC
Sound Transmission Class is derived from an ASTM standard test procedure which rates the airborne sound transmission loss through building elements such as walls and ceilings. dB loss is measured at a 1/3 octave range between 125Hz and 4000Hz.

FRR
Fire Resistance Rating is derived from a laboratory furnace test which gives a value in minutes for Structural adequacy, Integrity, and Insulation. Depending on design, all three may not be relevant to the building element.

KOROK® WAREHOUSE & RETAIL SYSTEMS SUMMARY TABLE

TABLE 1 - VERTICAL & HORIZONTAL INSTALLATION SYSTEMS

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY	PAGE
KWR1	36	-/120/60	78 mm	N/A	N/A	KOROK® 78 mm panels (400 Kg/m^3 density) with no linings attached	6
KWR2	36	-/120/120	78 mm	N/A	N/A	KOROK® 78 mm panels (400 Kg/m^3 density) with no linings attached KOROK® metal fire flashing is installed to one side of the top C-track. KOROK® KIT flashing is installed for any change in panel direction.	7
KWR3	42	-/180/180	104mm	N/A	N/A	KOROK® 78 mm panels (400 Kg/m^3 density) + 1 layer 13 mm GIB Fyreline® or equivalent each side	8
KWR3A	42	-/180/180	98mm	N/A	N/A	KOROK® 78 mm panels (400 Kg/m^3 density) + 2 layers 10 mm GIB Fyreline® or equivalent one side	9
KWR3B	42	-/180/180	97mm	N/A	N/A	KOROK® 78 mm panels (400 Kg/m^3 density) + 1 layer 19mm GIB Fyreline® or equivalent one side	10
KWR4	55	-/240/240	206mm	N/A	50mm between panels minimum	2 parallel walls made up of KOROK® 78 mm panels (400 Kg/m^3 density) with a 50mm cavity. No linings attached	11
KWR5	58	-/120/120	175mm	64mm Steel stud one side	20mm	KOROK® 78 mm panels (400 Kg/m^3 density) + 1 layer 13 mm GIB Noiseline® or equivalent one side	12
KWR6	59	-/120/120	188mm	64mm Steel stud one side	20mm	KOROK® 78 mm panels (400 Kg/m^3 density) + 1 layer 13 mm GIB Noiseline® or equivalent one side + 1 layer 13 mm GIB® Standard plasterboard or equivalent the other side	13

*Nominal thickness

When used as a fire rated system refer to KOROK® panel Properties section for maximum unsupported spans.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

KWR1 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR1	36	-/120/60	78 mm	N/A	N/A	KOROK® 78 mm panels with no linings attached

*Nominal thickness

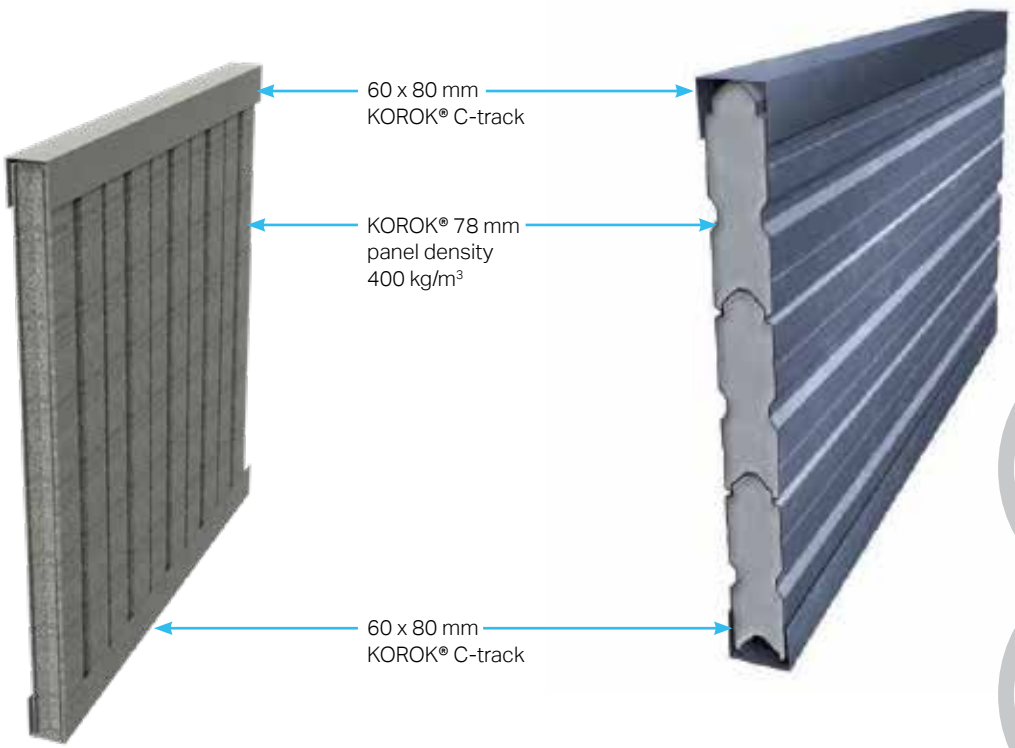
KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR1



STC 36

FRR -/120/60

KWR2 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR2	36	-/120/120	78 mm	N/A	N/A	KOROK® 78 mm panels with no linings attached. KOROK® fire flashings are fixed on one side of the top KOROK® C-track

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KOROK® FIRE FLASHING

Refer to page on page 21 for alternative head track protection details.

KWR2

STC 36

FRR -/120/120

KWR3 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR3	40	-/180/180	104 mm	N/A	N/A	KOROK® 78 mm panels +1 layer 13 mm GIB Fyreline® or equivalent each side

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

LINING

The 78 mm KOROK® is lined with 1 layer of 13 mm GIB Fyreline® or equivalent each side fixed directly to the KOROK® panels. Full height sheets must be used where possible and must be touch fitted. The sheet joints must be offset by 600mm on opposite sides of the wall; all sheets must be fixed hard to the floor.

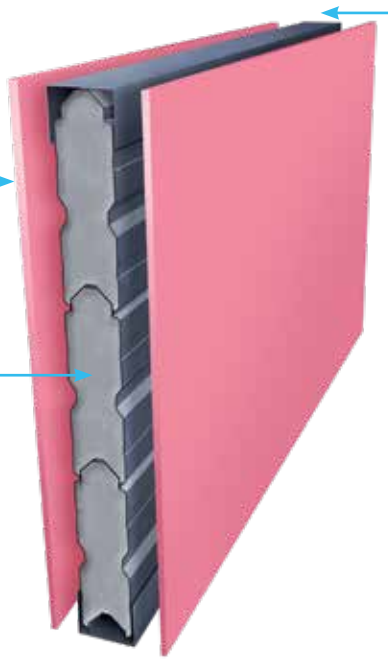
Adhesive fixing cannot replace mechanical fasteners.

All plasterboard linings must be fixed in accordance with the manufacturer's fixing instructions.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR3



STC 40

FRR -/180/180

KWR3A / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR3A	40	-/180/180	98mm	N/A	N/A	KOROK® 78 mm panels + 2 layers 10 mm GIB Fyreline® or equivalent one side

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm, thick located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. These are fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

LINING

The 78 mm KOROK® is lined with 2 layers of 10 mm GIB Fyreline® or equivalent direct-fixed on one side of the KOROK® panels. Full height sheets must be used where possible and must be touch fitted. The sheet joints must be offset by 600mm. All sheets must be fixed hard to the floor.

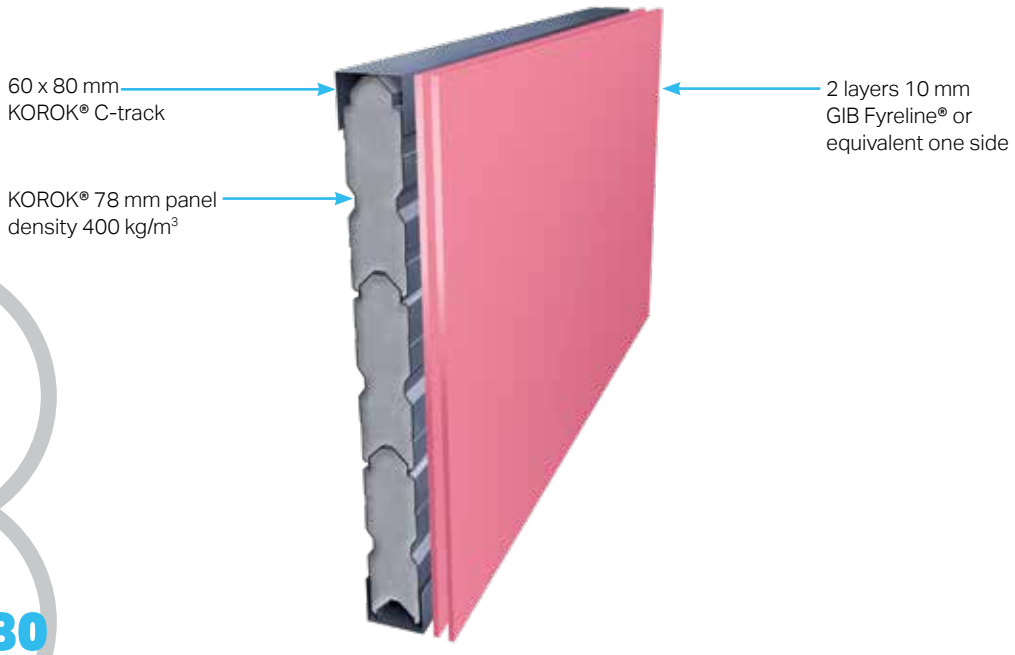
Adhesive fixing cannot replace mechanical fasteners.

All plasterboard linings must be fixed in accordance with the manufacturer's fixing instructions.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR3A



STC 40

FRR -/180/180

KWR3B / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR3B	42	-/180/180	97mm	N/A	N/A	KOROK® 78 mm panels +1 layer 19mm GIB Fyreline® or equivalent direct-fixed one side

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. These are fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

LINING

The 78 mm KOROK® is lined with 1 layer of 19mm GIB Fyreline® or equivalent direct-fixed on one side of the KOROK® panels. Full height sheets must be used where possible and must be touch fitted. All sheets must be fixed hard to the floor.

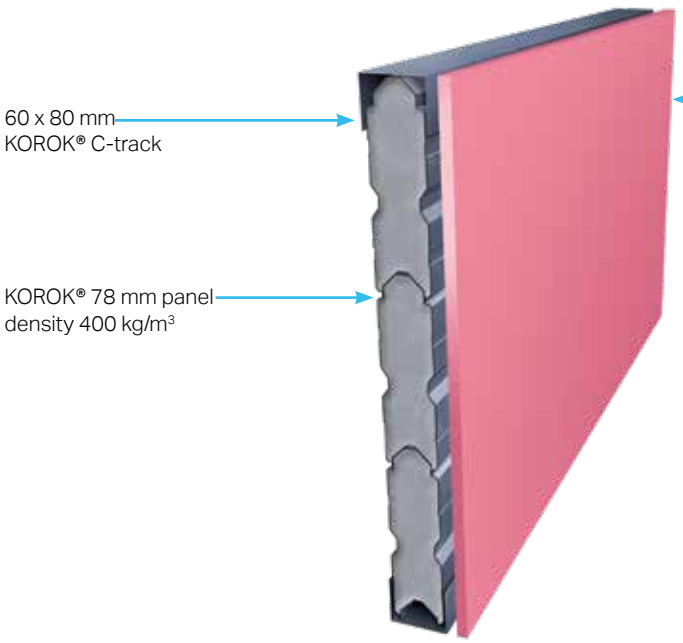
Adhesive fixing cannot replace mechanical fasteners.

All plasterboard linings must be fixed in accordance with the manufacturer's fixing instructions.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR3B



STC 42

FRR -/180/180

KWR4 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR4	55	-/240/240	206 mm	N/A	50 mm between panels minimum	2 parallel walls made up of KOROK® 78 mm panels with a 50 mm cavity. No linings.

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR4

STC 55

FRR -/240/240

KWR5 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR5	58	-/120/120	175 mm	64 mm Steel stud one side	20 mm	KOROK® 78 mm panels + 1 layer 13 mm GIB Noiseline® or equivalent one side

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

FRAMING

Frames are 64mm x 34mm x 0.55B.M.T. steel studs, friction fitted into C-Section tracks 64mm x 30mm x 0.55B.M.T.

Framing must be installed as per the manufacturer's instructions.

ACOUSTIC INSULATION

Acoustic insulation must be either or Pink Batts R 1.8 or equivalent.

LINING

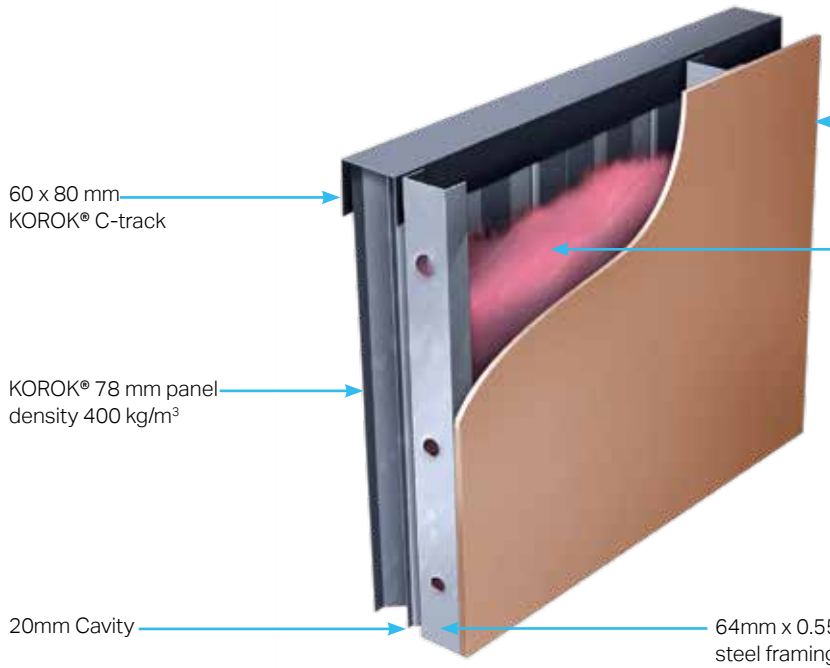
Frame is lined with 1 layer of 13 mm GIB Noiseline® or equivalent fixed vertically with joints over framing.

All plasterboard linings must be fixed in accordance with the manufacturer's fixing instructions.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

KWR5



STC 58

FRR -/120/120

KWR6 / 78 MM PANEL

SPEC. CODE	STC	FRR	WALL THICKNESS*	FRAME	CAVITY	SYSTEM SUMMARY
KWR6	59	-/120/120	188 mm	64 mm Steel stud one side	20 mm	KOROK® 78 mm panels + 1 layer 13 mm GIB Noiseline® or equivalent one side + 1 layer 13 mm GIB® Standard or equivalent other side

*Nominal thickness

KOROK® PANEL

KOROK® panels are 78 mm thick, located in KOROK® C-track 60mm high x 80 mm wide x 1.15B.M.T. C-track is fixed at a maximum of 400 mm centres bedded on a bead of fire-rated sealant.

FRAMING

Frames are 64mm x 34mm x 0.55B.M.T. steel studs, friction fitted into C-Section tracks 64mm x 30mm x 0.55B.M.T.

Framing must be installed as per the manufacturer's instructions.

ACOUSTIC INSULATION

Acoustic insulation must be either Greenstuf Sound Solution® Plus 75 or Pink Batts R 1.8 or equivalent.

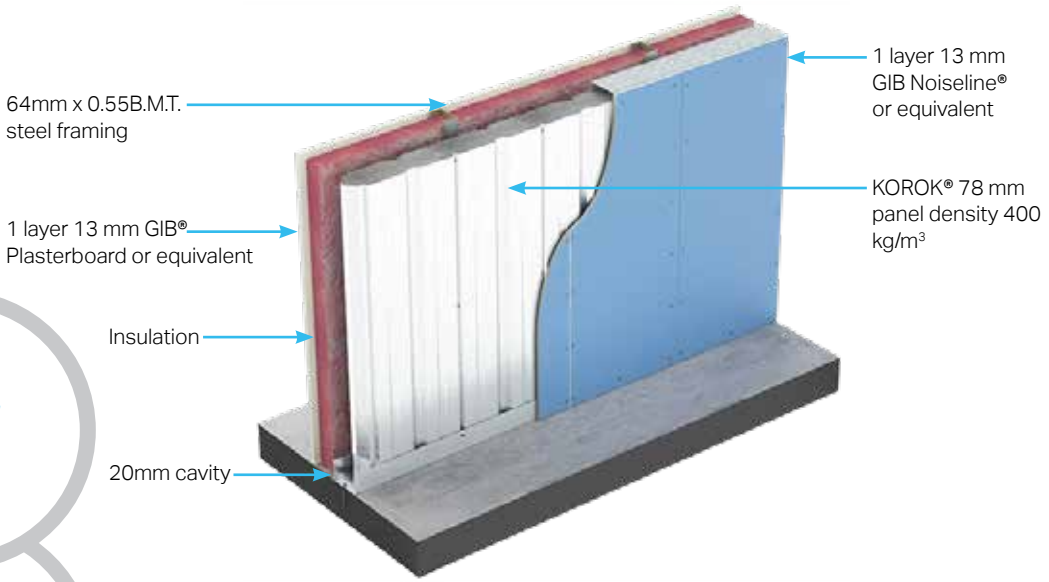
LINING

Frame is lined with 1 layer of 13 mm GIB® Standard or equivalent on one side and one layer of 13 mm GIB Noiseline® or equivalent on the other, fixed vertically with joints over framing one side and direct fixed the other. All plasterboard linings must be fixed in accordance with the manufacturer's fixing instructions.

SEALANT

Beads of fire rated sealant are required around the perimeter of the KOROK® system. Refer to the installation section of this publication for more information on sealant application, and to the KOROK® Components Summary for approved sealants.

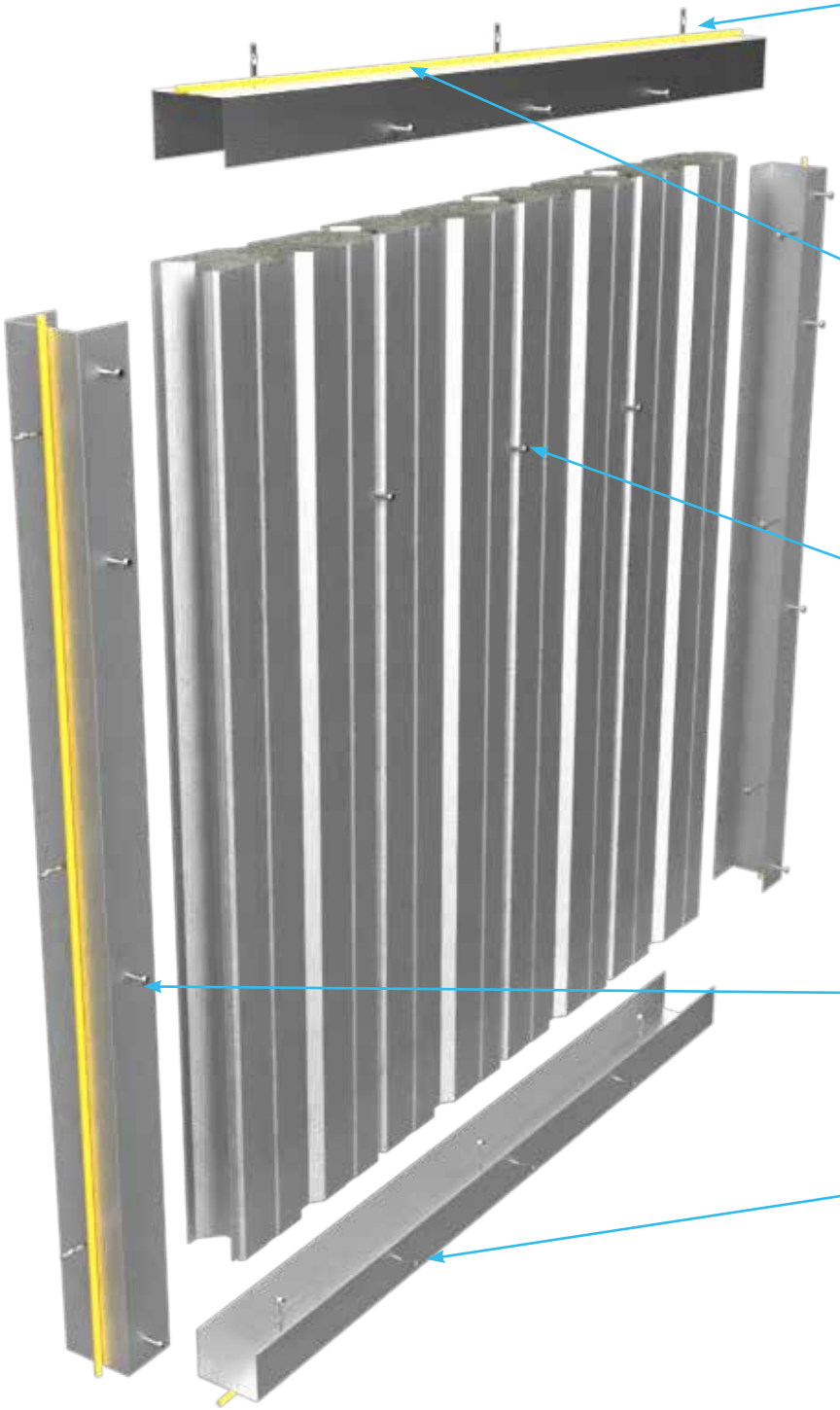
KWR6



STC 59

FRR -/120/120

VERTICAL INSTALLATION



C-track or Angle sections are fixed to structural elements (steelwork) at 400 mm centres with Hilti X-ENP-19 L15 fasteners

When fixing C-track or Angle sections to concrete, use 6.5 x 32 Rawl Mushroom spikes or Hilti DBZ 6/4.5 x 32 mm at 400 mm centres

The C-track or Angle section must have a continuous bead of fire rated sealant between the track and the structure to which it is fixed

Panels are fixed together with KOROK® PS Wafer 10-16x16 screws. For centres see Step 12

Corner joints must be sealed with fire rated sealant (see component summary for specifics)

KOROK® panels are fixed to the C-track with KOROK® PS Wafer 10-16x16 screws one side (400 mm centres)

KOROK® panels are fixed to the top and bottom C-track with KOROK® PS Wafer 10-16x16 screws at 250 mm centres one side

VERTICAL INSTALLATION

1 Vertical installation of the KOROK® panels requires the C-track to be fixed to the supporting structure, e.g. walls, columns, portals, soffits and slabs.

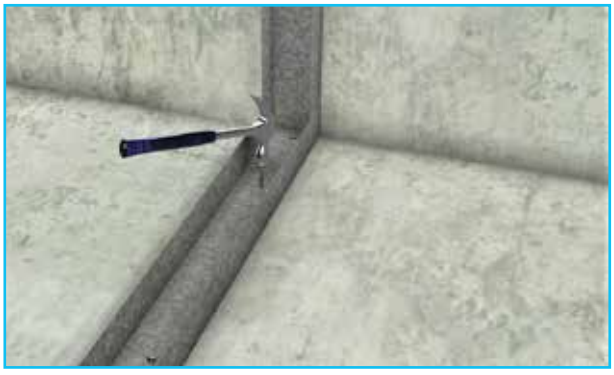
Plan your setout.

2 To ensure the C-track is sealed to the structure, a continuous bead of fire rated sealant is run around the perimeter before the C-track or Angle sections are laid and fixed.

Or the sealant can be applied directly to the C-track before fixing in place.

3 Using a masonry drill bit, pre-drill the C-track at 400 mm centres.

4 Then use the fixings to secure the C-track.



VERTICAL INSTALLATION

5 If the surrounding surface is uneven or if you're not sure you have a good seal, add a continuous bead of sealant around the perimeter of the C-track where it contacts the surrounding surface.

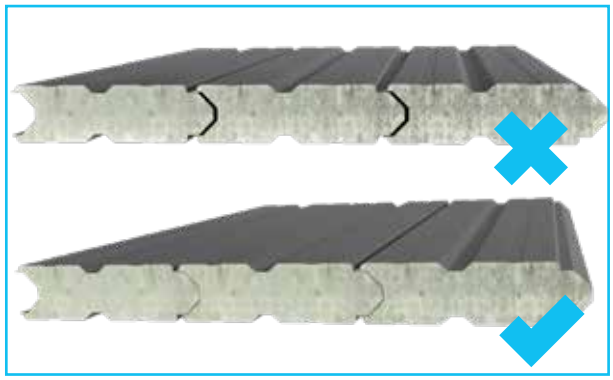
6 KOROK® panels must be cut 20 mm shorter than the structural opening measurement to allow for fitting.

Where panels are supplied with protective film, pull back 300mm of the film at each end of the panels before placing the panels in the C-track.

Ensure that the first panel is plumbed vertical after fitting into the C-track. Screw fix the panel into place to the C-track.

Subsequent panels are placed in a tilt and snap action.

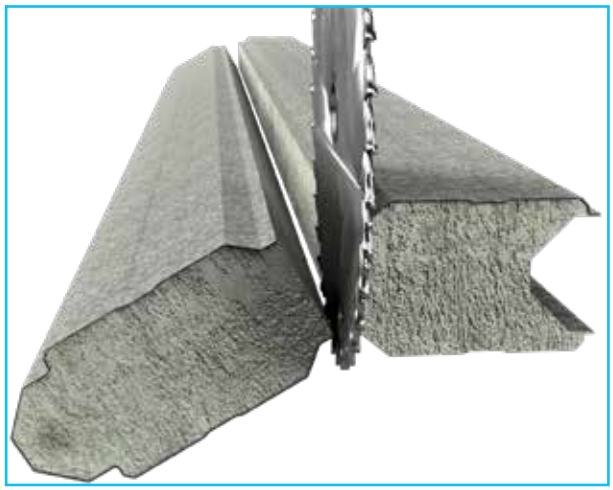
7 Ensure the tongue and groove are fully locked to maintain the fire and acoustic performance. Remove strippable film at the end of each day's work.



CUTTING PANELS

8 KOROK® panels can be cut to length and width using a radial saw with dust extraction. Diamond cutting discs are recommended for radial saws.

Where KOROK® panels are trimmed to width, the cut edge of the panel is fitted into the C-track and so is always the last panel abutting the floor or soffit. The panel is then sealed and fixed in position as usual.



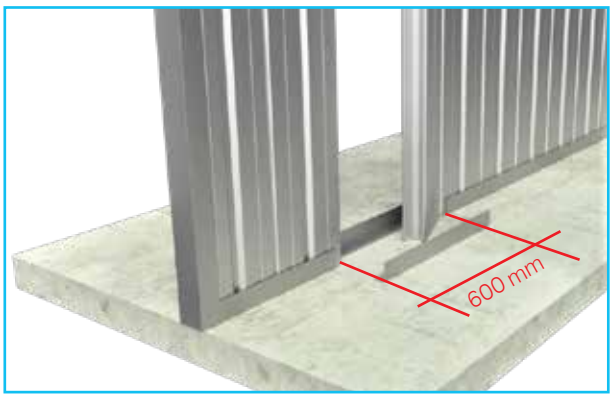
VERTICAL INSTALLATION

LAST PANEL

9 Stop short of the end vertical KOROK® C-track by approximately 1 metre and cut out a 600mm Angle section from the top and bottom C-track.

Plan ahead and make an allowance for a 50mm overlap onto the panels installed prior to the last remaining two panels.

10 Cut your end panel (the last panel) ensuring that a distance of 500 mm remains between panels for the last two panels to be squeezed into position.



11 Once the final two panels are in position, simply replace the Angle and fix to panels. Screw the C-track and Angle sections to the panels in the normal fashion.

11A When using 51mm KOROK® panels seal the 3 close-off panel joints with fire rated sealant to one side.

VERTICAL INSTALLATION

SCREW PLACEMENT

12 Panels must be screwed together into every panel joint as per the vertical centres in Table 2.

TABLE 2 - SCREW PLACEMENT VERTICAL INSTALLATION

PANEL THICKNESS	WALL HEIGHT	MAXIMUM CENTRES	SIDES	PLACEMENTS/NOTES
78 mm	0 to 9.0 m	1000 mm	One	

When used as part of a fire rated system refer to KOROK® panel properties section (Page 37) for maximum unsupported spans.

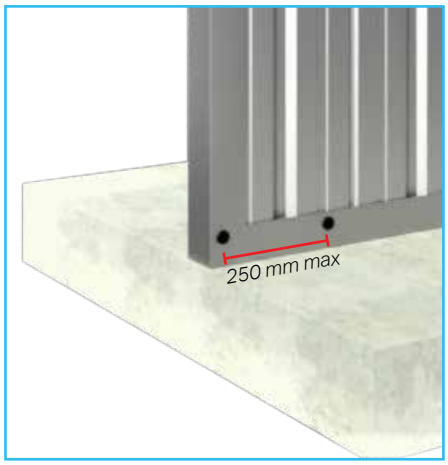
C-TRACK

C-track is fixed to the KOROK® panels at 400 mm centres one side on the vertical C-track, and 250 mm centres one side on the horizontal C-track. At corners where two lengths of KOROK® C-track intersect, the two pieces must be fixed to each other with 1 KOROK® PS Wafer 10-16x16 screw.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

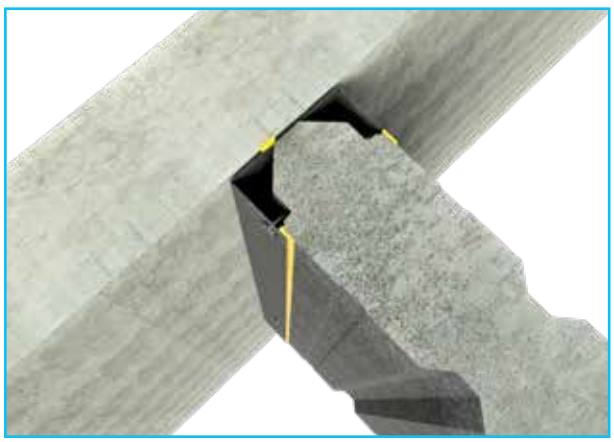


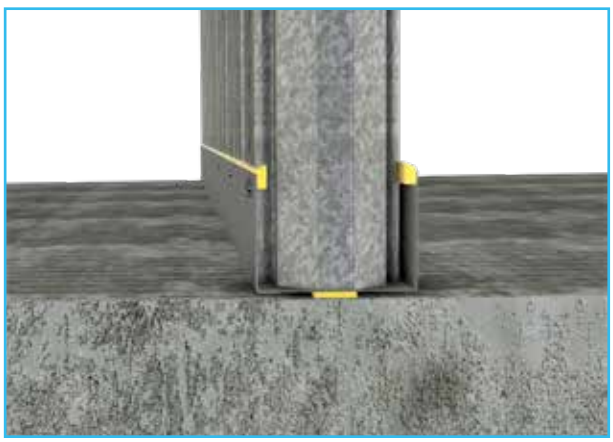
VERTICAL INSTALLATION

SEALANT PLACEMENT

13 Remove any remaining plastic film and then apply a continuous bead of fire rated sealant between the KOROK® C-track and the KOROK® panels as indicated by the yellow line.

14 Fire rated sealant details for top and sides.





VERTICAL INSTALLATION

15 Using Angle as an alternative to C-track.

FINAL CHECK

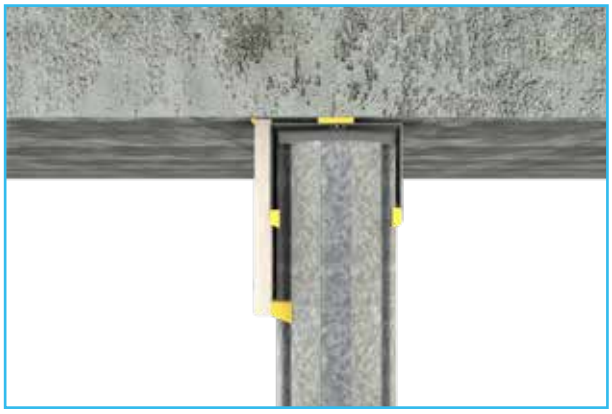
At the completion of the job and at the finish of each day's work, it is essential that the completed area be thoroughly cleaned of all swarf, rivet stems, nails, drillings and screws etc. normally associated with the installation of metal KOROK® panels. Remove any remaining strippable film, check all fixings are correctly installed, all fire and acoustic sealant is applied correctly.

VERTICAL INSTALLATION

HEAD TRACK PROTECTION

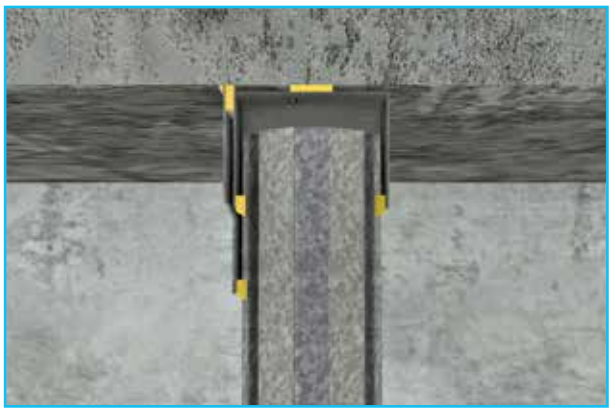
13 mm GIB Fyreline® PROTECTED HEAD TRACK

13 mm GIB Fyreline® or x 120 mm strip with sealant is fixed at 250 mm centres top and bottom, using 6g x 32 mm drywall screws.



METAL FLASHING PROTECTED HEAD TRACK

KOROK® fire flashing is fixed to the panels at 250 mm centres, using KOROK® PS Wafer 10-16x16 screws.

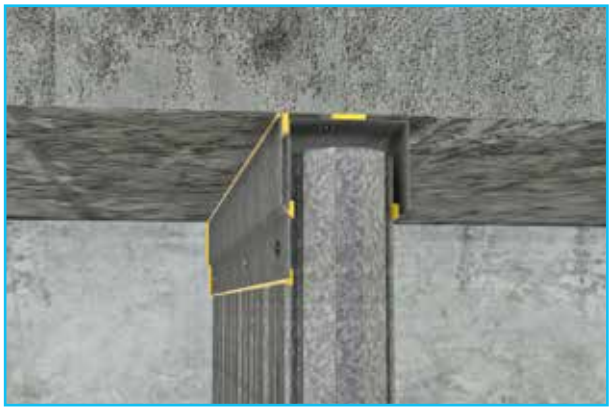


DEFLECTION C-TRACK DETAILS

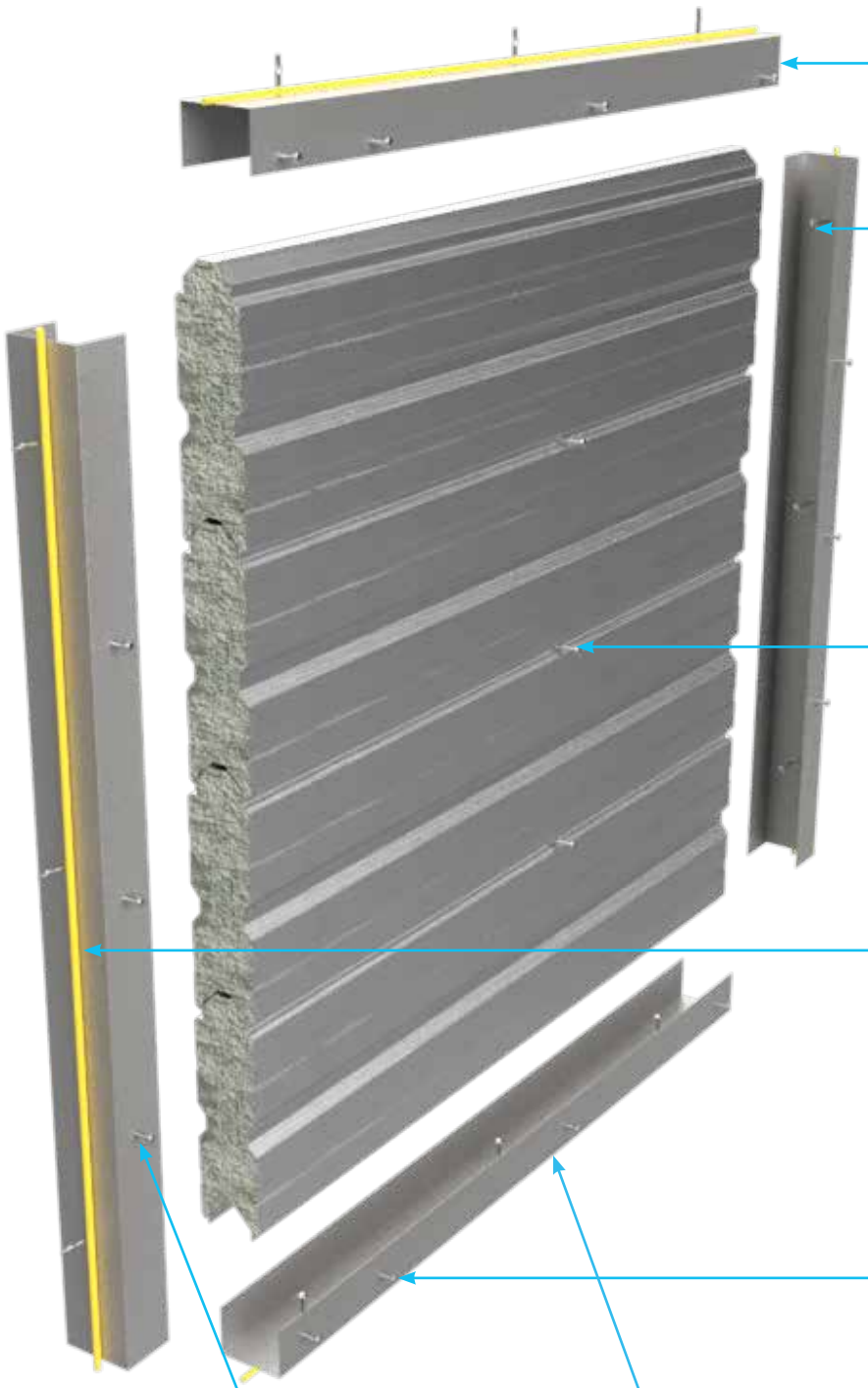
Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

Contact your KOROK® representative on 0800 773 777 for a solution specific to your project.



HORIZONTAL INSTALLATION



C-track or Angle sections are fixed to structural elements (steelwork) at 400 mm centres with Hilti X-ENP-19 L15 fasteners

When fixing C-track or Angle sections to concrete, use 6.5 x 32 Rawl Mushroom spikes or Hilti DBZ 6/4.5 x 32 mm at 400 mm centres

KOROK® panels are fixed together with KOROK® PS Wafer 10-16x16 into panel joints at 1000 mm centres maximum horizontally and at 250 mm centres vertically, one side

The C-track or Angle section must have a continuous bead of fire rated sealant between the track and the structure to which it is fixed

Corner joints must be sealed with fire rated sealant

KOROK® panels are fixed to the top and bottom C-track with KOROK® PS Wafer 10-16x16 at 400 mm centres one side

KOROK® panels are fixed to the C-track with KOROK® PS Wafer 10-16x30 into the panel joints at 250 mm centres both sides

Bottom C-track. See Step 6 for preparation for first panel

HORIZONTAL INSTALLATION

1 Horizontal Installation of the KOROK® panels requires the C-track to be fixed to the supporting structure, e.g. walls, columns, portals etc.

Plan your setout.

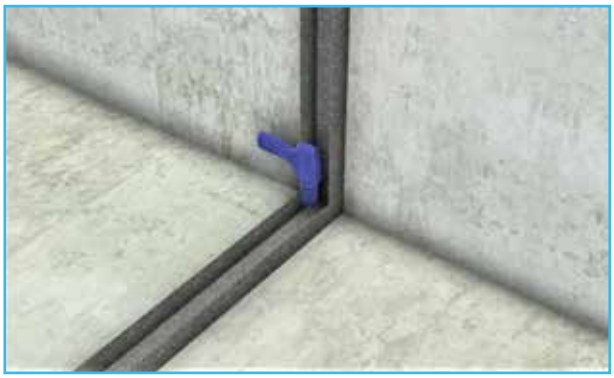
The top of the last vertical C-track must be cropped as per Step 10 prior to installation, to allow the top and last horizontal panel to be installed.

2 To ensure the C-track is sealed to the structure, a continuous bead of fire rated sealant is run around the perimeter before the C-track or Angle sections are laid and fixed.

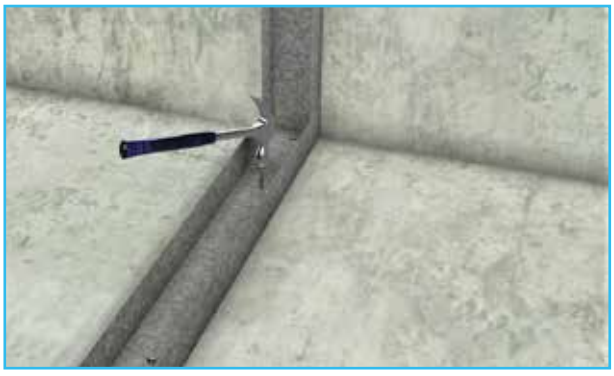
Or the sealant can be applied directly to the C-track before fixing in place.

The soffit track will generally be two Angles. See Last Panel details starting at Step 10.

3 Using a masonry drill bit, pre-drill the C-track at 400 mm centres.



4 Then use the fixings to secure the C-track.



HORIZONTAL INSTALLATION

5 If the surrounding surface is uneven or if you're not sure you have a good seal, add a continuous bead of sealant around the perimeter of the C-track where it contacts the surrounding surface.

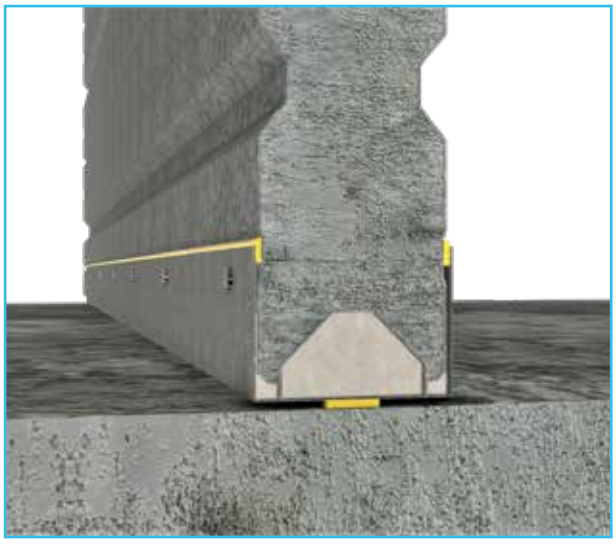
6 For horizontal installs where the wall width is greater than 5.0m OR where the load is transferred to the ground (e.g. 4-sided plant room), grout or a panel nose must be used in the bottom C-track.

6.1 Grout is poured into the bottom C-track just prior to the installation of the KOROK® panels. This forms a bearing surface for the female end of the panel.

The cementitious grout must be non-shrink high performance (SikaGrout®-212 or equivalent).

Fill the C-track to a depth of 25-30 mm. Any overflow when the panel is placed in the C-track must be wiped off immediately.

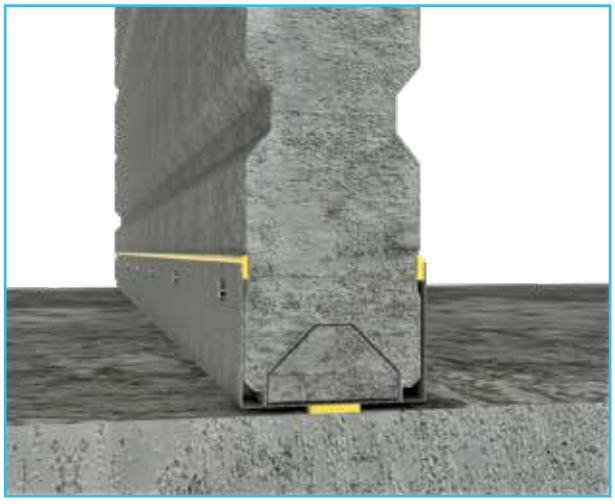
ENSURE THE FIRST PANEL IS LEVEL AFTER FITTING INTO THE TRACK AND GROUT AND FIX OFF.



OR

6.2 Alternatively the male nose of the top panel can be cut off and placed in the female end of the bottom panel to provide the same support.

ENSURE THE FIRST PANEL IS LEVEL AFTER FITTING INTO THE TRACK AND FIX OFF.



HORIZONTAL INSTALLATION

7 KOROK® panels must be cut 30 mm shorter than the structural opening measurement to allow for fitting.

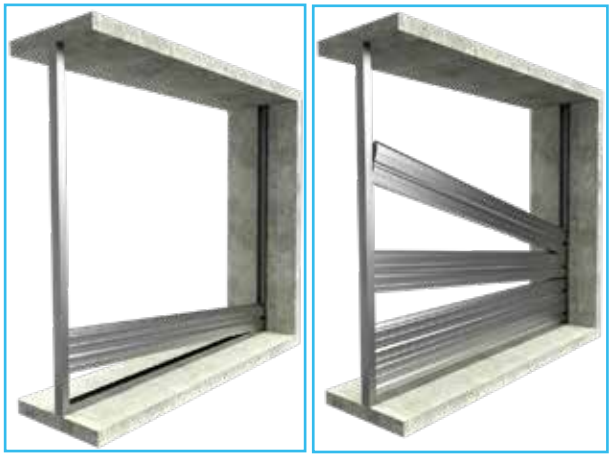
Where panels are supplied with protective film, pull back 300mm of the film at each end of the panels before placing the panels in the C-track.

Ensure that the first panel is level after fitting into the C-track. Screw fix the first panel into place to the C-track.

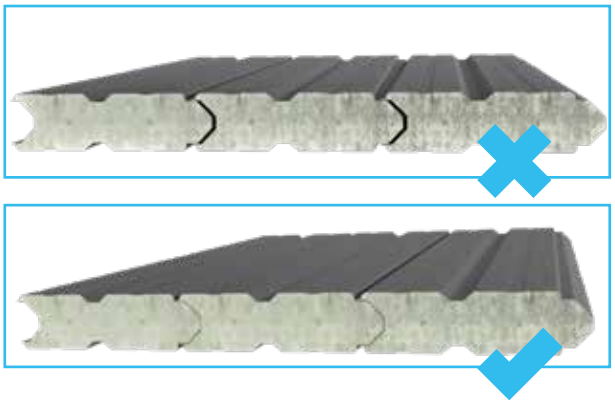
Before fitting the next panel, each horizontal KOROK® panel is to be fixed to the vertical C-track with KOROK® PS Wafer 10-16x30 screws at 250mm centres at the panel joints on both sides.

This is to avoid loading of the panel below.

Panels are placed in a tilt and snap action.



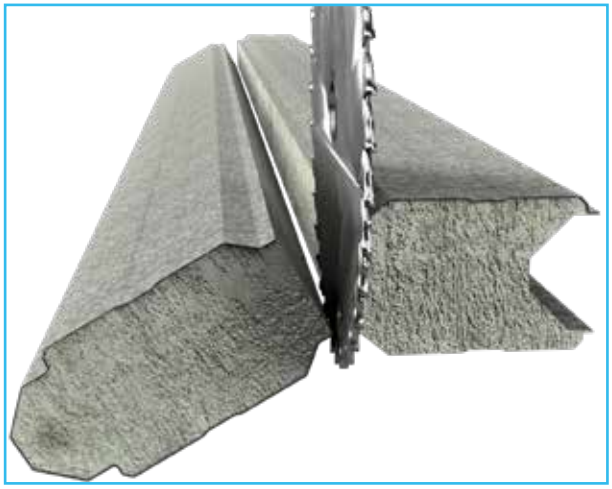
8 Ensure the panels are clicked together correctly to maintain the fire and acoustic performance. Remove strippable film at the end of each day's work.



CUTTING PANELS

9 KOROK® panels can be cut to length and width using a radial saw with dust extraction. Diamond cutting discs are recommended for radial saws.

Where KOROK® panels are trimmed to width, the cut edge of the panel is fitted into the C-track and so is always the last panel abutting the floor or soffit. The panel is then sealed and fixed in position as usual.



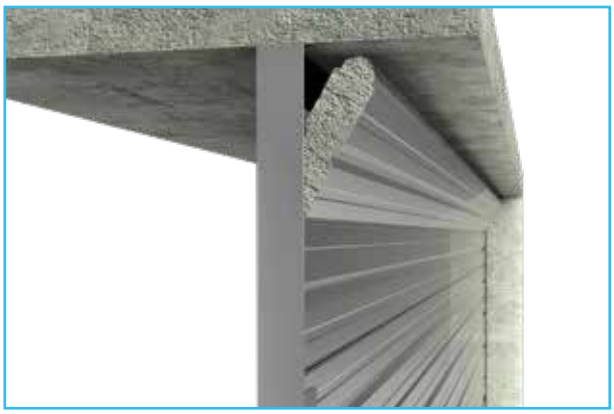
HORIZONTAL INSTALLATION

LAST PANEL

10 To get the last horizontal panel in, cut out a 300 mm angle section from each of the side C-tracks. Keep these two 300 mm angle sections for use in Step 12.

11 Keep placing the panels and fixing them to the panel below.

12 Once the last panel is in position, fix the pieces of C-track that were removed in Step 10, back in place. Fire-rated sealant is then applied.



13 Angle is then fixed to the soffit at 400 mm centres, then fixed to the panel at 400 mm centres.

Fire rated sealant is applied.

HORIZONTAL INSTALLATION

SCREW PLACEMENT

14 Panels are screwed together into every panel joint at the horizontal centres shown in Table 3 below.

TABLE 3 - SCREW PLACEMENT HORIZONTAL INSTALLATION

PANEL THICKNESS	FRR	WALL HEIGHT	PANEL SPAN	MAXIMUM CENTRES	SIDES
51 mm	-/60/60	0 to unlimited	0 to 4.0 m	1000 mm	One
78 mm	-/60/60	0 to unlimited	0 to 5.5 m	1000 mm	One
78 mm	-/120/120	0 to unlimited	0 to 5.0 m	1000 mm	One

C-TRACK

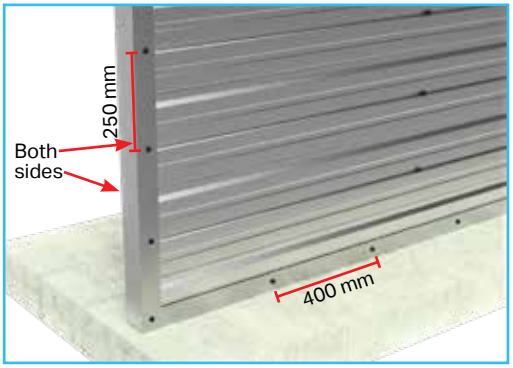
C-track is fixed to the KOROK® panels with KOROK® PS Wafer 10-16x30 screws at 250 mm centres into the panel joints on both sides of the vertical C-track, and with KOROK® PS Wafer 10-16x16 screws at 400 mm centres one side on the horizontal C-track.

At corners where two lengths of KOROK® C-track intersect, the two pieces must be fixed to each other with at least 1 KOROK® PS Wafer 10-16x16 screw.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

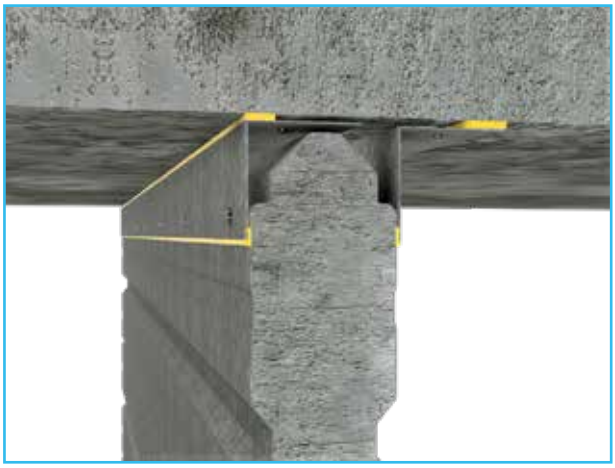
KOROK® can provide deflection C-track details where deflection loadings are considered.

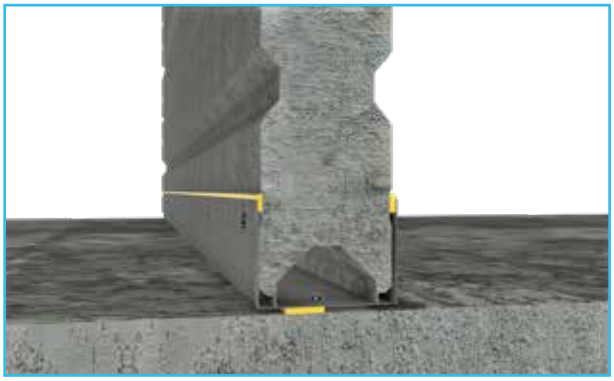


HORIZONTAL INSTALLATION

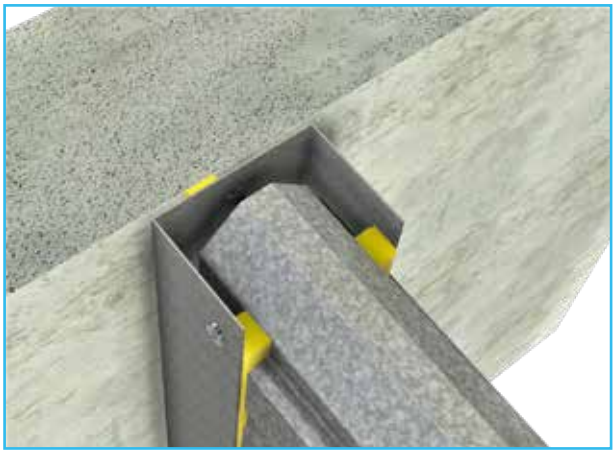
SEALANT PLACEMENT

15 Remove any plastic film and then apply a continuous bead of fire rated sealant between the KOROK® C-track and the KOROK® panels.





16 Fire rated sealant details for top, bottom and sides.



FINAL CHECK

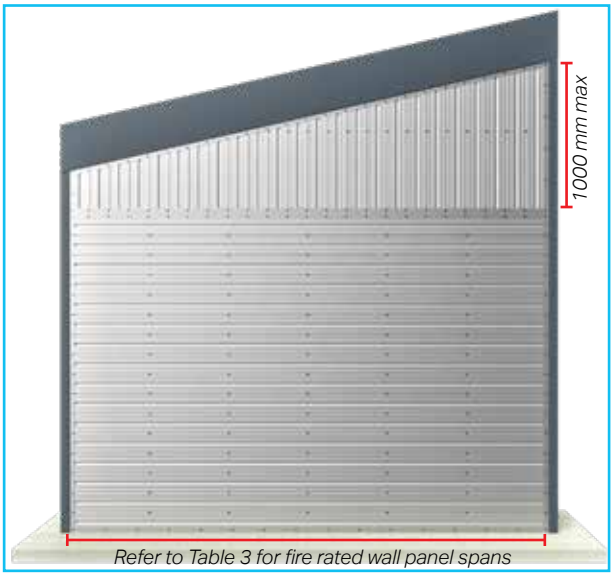
At the completion of the job and at the finish of each day's work, it is essential that the completed area be thoroughly cleaned of all swarf, rivet stems, nails, drillings and screws etc. normally associated with the installation of metal KOROK® panels. Remove any remaining strippable film, check all fixings are correctly installed, all fire and acoustic sealant is applied correctly.

CHANGING PANEL ORIENTATION

MIX OF HORIZONTAL AND VERTICAL PANELS

In this application, vertical panels are supported by the structural support beam above and by the horizontal panels. When the maximum vertical panel height exceeds 1000 mm, contact your engineer for specific details or contact us at KOROK® on 0800 773 777 or info@korok.com.

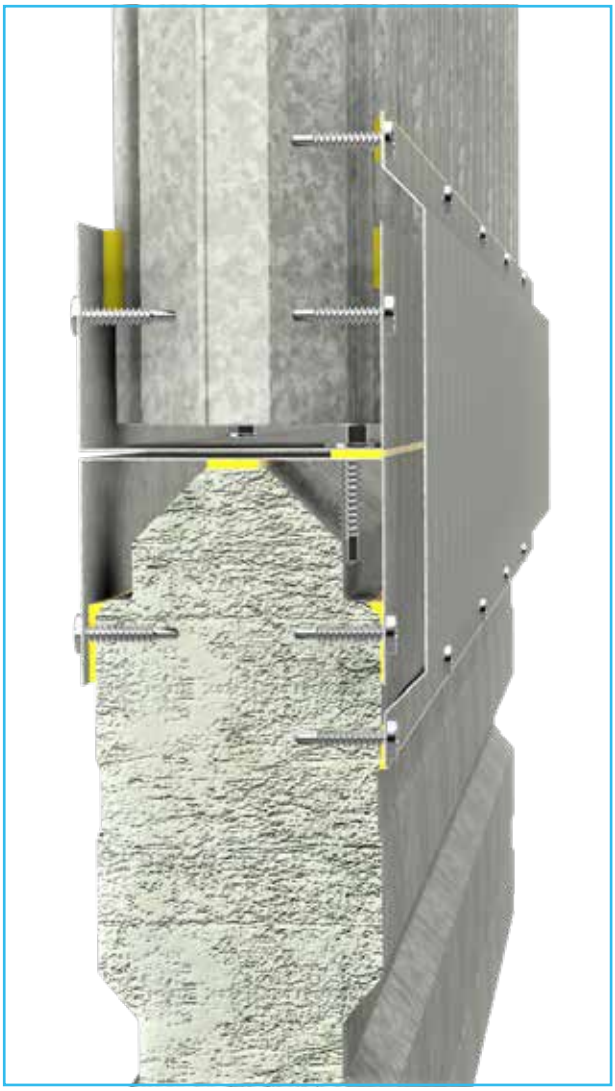
When used as a fire rated system refer to Table 3 for maximum horizontal spans.



CHANGING PANEL DIRECTION

Where transition occurs within the wall and a back to back C-track occurs. The C-track is fixed together at staggered 250 mm centres with a bead of sealant between channels. A flashing or 13 mm fire rated plasterboard must be fixed at 250 mm centres top and bottom over the joint on one side of the wall.

For example, KWR2 FRR -/120/120 system.



GENERAL CORNERS AND JUNCTIONS

VERTICAL WALL 90º CORNER DETAIL

Where internal or external corners are required, panels must be finished by fixing C-track to the vertical face. C-track must also be fixed to the side of the finished wall channel. Fire rated sealant must be used between the C-track. Fixings C-track to C-track must be at 250 mm staggered centres.

In addition to a standard connection, apply:

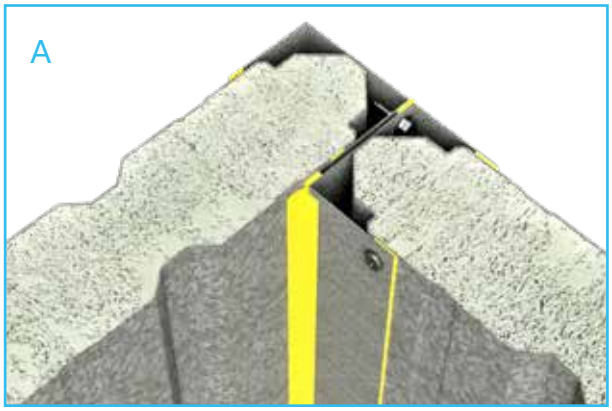
A. an extra bead of fire rated sealant down each join edge (top picture)

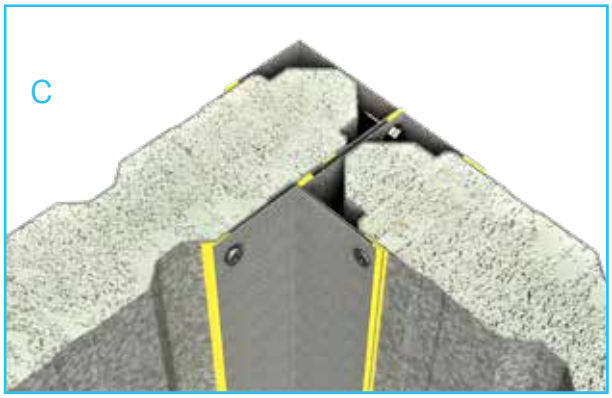
OR

B. a 1.15 B.M.T. flashing on the outside corner (no picture)

OR

C. KOROK® Angle on the inside corner, fixed at 400 mm centres with fire rated sealant.





T-JUNCTIONS

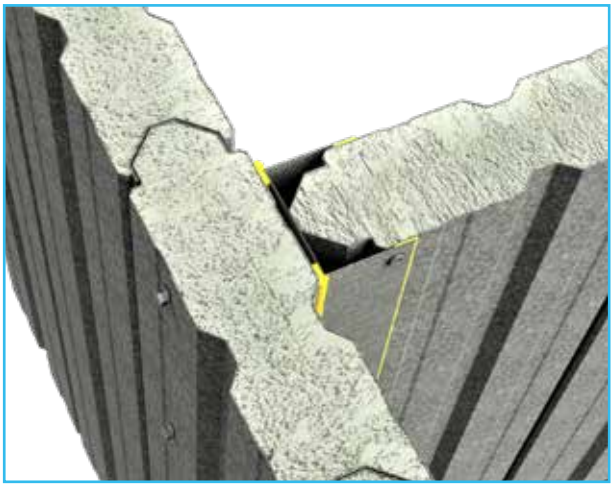
C-track must be fixed to the panel joint at 250 mm centres.

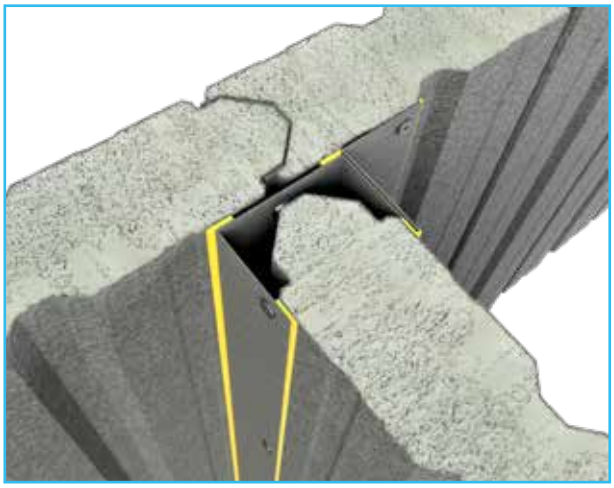
If the T-junction is off the panel joint, the C-track must be attached by screwing through the opposite side of the panel with a Hex Head SDS 14g x 115mm screw at 250 mm centres.

- An additional bead of fire rated sealant is applied to the inside corners (left picture)

OR

- KOROK® Angle on the inside corner, fixed at 400 mm centres (right picture).





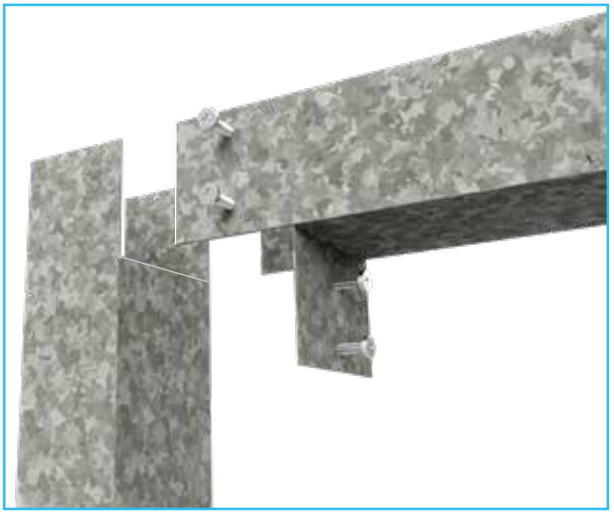
UNSUPPORTED DOOR OPENINGS (MAX. WIDTH 2M)

Greater spans and wall heights and/or where additional load capacity is required are subject to specific design. Please contact us at KOROK® on 0800 773 777 or info@korok.com.

DOORS IN KOROK® SYSTEMS

Additional fixings are used around doors. An additional row of fixings is required 50 mm above the top of the door C-track, at 250 mm centres into the panel joints.

For earlier fixing patterns please see previous technical and systems manuals.

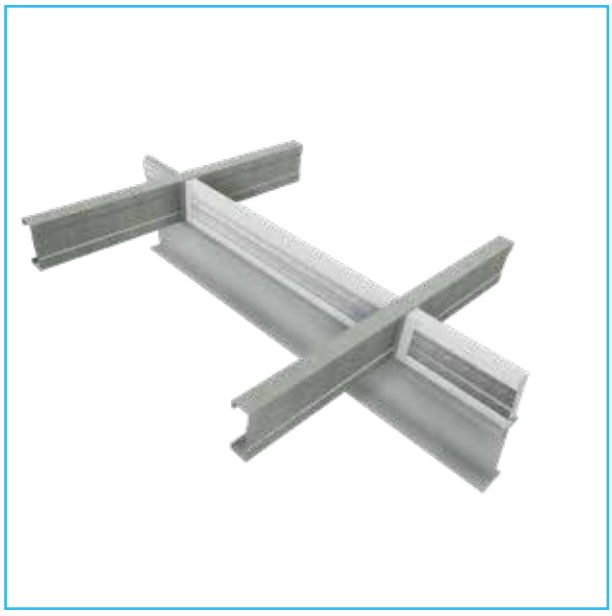


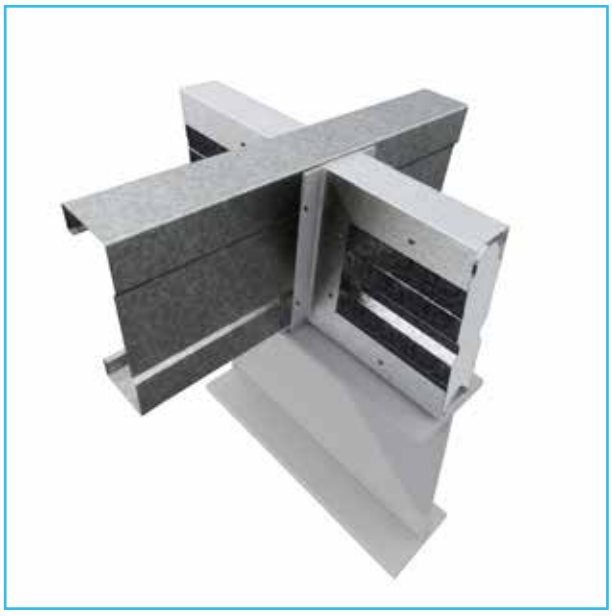
The vertical C-track is cut away at the top. The horizontal C-track is cut so that a flap can be folded down and screwed to the vertical C-track.

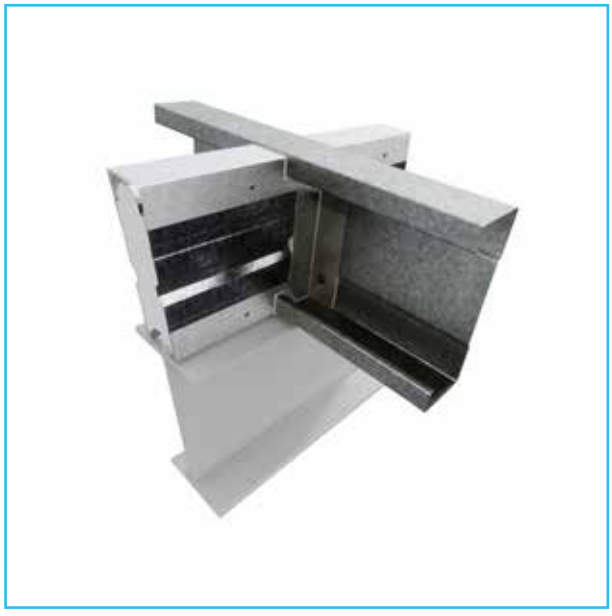
Alternatively, the C-track can be cut away at the corners so that the two pieces can be notched together. Then add a piece of KOROK® Angle to the inside of the corner.

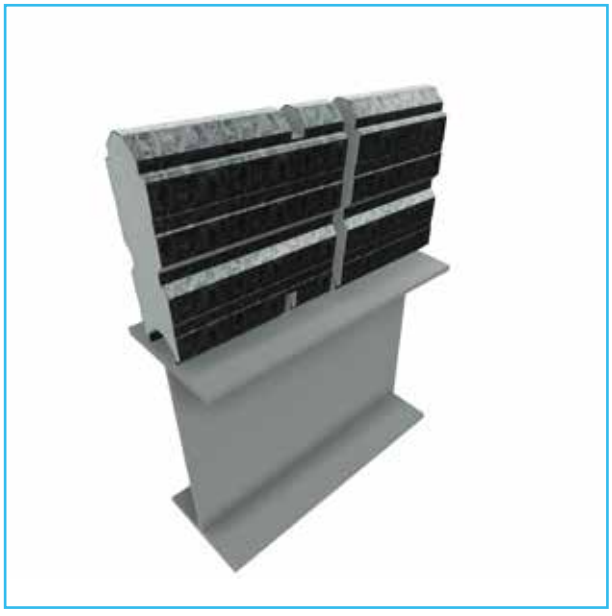
KOROK®
INFILL PANELS

KOROK® panels can be used for passive fire stopping at the tops of fire walls. The supporting structure must meet the equivalent FRR for the wall system.

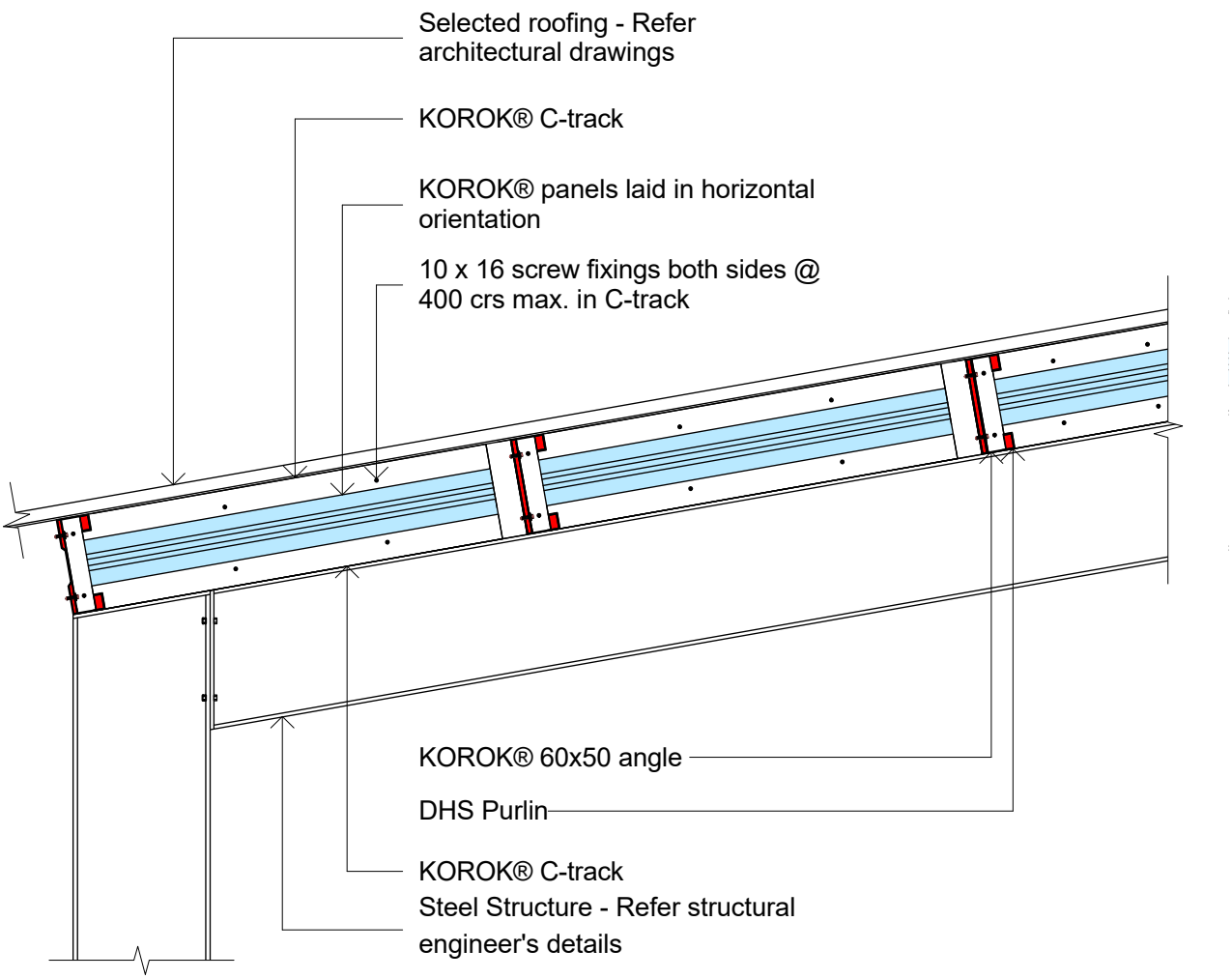








KOROK® INFILL PANELS



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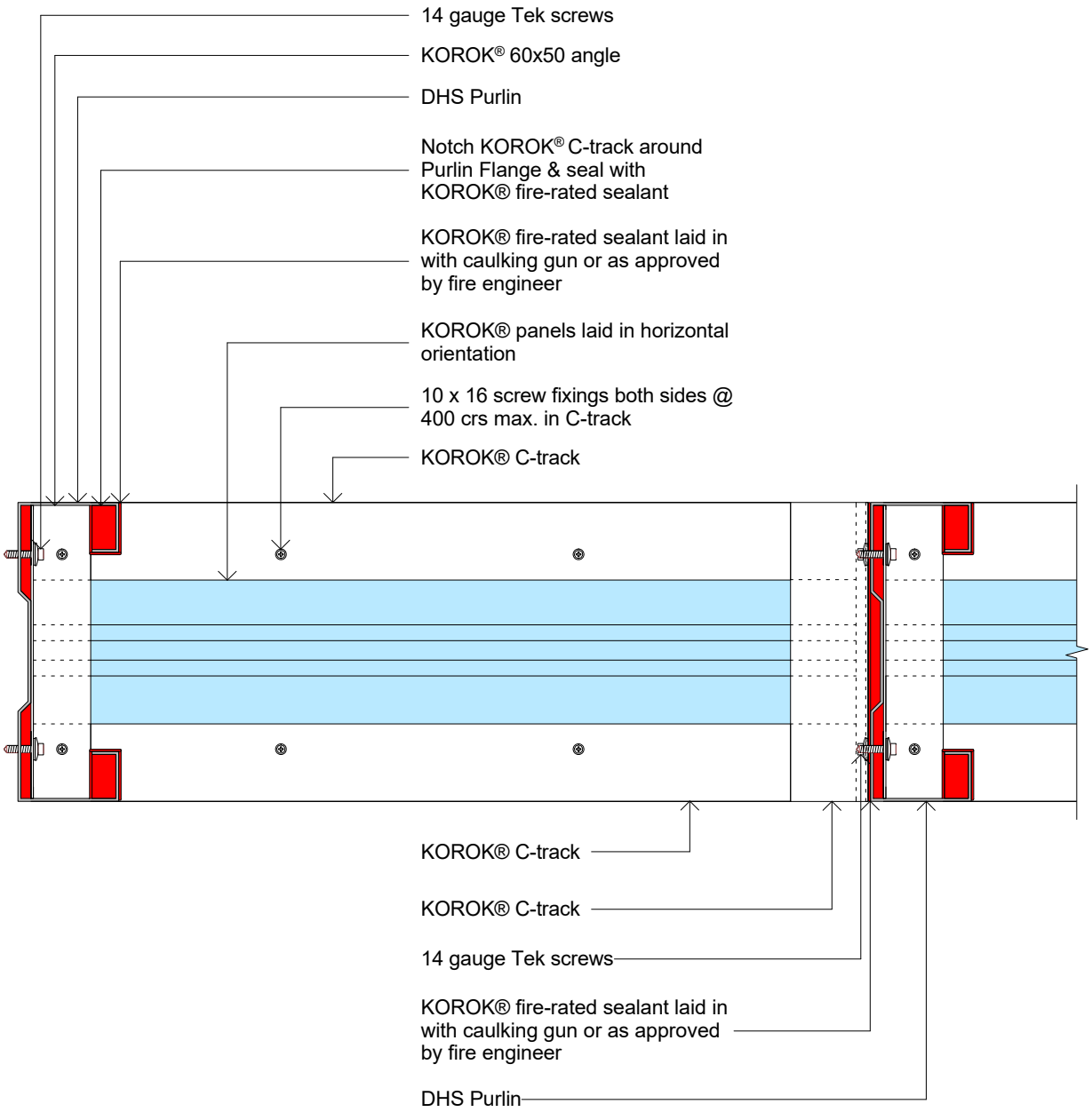


KOROK® INFILL PANELS

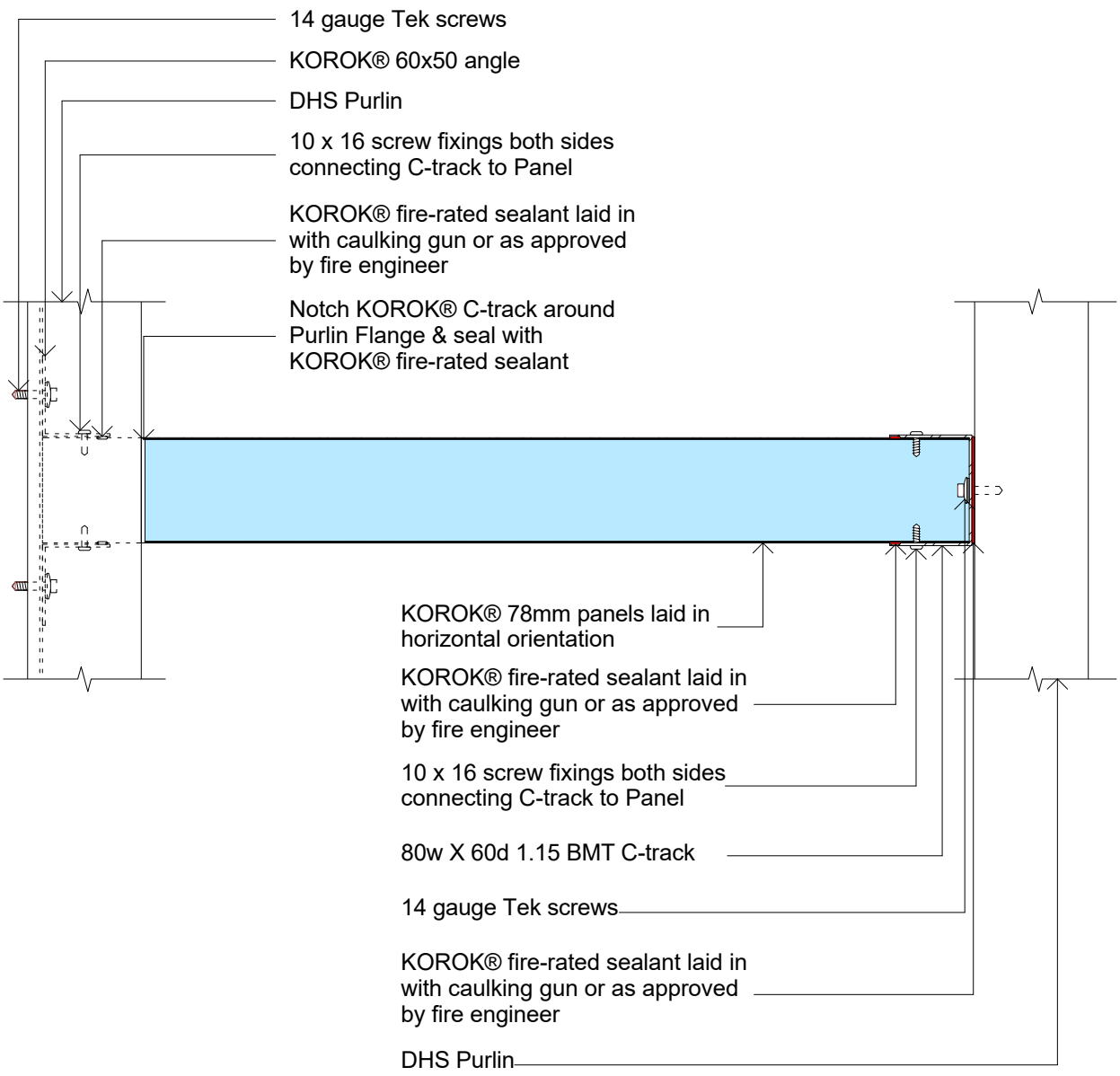


TABLE 4 - KOROK® FASTENERS SPACINGS

PUBLICATION	KOROK® WALL SYSTEM OR SIMILAR	PANEL THICKNESS (MM)	PANEL ORIENTATION	MAXIMUM WALL HEIGHT (M)	MAXIMUM WALL SPAN/WIDTH (M)	PANEL TO PANEL			PANEL TO PERPENDICULAR C-TRACK				NOTES:
						MAXIMUM CENTRES (MM)	SIDES	KOROK® PS WAFER	MAXIMUM CENTRES (MM)	PANEL FACE OR JOINT	SIDES OF C-TRACK	KOROK® PS WAFER	
Warehouse, Retail, Factory	KWR systems	78	Vertical	9m		1000	one	10-16	250	Face	One	10-16	See note 2.
Warehouse, Retail, Factory	KWR systems	78	Horizontal	unlimited	5.0m or less between structural supports	1000	one	10-16	250	Joint	Two	10-30	
Warehouse, Retail, Factory	KWR systems	78	Horizontal	14m	Over 5.0m between structural supports	1000	one	10-16	250	Joint	Two	10-30	

NOTES

1. For C-track running parallel to the panels, KOROK® PS Wafer 10-16x16 screw fixings at 400 mm centres are used one side.
2. 78 mm Panel Properties - These span tables are based on ambient conditions. When used as part of a fire rated system, the maximum unsupported vertical span of the KOROK® panels is 6.0 metres and the maximum unsupported horizontal span is 5.0 metres. Greater spans are subject to specific engineering design and/or fire engineering assessment.
3. Deflection C-track details - Dead and live loads can cause significant deflection in some structures. KOROK® can provide deflection C-track details where deflection loadings are considered.

PANEL PROPERTIES

KOROK® PANELS

KOROK® panels are roll-formed from zinc-coated steel strips. The steel from which the shells are manufactured conforms to AS1397: 2011.

Steel shells have a base metal thickness of 0.4 mm B.M.T. with a Z275 zinc coating. These panels have an aerated concrete core and weigh nominally 10.2 kg per lineal metre.

KOROK® panels have 250 mm coverage when installed.

LOADING COMBINATIONS

All loading combinations are in accordance with AS/NZS 1170.0:2002.

GENERAL DESIGN NOTES

The designs specified in this manual have been carried out in accordance with AS/NZS1170 and laboratory testing carried out by BRANZ Limited.

The tables and charts are prepared for the use of KOROK® in wall applications i.e. floor systems cannot be modelled from the safe load tables in this manual. Interpolation of the tables is acceptable.

STANDARDS

NZS 2589.1-2017
Gypsum Linings in residential and light commercial construction.

AS/NZS 1170.0-2002
Structural design actions. Part 0: General Principles

NZS 7202-1986
Part 1 Specification for gap filling adhesives

AS 4072.1-2005
Components for the protection of openings in fire-resistant separating elements

AS 1530.4-2014
Methods for fire tests on building materials, components and structures

REFERENCES

The following references including standards and codes of practice govern the manufacture of components, use and design and installation of KOROK® systems.

MANUFACTURERS DOCUMENTS

Autex® Insulation Data Sheets

GIB® Site Guide

GIB® Fire Rated Systems

Penetrations and closures in GIB® Fire Rated Systems

GIB® Noise Control Systems

Hilti® New Zealand Technical Manual

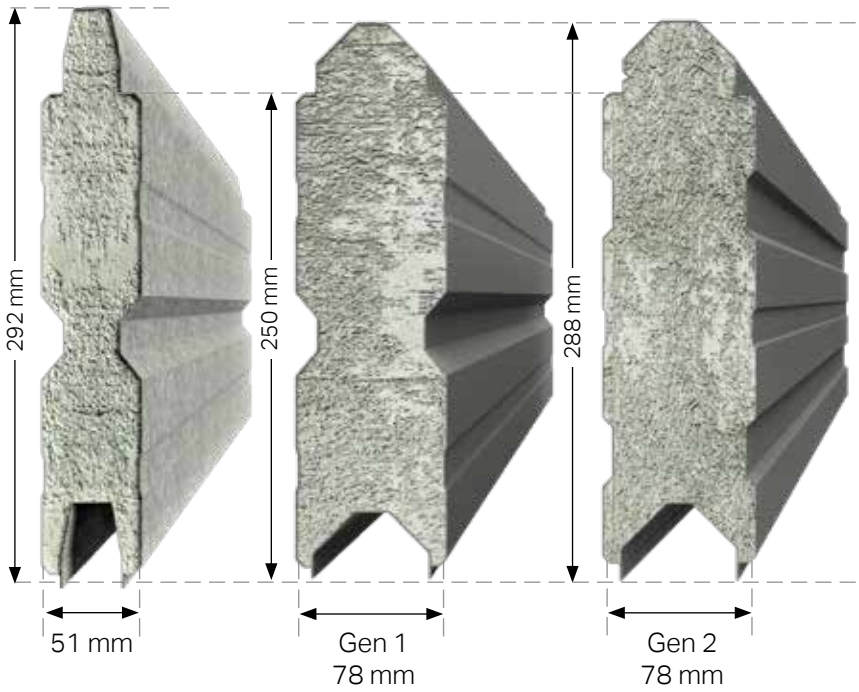
Pink® Batts® Data Sheets

Powers Fasteners Specification & Design Manual

Rondo® Steel Stud & Tracks Installation Manual

USG® Drywall Steel Stud & Track System

USG® Boral Plasterboard Installation Manual NZ



KOROK® PANEL PROPERTIES: 78 MM 400 KG/M³

KOROK® PANEL PROPERTIES

- Base Metal Thickness 0.4 mm B.M.T.
- Mass kg per lineal metre 10.2 nominal
- Mass kg/m² 40.8 nominal

EI 60 kNm² per panel (bending stiffness, minor axis)

EI 387 kNm² per panel (bending stiffness, major axis)

EA 4060 kN per panel (axial stiffness)

GJ 583 kNm² per panel (torsional stiffness)

VERTICAL SPAN WALLS

- Maximum bending moment / panel 1.43 kNm (ULS)
- Maximum axial end crush force / panel 25 kN (ULS) 3.4 kN (SLS)
- Maximum horizontal reaction (crushing on flat) / panel 8.9 kN (ULS) 3.1 kN (SLS)

HORIZONTAL SPAN WALLS

- Maximum bending moment / panel 1.43 kNm (ULS)
- Maximum axial edge crush force per unit length 17 kN/m (ULS) 6k N/m (SLS)
- Maximum horizontal reaction / panel 8.9 kN (ULS) 3.1 kN (SLS)

THERMAL RESISTANCE

- R Value 0.30 (m²K)/W
- U Value 3.2 W/(m²K)

DEFINITIONS

ULS: Value shown is for Ultimate Limit State loading

SLS: Value shown is for Serviceability Limit State loading

USE OF TABLES

1. These Span Tables are based on ambient conditions.
2. When used as part of a fire rated system, the maximum unsupported vertical span of the KOROK® 78 mm panel is 6.0 metres. The maximum unsupported horizontal span of the KOROK® 78 mm panel is 5.0 metres. Greater spans or walls where additional load carrying capacity is required are subject to specific engineering design and/or fire engineering assessment.
3. Shelf loading requires specific engineering design.
4. Determine the loads on the KOROK® in accordance with AS/NZS 1170.0.
5. Use **Table 6 - Horizontal Span** to ensure that walls spanning horizontally can carry the loads previously calculated. Use Table 7 - Vertical Span to ensure that walls spanning vertically can carry the loads previously calculated. Interpolation of points in the tables is allowed.
6. The Tables have been generated for a range of deflection limits i.e. Span/150, Span/200, Span/250, Span/300 in both the vertical and horizontal KOROK® panel configurations.
7. The walls must be checked for both ultimate limit state (ULS) loading and serviceability limit state (SLS) loading.
8. Vertical Span Tables have been generated to a maximum unsupported span of 8m height.
9. Horizontal Span Tables have been generated based on a 14m high wall.
10. For horizontal panel unsupported spans over 5.0 m, for maximum wall heights please contact us at KOROK® on 0800 773 777.

DEFLECTION C-TRACK DETAILS

Dead and live loads can cause significant deflection in some structures.

KOROK® can provide deflection C-track details where deflection loadings are considered.

Contact your KOROK® representative on 0800 773 777 for a solution specific to your project.

SUPPORTING STRUCTURES

KOROK® walls must be supported. The supporting structures themselves must be specifically designed to carry the load of the KOROK® walls.

The fastener strengths shown in this section may be used to design the connections. Maximum spacing of fasteners is shown on installation information.

INSTALLATION NOTE

All KOROK® C-track to structure, KOROK® C-track to KOROK®, and KOROK® to KOROK® panel connections shall be in accordance with details specified in this manual unless specified otherwise by the Project Engineer.

KOROK® PANEL PROPERTIES: 78 MM 400 KG/M³

TABLE 5 - SHEAR STRENGTH PER FASTENER FOR THE FOLLOWING CONNECTIONS

CONNECTION	LOAD DIRECTION	TYPE	DESIGN STRENGTH (KN) ULS	DESIGN STRENGTH (KN) SLS
Panel to panel	In-plane	10x16 galvanised Steeltite wafer head screws	1.01	0.83
Panel sides to C-track	In-plane	10x16 galvanised Steeltite wafer head screws	0.95	0.78
Panel sides to C-track	Out-of-plane	10x16 galvanised Steeltite wafer head screws	0.91	0.74
Panel ends to C-track	In-plane	10x16 galvanised Steeltite wafer head screws	0.91	0.74
Panel ends to C-track	Out-of-plane	10x16 galvanised Steeltite wafer head screws	2.21	0.77
C-track to concrete	In-plane	6.5x32 Rawl Mushroom spikes	7.84	2.27
C-track to concrete	Out-of-plane	6.5x32 Rawl Mushroom spikes	7.84	2.27
C-track to steel support	In-plane	Hilti® X-ENP-19 L15 Nails	4.32	2.31
C-track to steel support	Out-of-plane	Hilti® X-ENP-19 L15 Nails	4.32	2.31
KOROK® aluminium bracket to panel joint	Out-of-plane	Hex Head Type 17 14g x 35mm screws	0.92	0.92

TABLE 6 - HORIZONTAL SPAN

SPAN (M)	ULS DESIGN	SLS DESIGN L/150	SLS DESIGN L/200	SLS DESIGN L/250	SLS DESIGN L/300
2	10.05		9	7.7	6.7
2.5	7.3	6.02	4.94	4.2	3.64
3	5.04	3.7	3	2.5	2.17
3.5	3.7	2.42	1.95	1.63	1.39
4	2.82	1.67	1.34	1,1	0.94
4.5	1.94	1.19	0.94	0.78	0.66
5	1.37	0.88	0.69	0.56	0.47
6	0.72	0.51	0.39	0.32	0.26
7	0.38	0.31	0.23	0.19	0.15
8	0.17	0.17	0.14	0.11	0.09

Maximum pressure that can be resisted by a horizontal span (kPa)

Horizontal Span Table has been generated based on a 14m high wall.

For unsupported horizontal spans over 5.0m please contact us at KOROK® on 0800 773 777 for maximum wall heights.

TABLE 7 - VERTICAL SPAN

SPAN (M)	ULS DESIGN	SLS DESIGN L/150	SLS DESIGN L/200	SLS DESIGN L/250	SLS DESIGN L/300
2	10.05		9.05	7.75	6.77
2.5	7.3	6.05	4.95	4.2	3.64
3	5.04	3.7	3	2.53	2.18
3.5	3.7	2.42	1.96	1.64	1.4
4	2.82	1.68	1.34	1.12	0.95
4.5	2.23	1.21	0.96	0.79	0.67
5	1.79	0.9	0.71	0.58	0.49
6	1.22	0.54	0.42	0.34	0.28
7	0.89	0.34	0.26	0.21	0.17
8	0.66	0.23	0.17	0.14	0.11

Maximum pressure that can be resisted by a vertical span (kPa)

Vertical Span Table has been generated to a maximum of 8m wall height. Length of the wall is not a consideration when calculating span.

KOROK® COMPONENTS SUMMARY

PRODUCT IMAGE	ITEM DESCRIPTION
	**PN1140** KOROK® C-track 60 x 80 x 60 mm 1.15B.M.T.
	**PN1130** (Colour) KOROK® panel 78 mm wide 400 kg/m³ density
	**PN1318** (Galv) KOROK® GEN 2 panel 78 mm wide 400 kg/m³ density
	**PN1185** Hilti DBZ 6/4.5 x 32 mm
	**PN1190** 6.5 x 32 Rawl Mushroom spikes
	**PN1170** KOROK® PS Wafer 10-16x16 Class 3 **PN1171** KOROK® PS Wafer 10-16x30 Class 3
	**PN1157** KOROK MS Fire Seal **PN1161** KOROK Acrylic Fire Seal **PN1165** Sikaflex-400 Fire Rated Sealant **PN1160** Hilti CP606

PRODUCT IMAGE	ITEM DESCRIPTION
	**PN1198** Hex Head Type 17 14g x 35mm
	**PN1174** Hex Head SDS 14g x 22mm
	**PN1178** Hex Head SDS 14g x 115mm
	**PN1187** Hilti X-ENP-19 L15 fasteners (strip of 10)
	**PN1186** Hilti DX76 fasteners (as below)
	**PN1186** Hilti DX76 yellow charges
	**PN1235** KOROK® KIT flashing
	**PN1226, PN1227, PN1228** KOROK® fire flashing
	**PN1150, PN1151, PN1152** KOROK® Angle

NOTES

NOTES

SUSTAINABILITY

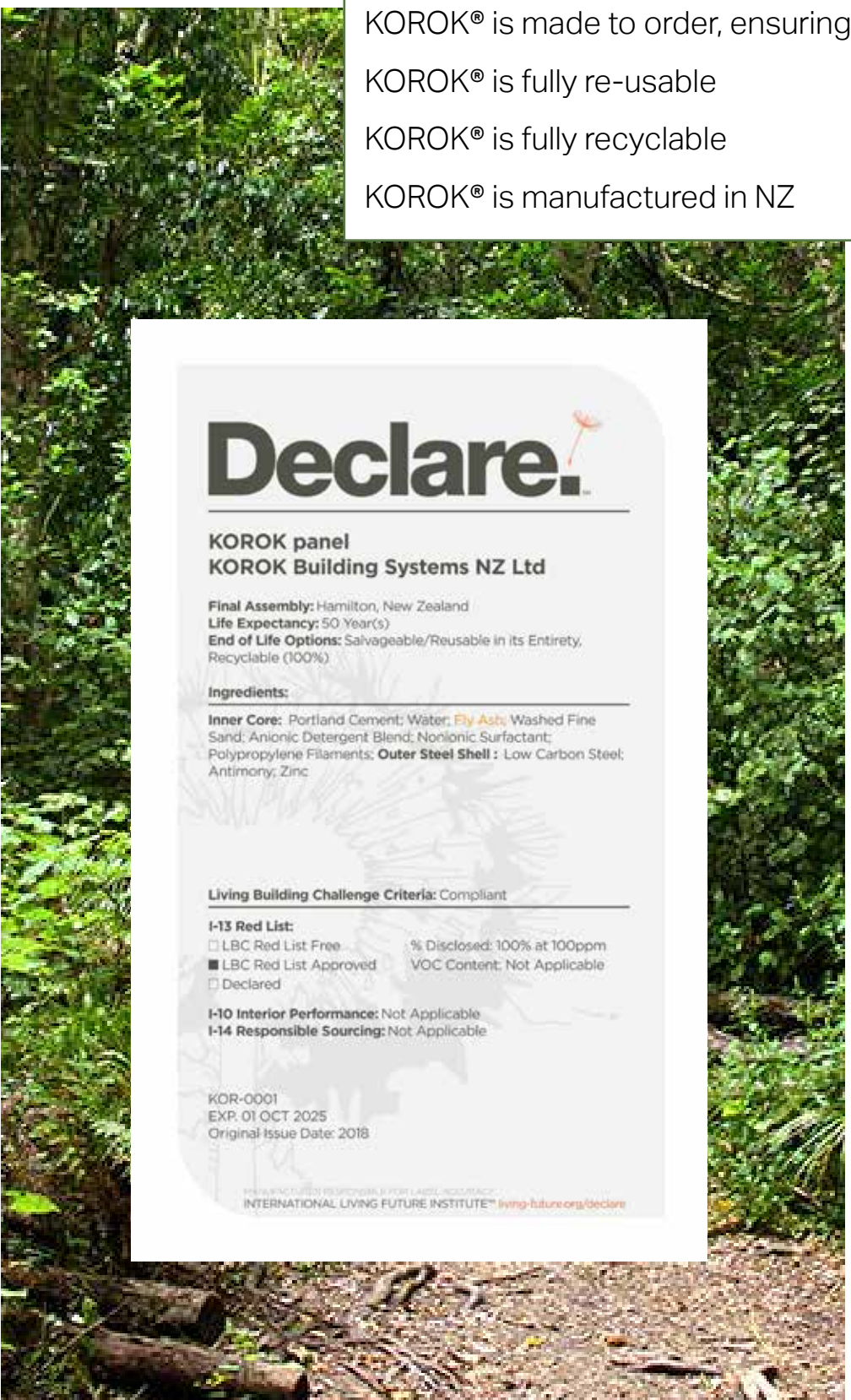
KOROK® is a high performance product with minimal impact on the planet

KOROK® is made to order, ensuring minimal on-site waste

KOROK® is fully re-usable

KOROK® is fully recyclable

KOROK® is manufactured in NZ



Declare.

KOROK panel
KOROK Building Systems NZ Ltd

Final Assembly: Hamilton, New Zealand
Life Expectancy: 50 Year(s)
End of Life Options: Salvageable/Reusable in its Entirety, Recyclable (100%)

Ingredients:

Inner Core: Portland Cement; Water; Fly Ash; Washed Fine Sand; Anionic Detergent Blend; Nonionic Surfactant; Polypropylene Filaments; **Outer Steel Shell :** Low Carbon Steel; Antimony; Zinc

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: Not Applicable

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TE KAUNIHERA HANGANGA TAUTAIAO
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AUSTRALASIA EPD®
ENVIRONMENTAL PRODUCT DECLARATION

NEW ZEALAND MADE®

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