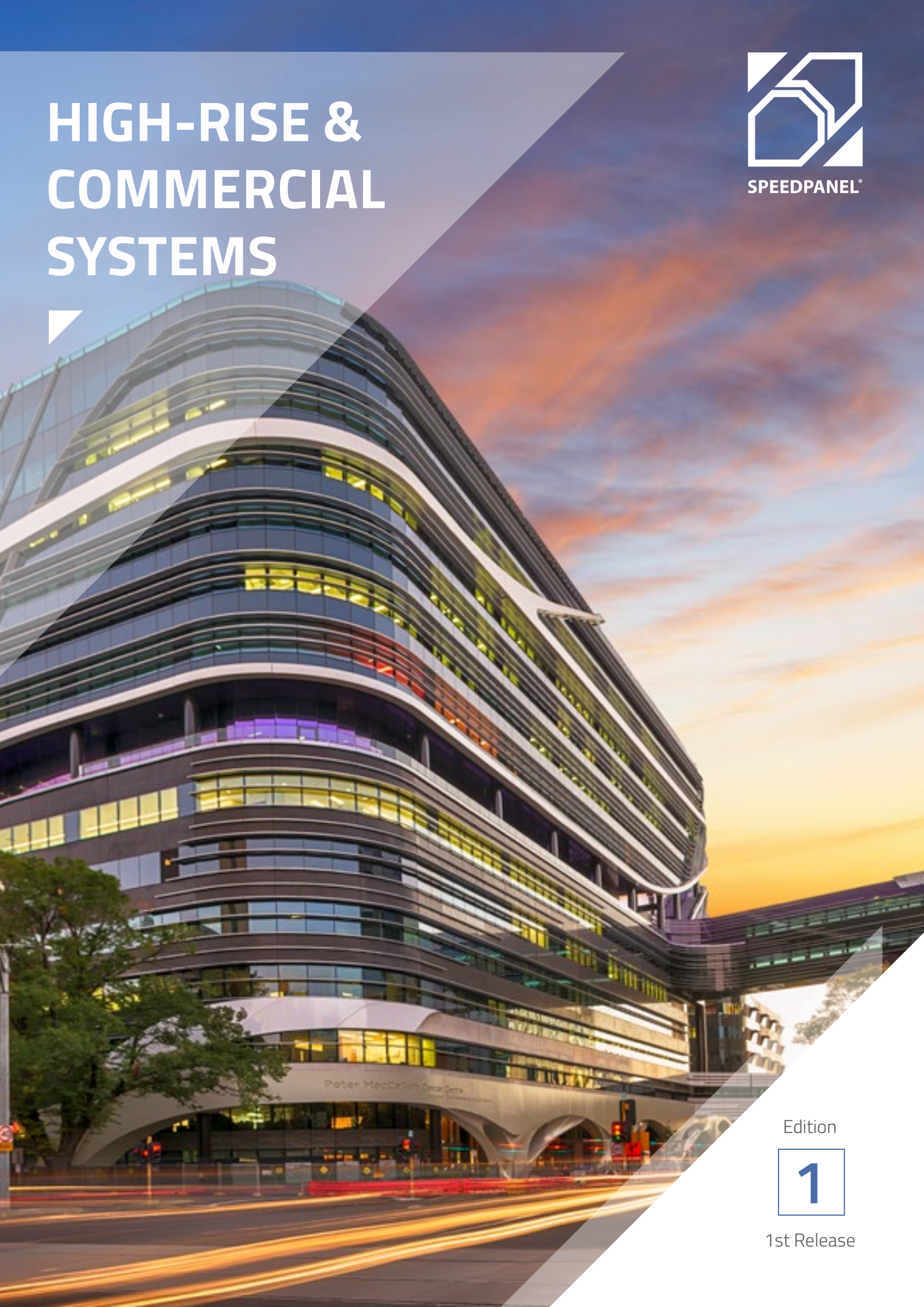
HIGH-RISE & COMMERCIAL SYSTEMS

SPEEDPANEL®



Edition

1

1st Release

COVER PHOTO

Project: Victorian Comprehensive Cancer Centre (VCC), Melbourne

Architects: Design Inc, Silver Thomas Handley, Mcbride Charles Ryan, TS & E

Speedpanel® was used extensively throughout this project, speeding up program time via it's use within:

- Fire Stair Walls
- Plant Room Walls
- Pressurised Walls
- Riser Shaft Walls
- Car Park Walls
- Lobby Areas
- Communication Rooms
- Electrical Cupboards

SPEEDPANEL® HIGH-RISE AND COMMERCIAL SYSTEMS

1st Edition; Published February 2017

421 Dorset Rd, Bayswater, VIC 3153 | +61 3 9724 6888

Contents

IMPORTANT INFORMATION & DISCLAIMER

THIS INSTALLATION GUIDE AND SPEEDPANEL® SYSTEMS AND SPEEDPANEL® PRODUCTS

The information contained within this installation guide and any reports, specifications and other supplementary documents and information referred to in this guide ("Supplementary Material") have been prepared by or on behalf of Speedpanel® Australia LTD ("us", "we" or "our") to assist the reader of this guide ("you" or "your") to design and construct Speedpanel® Systems only in general (not project or site specific) applications.

Before designing and/or installing Speedpanel® Systems or using Speedpanel® Products, you must engage, or seek advice from, suitably qualified persons (such as an engineer, architect and/or other design consultant) to, amongst other things:

- Review this installation guide, the Supplementary Material and all other product information and data available from us upon request;
- Assess whether or not Speedpanel® Products and Speedpanel® Systems are appropriate and suitable for your proposed design and/or construction project;
- If appropriate & suitable, prepare project specific information and documentation for the design and construction of Speedpanel® Systems for your proposed design and/or construction project;
- Ensure that Speedpanel® Products separately, and collectively when used in Speedpanel® Systems, meet the requirements of any building laws, rules, regulations, codes, standards, orders or declarations applicable in the State, Territory or location in which Speedpanel® Systems are to be designed and constructed; and
- Ensure that the configuration, design and/or details of the means of constructing & interfacing Speedpanel® Products and Speedpanel® Systems with other building members and/or structures remain 'serviceable' (structurally sound) under ambient conditions and under different loads that Speedpanel® Products and Speedpanel® Systems may be subjected to in your proposed design and/or construction project.

Unless stated otherwise, the limitations, requirements and design details set out in this installation guide and the Supplementary Material must be precisely followed and implemented. Failure to do so could reduce the expected Fire Resistance Level (FRL) and performance of Speedpanel® Products and Speedpanel® Systems.

PERFORMANCE CRITERIA AND QR CODES

Speedpanel® Systems may be used to provide passive fire protection. In order to satisfy the requirements of AS1530.4, you must ensure that Speedpanel® Systems are supported by elements having at least the same FRL as those specific in AS1530.4. Supporting elements having a lesser FRL may cause the consequential collapse of Speedpanel® Systems.

Specific fire performance criteria for various Speedpanel® Systems is contained in the reports which can be accessed via the QR Codes referred to in this guide. Other specific performance criteria for, amongst others, acoustics, wind loading, pressurisation, deflection and crowd loading, can be obtained from or discussed with us by contacting our office on +61 3 9724 6888.

Whilst we make all reasonable efforts to ensure that the QR codes referred to in this installation guide and the Supplementary Material remain current and up to date, we cannot guarantee that they will always be up to date. Please contact us on +61 3 9724 6888 to ensure you are working from the latest information and to obtain general advice on whether or not Speedpanel® Products and Speedpanel® Systems may be used in your proposed design and/or construction project.

CARE, SKILL AND ATTENTION REQUIRED

The performance criteria, ratings and specifications for various Speedpanel® Systems have been developed and certified by Independent Testing Bodies. Products, components of fixings that are not specifically sold by us must be certified for use within Speedpanel® Systems by an Independent Testing Body prior to their use within Speedpanel® Systems or otherwise approved by us. Use of products, components or fixings within Speedpanel® Systems that are not Speedpanel® Products or certified by Independent Testing Bodies or approved by us will void warranties on Speedpanel® Products and/or Speedpanel® Systems. We disclaim all liability for any loss and damage suffered by you from your use of products, components or fixings within Speedpanel® Systems that are not Speedpanel® Products or certified by Independent Testing Bodies or approved by us. It is critical that you carefully consider the details of your design, construction and workmanship and carry out the same with due care, skill and diligence. Failure to do so could result in the performance of the Speedpanel® Systems being significantly compromised and/or may result in failure of Speedpanel® Systems in your proposed design and/or construction project.

SPECIFICATION

The dimensions, weights and other specifications, components and fixings detailed within this installation guide and the Supplementary Material are indicative and intended to provide general information for the design and construction of Speedpanel® Systems and use of Speedpanel® Products only in general (not project or site specific) applications, examples of which are contained within this installation guide.

All Speedpanel® Products and Speedpanel® Systems are subject to building standards and tolerances. We accept no responsibility or liability for any loss or damage arising out of any design or construction of Speedpanel® Systems by you that does not incorporate these standards and tolerances or when using Speedpanel® Products. For information on these standards and tolerances please contact our office on +61 3 9724 6888.

MATERIAL SAFETY DATA SHEET

A Material Safety Data Sheet (MSDS) is available on request from us or from our website: **www.speedpanel.com.au**
The MSDS provides information on the properties and potential hazards of Speedpanel®, how to use Speedpanel® safely and what to do if there is an emergency. The MSDS should be reviewed thoroughly by you and/or suitably qualified persons (such as an engineer, architect and/or other consultant), before using Speedpanel® Products or designing and/or constructing any Speedpanel® Systems.

LIMITATIONS

The recommended maximum vertical span for Speedpanel® Systems designed for certain FRL's is contained within this installation guide or the Supplementary Material. Vertical spans of greater height than those recommended will need to be subject of specific and careful engineering design, for which we cannot and will not accept responsibility. Adhesive fixings cannot replace mechanical fasteners in such Speedpanel® Systems. For information on maximum vertical spans and fixings, please contact our office on +61 3 9724 6888.

You must not install Speedpanel® Systems above the span and height limits stated in this installation guide or the Supplementary Material.

TRANSPORT, HANDLING AND STORAGE

Generally, Speedpanel® Products are delivered to your building or other site on long trailers and articulated trucks, and access to and on your site must be adequate to accommodate these types of vehicles. Unloading and site storage or cranage of Speedpanel® Products onto site is your responsibility and suitable arrangements should be made by you prior to delivery. You must handle Speedpanel® Products carefully prior to their installation. Avoid knocks, bumps and scratches which may lead to maintenance issues. Keep Speedpanel® Products completely dry prior to installation.

Speedpanel® Products are packed and reasonably protected against damage during delivery, but care must be exercised by you during unloading. Speedpanel® Products must be adequately supported during unloading, particularly long lengths of the Speedpanel® Products. Where packs are broken or Speedpanel® Products are lifted by hand, care must be taken not to slide or drag them or scrape their finished surfaces.

Where it is necessary for Speedpanel® Products to be stored on a building site they should be placed away from building operations, if possible, in the order in which they will be fixed and/or used in construction. If stored on a building site, it is recommended to store Speedpanel® Products flat or in their pallets. Storage should provide a firm dry base and be protected from the weather, accidental damage and moisture. The products should be stored on bearers placed not more than 2000mm apart. Stack heights must not exceed 10 pallets. Speedpanel® Products should be stored in clean, dry and ventilated conditions. Adequate cover should be provided and water should not be allowed to lie on the surfaces of the products for extended periods as this can cause staining and degradation of the surface coatings.

STRIPPABLE FILM

Speedpanel® Products are usually covered with a plastic film to provide protection during handling and transportation. As part of Speedpanel's continued dedication to product development, recent testing has successfully proven that the protective film can now be left on the panels in a fire scenario, without causing any detrimental effect to the fire integrity of the Speedpanel® wall system. This means that when Speedpanel® is installed in an internal environment and is completely concealed with an alternate lining such as plasterboard or other solid cladding that the protective film can be left on. As the plastic can break down over time, it remains extremely important that all plastic still be removed from all panels if the wall is going to be visible or is installed in an external environment to avoid an unpleasant aesthetic. 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 within these time limits will lead to difficulties with its removal.

CLEANING

At the completion of construction of Speedpanel® Systems and at the end of each day's work, it is essential that all completed areas be thoroughly cleaned of all swarf, rivet stems, nails, drillings, screws and the like normally associated with the installation of metal panels. Hot swarf should not be allowed to contact any pre-painted sheet material, including pre-painted Speedpanel® Products. Any grinding, welding or drilling carried out above the wall level should be done with the panels appropriately covered to avoid swarf contact. Failure to do so may result in unsightly staining of the surface as the metal may rust, oxidise or cause other damage.

INSTALLATION

Specific design advice should be sought from us if you intend to subject Speedpanel® Systems and products to loads including, but not limited to other than wind loading. You must ensure that the connection between each Speedpanel® Product is properly made and that materials used to connect Speedpanel® Products and/or Speedpanel® Systems to structures are in accordance with this installation guide. If you are uncertain about how to properly install Speedpanel® Systems or this installation guide does not detail your specific installation, please contact us on +61 3 9724 6888.

DO NOT SUBSTITUTE ANY COMPONENT

Substitution of any Speedpanel® Products, components or fixings within any Speedpanel® Systems specified in this installation guide and the Supplementary Material may compromise the performance and safety of Speedpanel® Systems. Please contact us immediately if you are unsure of which Speedpanel® Products, components or fixings to use within any Speedpanel® Systems.

Without limiting the above, we disclaim all liability or responsibility for any loss or damage arising from or attributable to your use of incorrect Speedpanel® Products, components and/or fixings.

MAINTENANCE

Like all cladding products, Speedpanel® Products are subject to the cumulative effects of weather, dust and other deposits. You must implement maintenance regimes in accordance with maintenance recommendations relative to the environment in which Speedpanel® Systems or Speedpanel® Products are used. For information on maintenance regimes please contact our office on +61 3 9724 6888.

WARRANTY

Our goods come with warranties that cannot be excluded under the Australian Consumer Law. You are entitled to a replacement or refund for defective Speedpanel® Products or Speedpanel® Systems and compensation for any other reasonably foreseeable loss or damage.

You are also entitled to have the goods repaired or replaced if Speedpanel® Products are not of acceptable quality.

Without limiting the previous paragraph, to the extent permissible at law, we supply Speedpanel® Products and warrant they will be free from defects in material and workmanship. We will at our own discretion replace and/or repair any Speedpanel® Products found to be defective, provided such products have been stored, installed and maintained strictly in accordance with the requirements and recommendations set out in this installation guide and the Supplementary Material or otherwise specified by us. This warranty is in addition to your other statutory rights. We cannot be held responsible for deterioration to galvanised or colour steel Speedpanel® Products caused by poor handling or storage practices after such products have arrived at your building or other site.

DISCLAIMER

This installation guide & the Supplementary Material are provided to you as a general guide only and should not be relied upon by you without additional advice from a suitably qualified person(s), as noted in the section of this installation guide titled, "This Installation Guide and Use of Speedpanel® Systems and Speedpanel® Products".

We do not and will not, under any circumstances, warrant, guarantee or represent, and we disclaim any responsibility or liability for, the accuracy, completeness or efficacy of the information contained in this installation guide or the Supplementary Material. You must make your own independent assessments, investigations, inspections and enquiries with respect to, the matters the subject of this installation guide or the Supplementary Material, and your proposed design and/or construction of Speedpanel® Systems and/or use of Speedpanel® Products.

We reserve the right, at any time, at our own discretion and without notice, to discontinue or change the features, designs, materials, colours and other specifications of any Speedpanel® Systems or Speedpanel® Products and to either permanently or temporarily withdraw any such systems or products from sale without incurring any liability.

This installation guide and the Supplementary Material must not be used in preference to detailed technical advice from suitably qualified persons, especially but not limited to where your design and construction differs from the types of design and construction described within this installation guide and the Supplementary Material.

To the best of our knowledge, all information in this installation guide and the Supplementary Material is correct as at the date of preparation of such information. Whilst every effort has been made to ensure the information contained within this installation guide and the Supplementary Material is accurate and correct, to the extent permissible at law, no responsibility or liability, in part or whole by us or the authors, editors or publishers of those documents will be accepted for any reliance thereon, nor from any misuse, misreading or deviation from the requirements and recommendations within those documents.

PROTECTION OF STRUCTURAL ELEMENTS

Speedpanel® is a non-load bearing product that requires structural elements to support it (or brace it) under ambient and fire conditions. These structural elements are required to be engineered by others to ensure the structure can support the load imposed by Speedpanel® as well as continue to support other live and dead loads, if any.

As such, Speedpanel® typically comprises of the following components: Panels, C-tracks/J-tracks/angles, Fire-rated sealants, Fixings and Flashings.

Based on 3rd party test evidence and fire engineered assessments by NATA accredited laboratories , Speedpanel® can provide advice on how to connect to structural elements (types of fixings and distance between fixings), however these structural elements are to be protected to the same FRL as the Speedpanel® wall they are supporting/bracing. If the Speedpanel® wall is required to provide fire protection from:

- One direction only; as long as the structural elements supporting (and/or bracing) the Speedpanel® wall are installed on the opposite side of the Speedpanel® to the side of the anticipated fire source - then the structure will be protected to the same FRL as that of the Speedpanel® wall; or
- Either direction; then the structural elements are to be:
    1. Installed on one side of the wall (or between wall sections) and protected using 3rd party passive fire products (e.g. fire-rated plasterboard, calcium silicate board, Promatect, vermiculite spray, etc.) installed to the manufacturer's and project fire engineers specifications; or
    2. Installed on BOTH sides of the Speedpanel® wall and fixed with sacrificial connections to allow the wall to break free from the burning structure on the fire side (preventing the collapse of the wall).

LIABILITY

To the extent permissible at law and without limiting any other right or remedy we may have, we accept no liability for any loss or damage arising if any Speedpanel® Systems are not designed and constructed strictly in accordance with the instructions contained in this installation guide and/or the Supplementary Material or as otherwise instructed by us.

IS THIS PUBLICATION CURRENT?

This installation guide and the Supplementary Material may be superseded by new versions. We accept no liability for reliance upon publications that have been superseded. If you are unsure of whether or not this installation guide or the Supplementary Material are current publications, please call us on +61 3 9724 6888 to confirm.

GLOSSARY

Acoustic: Refers to the Speedpanel® ability to control sound insulation.

BMT (Base Metal Thickness): BMT relates to the steel substrate of our product not including any galvanised or colour coatings which may be applied. BMT is specified due to our steel being the component that provides structural strength, rigidity and other mechanical properties.

Bottom Track: Refers to the standard C-track. Located at the bottom of the wall to provide the space for panels to be fixed into position.

Ctr: Ctr is an adjustment factor which is used to account for low frequency noise - typically the biggest problem with sound insulation.

DnT,w & DnT,w + Ctr Measured on-site: These values are the equivalent of Rw and Rw + Ctr, but measured on-site. Rw is the value measured in an acoustic laboratory, while DnT,w is measured onsite.

Female end: The concave (or 'Groove') interlocking edge of the Speedpanel®.

Fire compartment: An area (corridor/stair/etc.) that is protected from fire for a period of time.

Fire side: The side of the wall/ceiling that is exposed to the fire.

FRL: FRL indicates the term 'Fire Resistance Level' which is the technical description of the level of fire protection of a particular structure. The FRL of a member or structure is summarised as a series of three numbers representing the nominal grading period in minutes;

1. Structural Adequacy is a measure of the length of time in minutes before the test item fails under load when subjected to fire.
2. Integrity is a measure of the cracks or openings appearing in the test item that permit the escape of hot flames or gases.
3. Insulation is the measure of the temperature on the side of the test item not exposed to fire and it's rise above the limit stated specified under AS1530.4.

Head track: Refers to the standard C-track located at the top of the wall to provide the space for panels to be fixed into position.

Head track protection: An element (fire rated plasterboard or metal flashing) for further protection to the application.

Horizontal orientation: Horizontal orientated panels.

Independent Testing Body: Means a laboratory facility or other testing body that has an accredited quality assurance program approved by the National Association of Testing Authorities, Australia (NATA) or other authority.

Male end: The convex (or 'Tongue') interlocking edge of the Speedpanel®.

Notched: A special technique to cut and join C-tracks to form corners. Refer to "page 100" in general penetrations for more information.

Panel joint: The location where the female end and male end of the panels meet each other and are fixed.

Pressurised: A technique to keep the air pressure static in specific areas of the application.

Rw: The Weighted Sound Reduction Index (Rw) is a number used to rate the effectiveness of a soundproofing system or material.

Rw + Ctr: Rw + Ctr is equal to Rw with the addition of a low frequency sound correction.

Ripped panel: A panel that is cut lengthways from female end or male end. (See pages 59 or 77 for illustrations).

Sealant: A product used to seal the joining gaps to prevent fire or smoke entering. Where fire rating is required Speedpanel® recommends Hilti CP606 fire rated sealant.

Side track: Refers to the standard C-track. Located at the start or finishing edge of the wall where the panels are fixed into position.

Speedpanel®, Speedpanel® wall, Speedpanel® incline wall, Speedpanel® panel, Speedpanel® ceiling, Speedpanel® fire rated bulkhead, Speedpanel® joint, wall, incline wall, panel, ceiling, fire rated bulkhead or joint: Each mean the relevant Speedpanel® Product or part of the Speedpanel® Product or Speedpanel® System referred to in this installation guide (as the context requires).

Speedpanel® products: Products manufactured by us and any other products that have been tested and certified by an Independent Testing Body, for use within Speedpanel® Systems.

Speedpanel® systems: Any system made up of Speedpanel® Products, examples of which are contained within this guide, and are not load bearing and do not incorporate or include any specific performance criteria, unless expressly stated or referred to in this guide or otherwise specified by us.

Structure: Refers to any element in the building that carries load (eg; floor slab/load bearing wall/etc.)

Wall height: Refers to the height of the Speedpanel® wall from the bottom of the wall to the top of the wall.

Vertical orientation: Vertical orientated panels.

In this installation guide, unless the context otherwise requires, the singular includes the plural and the plural includes the singular.

01

INTRODUCTION

1.1

WHAT IS IMPORTANT TO US?

SERVICE.

SIMPLICITY.

QUALITY.

INGENUITY.

About Speedpanel® Australia Ltd

We are an Australian owned and operated company which manufactures and markets cutting edge fire and acoustic rated wall systems.

Invented in Australia; the light weight composition, ease of installation and superior fire and acoustic performance of Speedpanel® has seen its broad acceptance throughout the building industry.

The innovative "click" together technology makes Speedpanel® Systems a fast and easy method to construct walls in various building applications. Our systems replace traditional methods of partition systems because they save time and eliminate unnecessary costs.

Our team has many years of experience in the construction industry. We combine an eye for innovation with practical real world knowledge of the realities faced by builders, contractors, architects and engineers. We work proactively to develop the right solution for your project and are determined to make it a success.

Product development is one of our key passions. Our systems are tested at independent laboratories as they would be constructed on sites. You can rest easy knowing that your building is safe and sound.

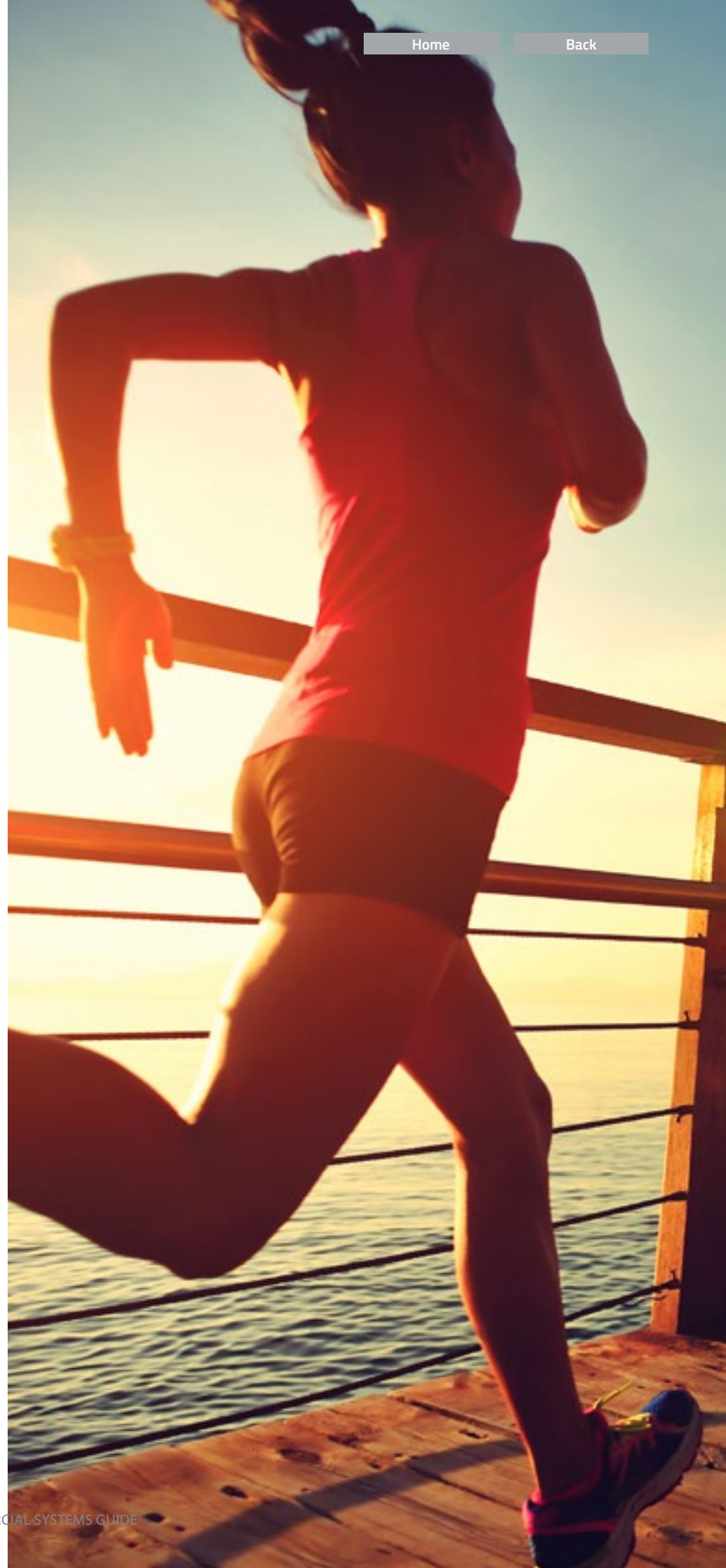
We are proud of our green initiatives and dedication to sustainable practices. Whether it be creating products using recycled components, developing construction systems that reduce wastage, or refining manufacturing practices; we maintain an eco-friendly ethos.

At Speedpanel® our purpose is simple; combine high end service with practical solutions and certified quality systems that will add value to your project.

SUSTAINABILITY...

- **Speedpanel® components are 100% recyclable.**
- **Speedpanel® is committed to eco-friendly practices.**
- **Speedpanel® is made using 29.5% recycled materials.**
- **Speedpanel® Systems can be dismantled and reused several times.**
- **Speedpanel® can have 100 years of durability in certain conditions.**

WHAT IS IMPORTANT TO YOU?




TIME
COST
PERFORMANCE

HOW WE ADD VALUE

FIRE RATED

Speedpanel® systems are tested, certified & may provide up to a -/240/240 FRL.

ACOUSTIC RATED

Increased Acoustic performance. Tested & certified systems for sound peace of mind.

Ratings from Rw 32 to Rw 80.

LIGHTWEIGHT

Speedpanel® product range begins at 7.4kg/lm. The primary materials used in the composition of Speedpanel® include aerated concrete and light gauge steel.

SUSTAINABLE

Made from 29.5% recycled materials, can be dismantled, reused and is 100% recyclable. Also, Speedpanel® can last up to 100 years.

TONGUE & GROOVE

"Click" together simplicity makes for rapid construction & easy installation.

CUT TO LENGTH

All panels can be cut to length in pack lots leaving less wastage and labour on site.

EASY TO INSTALL

Speedpanel® can be easily installed by carpenters, plasterers or blocklayers. No specialist installers are required.

ZERO WET TRADES

Speedpanel® systems will remove wet trades from the site to allow a smoother construction process.

WEATHER PROOF

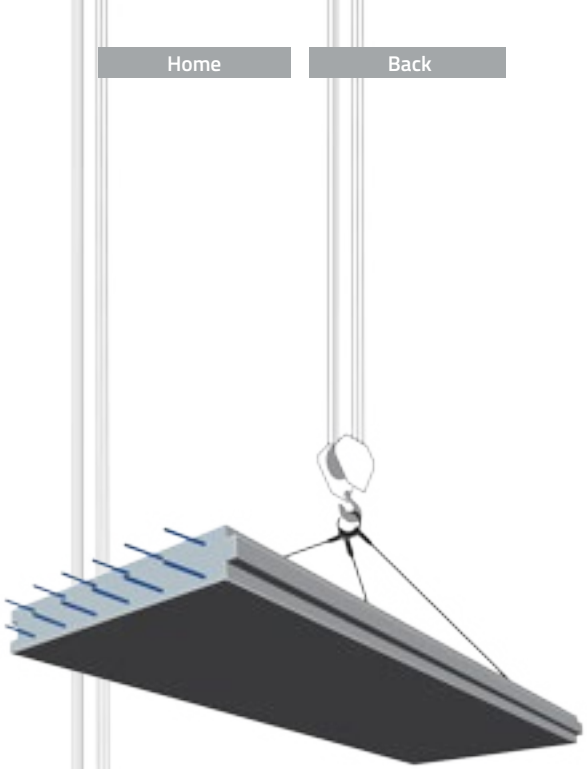
When installed, Speedpanel® systems are not adversely affected by weather.

CYCLONIC TESTED

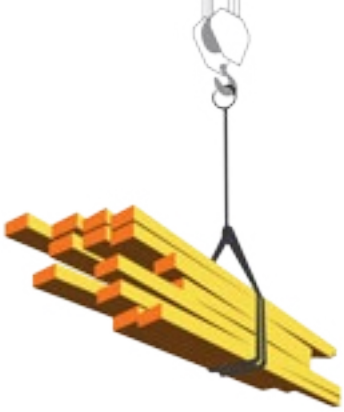
Speedpanel® is now cyclonic tested.

TO YOUR PROJECT...

1.2 SPEEDPANEL® SYSTEM APPLICATIONS



CONCRETE CONSTRUCTION



TIMBER CONSTRUCTION

STEEL CONSTRUCTION

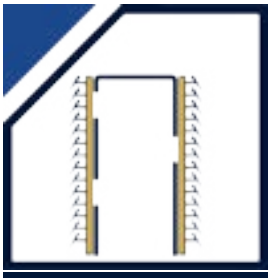
HIGH-RISE & COMMERCIAL CONCRETE CONSTRUCTION

FEATURED IN THIS BROCHURE

CEILINGS & BULKHEADS
SHAFTS & RISERS

SCISSOR STAIRS

CAR PARK WALLS



FAÇADE SUBSTRATE*

CORRIDORS

INTERTENANCY WALLS

*Subject to engineered specifications.

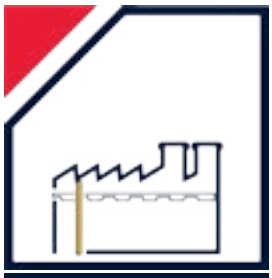
MULTI-RESIDENTIAL TIMBER, INDUSTRIAL & CINEMA STEEL CONSTRUCTION

FEATURED IN OTHER LITERATURE

BOUNDARY WALLS

PARTY WALLS &
CORRIDOR WALLS

CINEMAS / THEATRES &
STUDIO WALLS



BOUNDARY & SEPARATION
WALLS IN FACTORIES &
WAREHOUSES

FOR MORE INFORMATION ON THE MULTI-RESIDENTIAL TIMBER, INDUSTRIAL & CINEMA STEEL APPLICATIONS CONTACT US ON +61 3 9724 6888

SPEEDPANEL® PERFORMANCE
TESTED, CERTIFIED & PROVEN

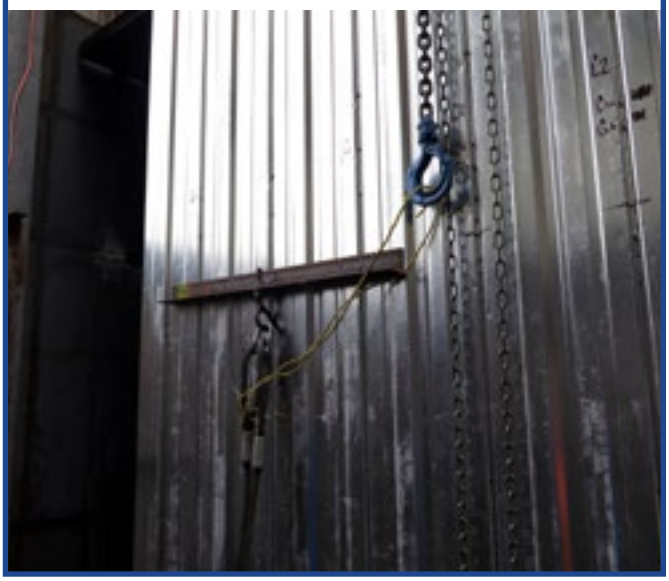
SPEEDPANEL® | FIRE TESTING |

Speedpanel® systems are tested across various NATA approved laboratories in different everyday building scenarios to ensure the system performance will never be compromised.

Picture on left tested by Branz: 78mm Speedpanel® in furnace at 4 hours.

SPEEDPANEL® | SEISMIC TESTING |

51mm Speedpanel® being tested at VIPAC Engineers & Scientists LTD for seismic requirements.



SPEEDPANEL® | ACOUSTIC TESTING |

Speedpanel® systems are now tested and certified for acoustic requirements.

SPEEDPANEL® - 2 HOUR TEST

A combination of vertical 78mm Speedpanel® supported by horizontal 78mm Speedpanel® at Exova Warringtonfire Laboratory in Dandenong, Victoria.

Non-fire side after 2 hours


Fire side after 2 hours

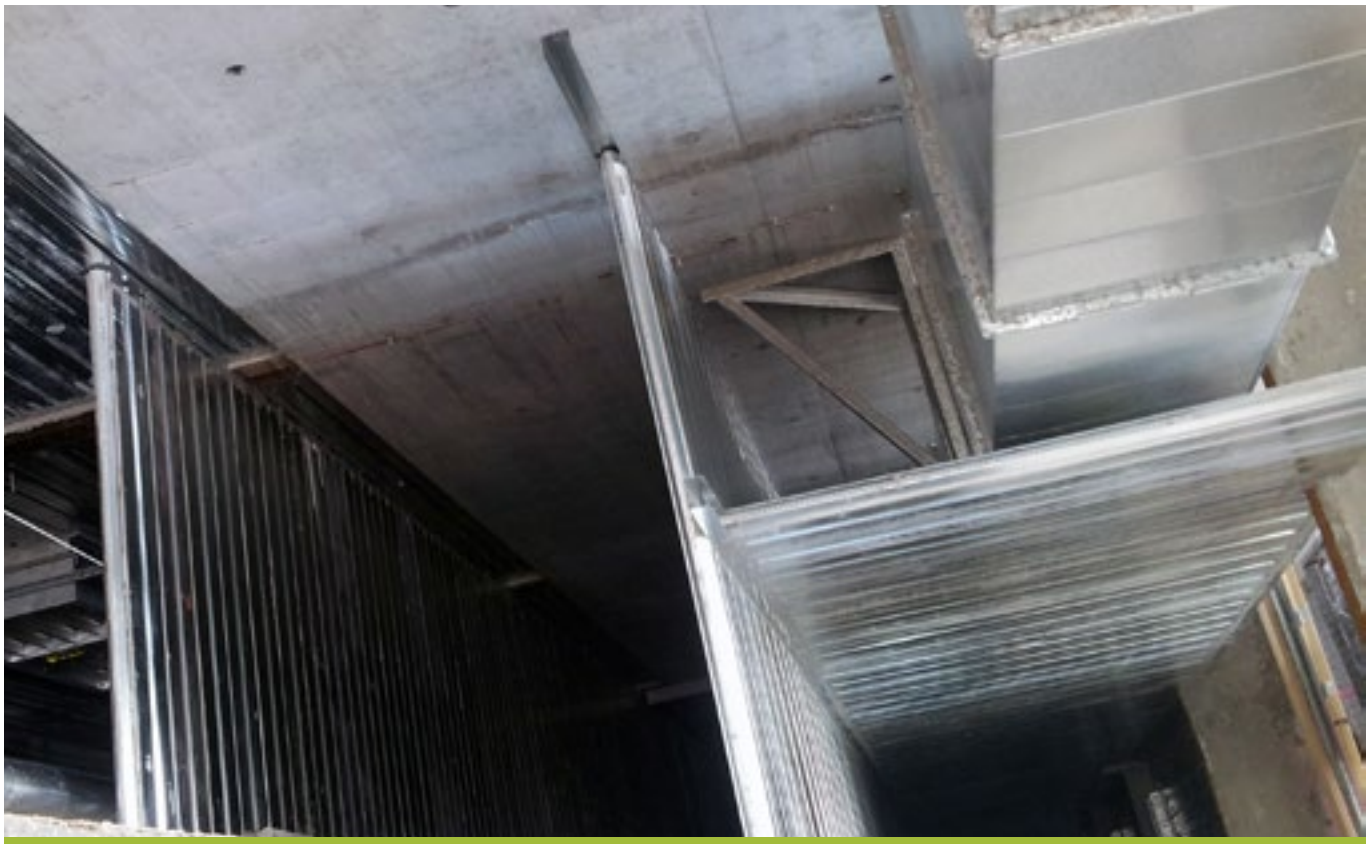
SPEEDPANEL® - 4 HOUR TEST

Two single fire-rated doors being tested in a 78mm Speedpanel® wall at Branz laboratory, New Zealand.


Non-fire side after 4 hours


Fire side after 4 hours

SHAFT WALLS



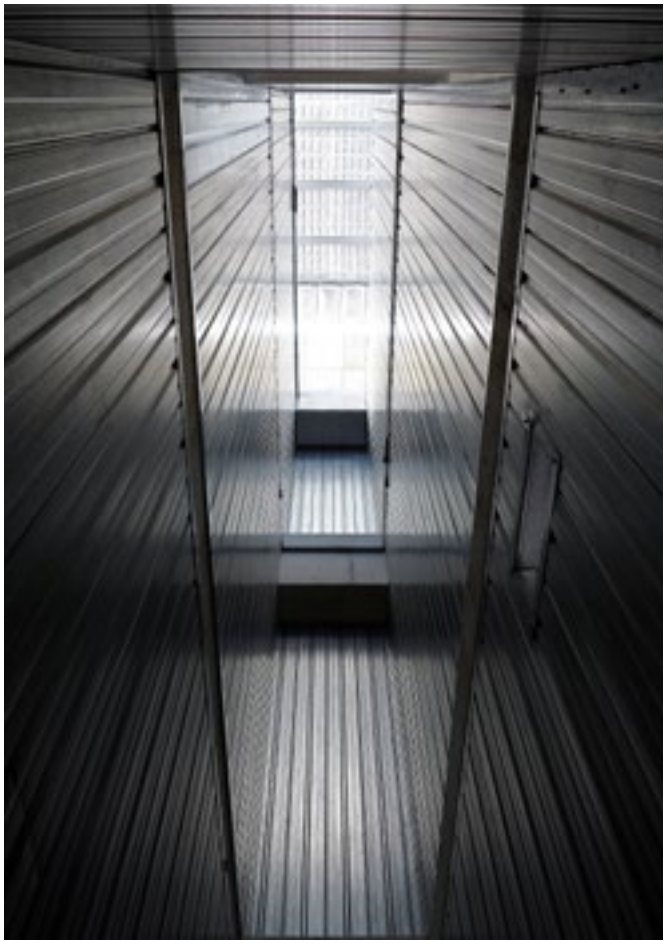
WHY USE SPEEDPANEL®?

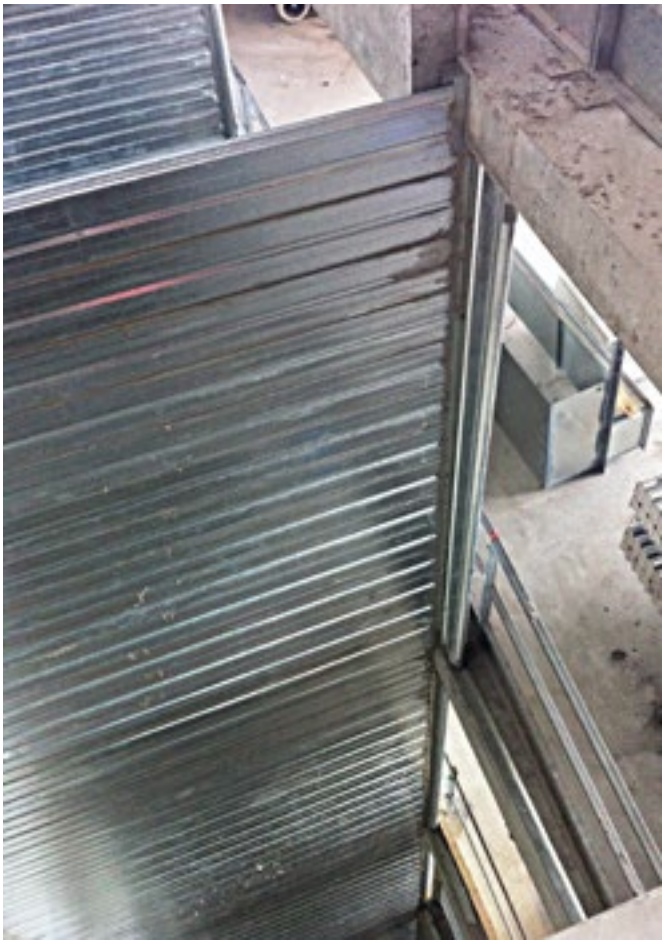
Extensive fire testing and the adaptable nature of Speedpanel® Systems allow design flexibility that surpasses traditional building systems. By utilising the strength of vertically installed Speedpanel® as a supporting structure, horizontally stacked Speedpanel® can be built in a single continuous wall in high rise buildings to unlimited heights. At Eureka Tower in Melbourne, Speedpanel® was continuously stacked over 80 floors!

Using the unlimited height horizontal walls connected to vertically installed walls which span from floor slab to soffit around the edge of an open core, Speedpanel® systems provide the complete solution to multiple shaft divisions. By simply caulking the Speedpanel® joints, the system can be pressurised. In these cases the Speedpanel® fire-rated walls can provide a dual purpose and completely eliminate the need for mechanical ductwork.

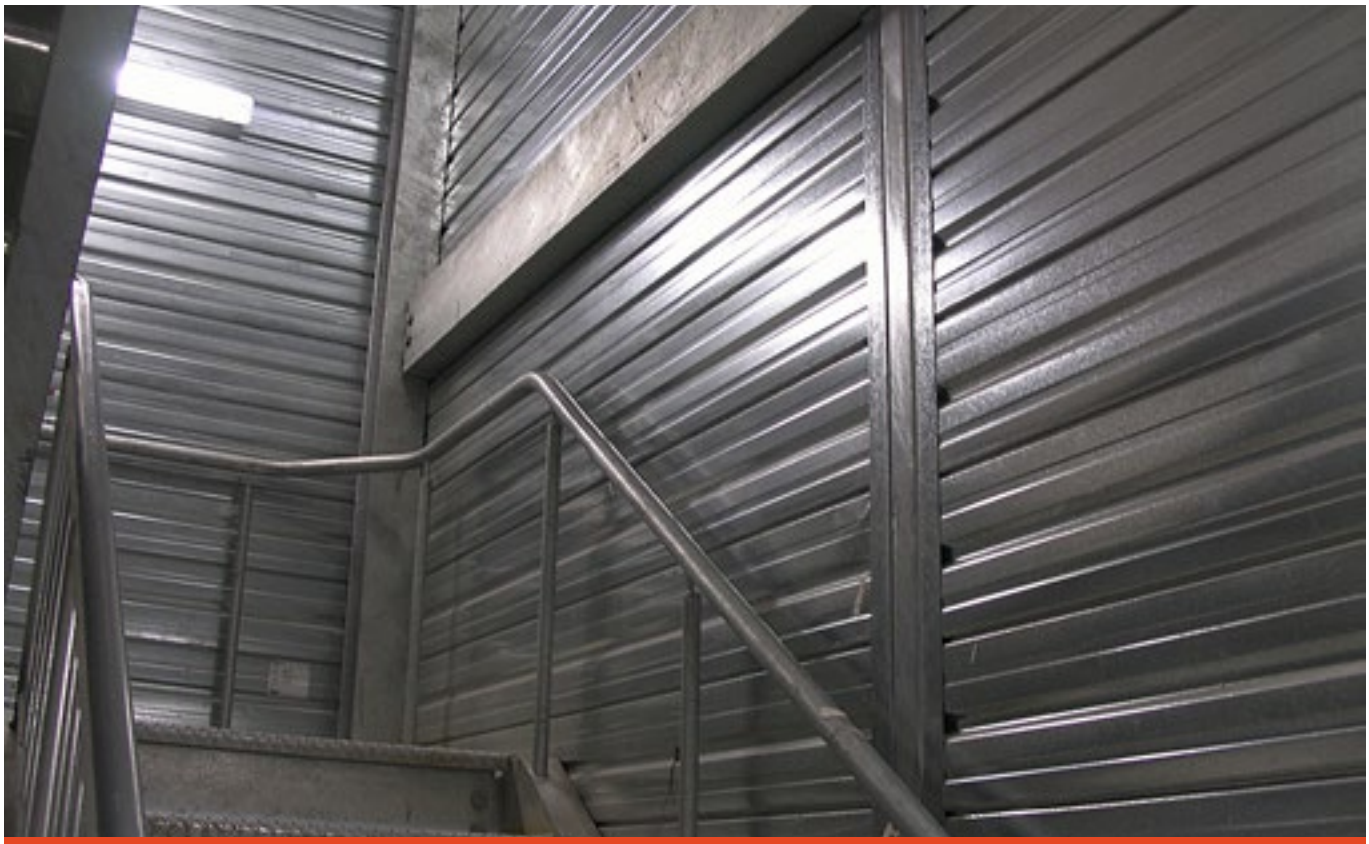
Due to the connection methods of the Speedpanel® system, traditional structure in these areas such as lintels is completely eliminated. Speedpanel® is able to provide systems which can be built from one direction. This means access issues in shafts are no longer a problem and savings are made on costly items such as scaffolding. Once constructed Speedpanel® often doubles as the safety barriers for open shafts resulting in savings in handrail costs also.

The time and cost savings available to builders and contractors in these situations make Speedpanel® the smart choice for your project.





STAIR WALLS



WHY USE SPEEDPANEL®?

Wherever possible Speedpanel® Systems look to adapt to existing structures within building projects. Speedpanel® has specifically set out to create certified solutions with unlimited height walls in scissor stair applications. These walls adopt a horizontal panel orientation and fix to existing stair stringers using off the shelf angles.

During construction, the fire stairwells of a building are heavily used for accessing each floor. This is often far quicker than using the temporary lifts provided, therefore for building efficiencies it is important to not clog these areas up with slow methods of construction when developing fire separation walls.

Removing the need for messy, wet materials such as grout and mortar makes for cleaner work areas which can be occupied by multiple trades far sooner. Due to the easy handling and lightweight of Speedpanel® components, and the fact that most systems can be constructed from one direction, the need for scaffolding to access areas is often no longer required.

CEILINGS & BULKHEADS

WHY USE SPEEDPANEL®?

Where ceiling and bulkhead situations often become difficult is with the certification to cover building sign-off. This is often the case where multiple product systems have been used to create a solution. Speedpanel® have extensive certification and assessments from independent testing bodies with complete solutions that allow sound piece of mind when using Speedpanel® systems.

Quite often, shafts and risers finish at the top of a building inside a roof structure, and require their own ceiling. 78mm Speedpanel® can create a free standing box structure, whereby the vertically installed walls can support a 78mm Speedpanel® ceiling spanning 3m.

The small lightweight capabilities lend themselves naturally to these often difficult, hard to reach areas of the work site.

Fire-rated bulkheads are often difficult to achieve around services. 78mm Speedpanel® can create a bulkhead that drops 1.5m and extends back 3m from the supporting structure.

INTERTENANCY & CORRIDORS

WHY USE SPEEDPANEL®?

Speedpanel® understands how easily small costs can add up and become prohibitive. It is with this in mind that when testing Speedpanel® Systems, we construct easy to build, real-life scenarios in laboratories. This includes cutting holes in the plasterboard for down-lights, GPOs and light switches.

We also aim to remove unnecessary costs that come with slow, fiddly labour such as wasteful plasterboard above ceiling height and costly fire boxes behind GPOs. This can only be done due to solid Speedpanel® that acts as the heart of the wall system.

As Speedpanel® provides fire ratings, multiple layers of heavy fire-rated plasterboard can be switched for single layers of lighter, cheaper standard plasterboard, and treatment of service penetrations in the plasterboard for fire purposes can be eliminated.

The strength and weather resistance of Speedpanel® Systems also provide extensive wind loading capacity. This means that the walls can sometimes be built before the external skin of a building is completed, which allows service trades to begin and finish sooner. The plastering contractor only needs access once before the area is completed, which results in major cost savings through program speed.

Real-life testing scenarios result in equivalent field test results. Everyone can rest easy knowing noise complaints or costly defects will be avoided when using Speedpanel® Systems. Occupants have also enjoyed the added security benefits that Speedpanel® provides.

CAR PARKS

WHY USE SPEEDPANEL®?

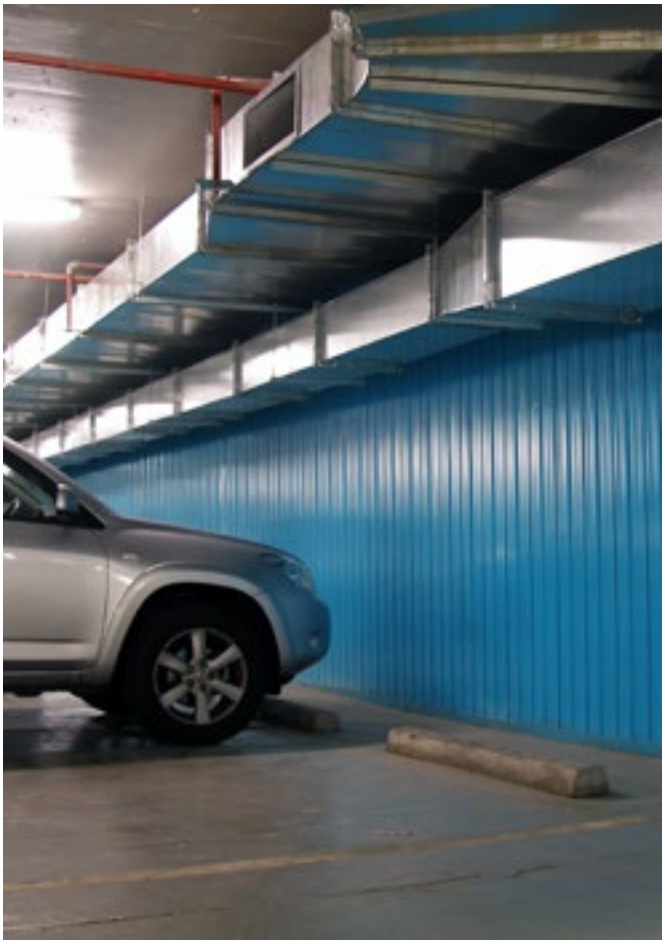
The overarching speed and ease of installation that Speedpanel® systems offer make it a natural choice in car park areas which are traditionally made in block-work or concrete. Where these trades can often be slow and messy, Speedpanel® aids speed of program by offering a simple alternative.

In car park areas, impact protection is required. Where Speedpanel® runs from slab to slab, wheel stops can be adopted to avoid cars touching the wall. Another alternative is to use block-work up to 1m high where no scaffolding is required, and then have a Speedpanel® system continue to soffit, offering the best of both worlds.

As Speedpanel® comes in multiple finishes including the complete colour steel range or in a bright reflective galvanised finish, the Speedpanel® system saves time by eliminating the need to paint these areas afterwards.

Due to the nature of the Speedpanel® composition of a steel outer shell filled with an aerated concrete inner core, Speedpanel® cannot be easily broken into without power tools. This leads to increased security benefits which are often requested in high end buildings.


SMALL
CAR
SPACE



PLANT ROOMS

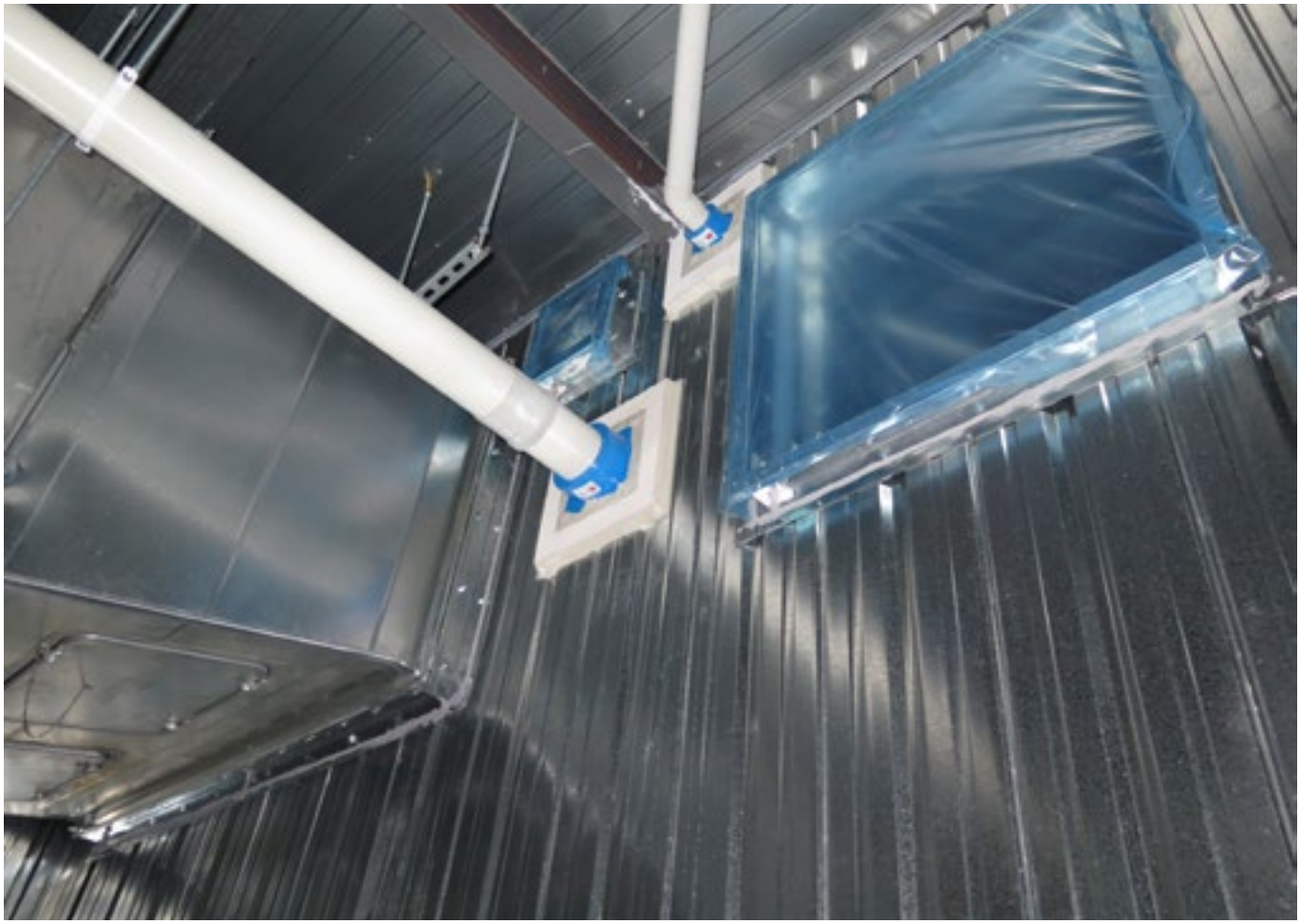
WHY USE SPEEDPANEL®?

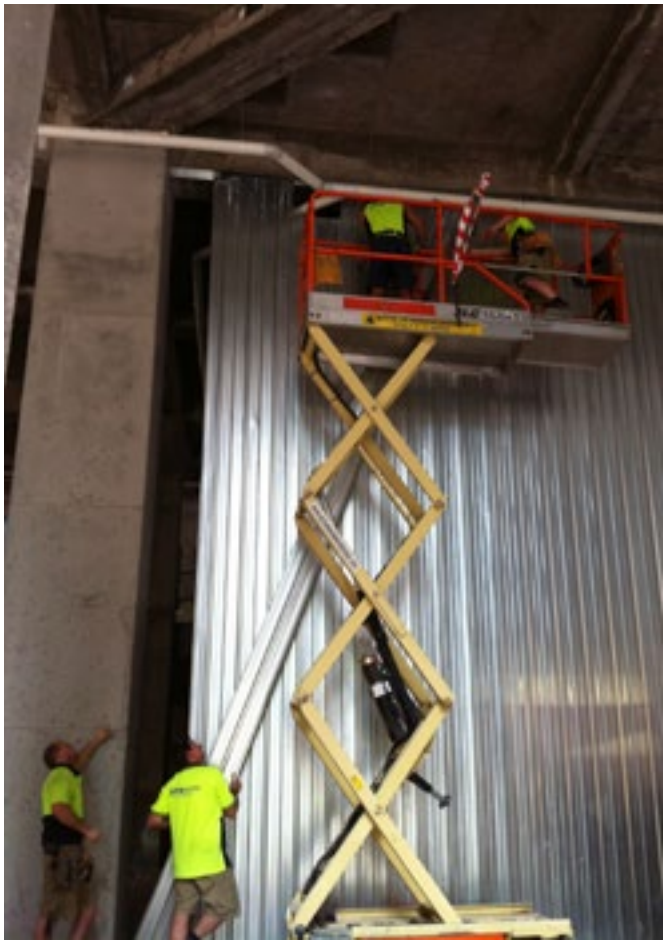
Speedpanel® systems can be partially constructed and finished at a later time, or can even be dismantled and re-assembled. This allows walls which are semi constructed to leave access for service trades during the development of a project, reducing overall program time-frames.

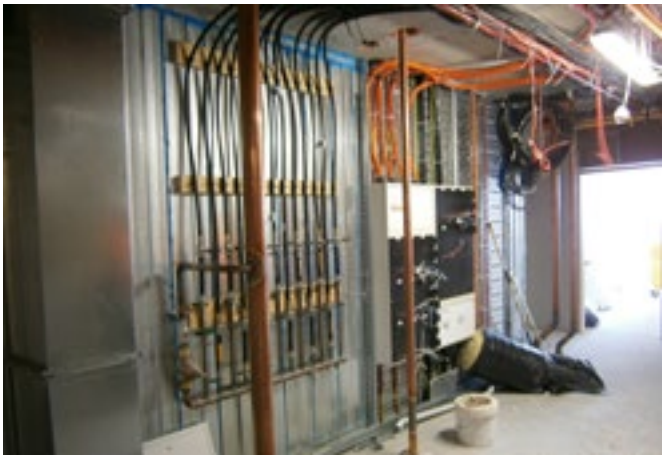
Unlike other light weight partitions, Speedpanel® systems do not require any additional framing for general penetrations. Penetrations are easily cut into Speedpanel® at any stage of construction without any pre-planning as to location. Speedpanel® have certification covering apertures up to 4m^2 with as little as a 100mm gap between the next aperture which is also up to 4m^2.

Extensive testing has been carried out on Speedpanel® Systems to calculate its ability to carry significant weight. Various fixing positions within the system may be stronger than others. When connecting heavy service equipment such as electrical boxes or plumbing features, Speedpanel® recommend fixing into the panel joints located every 250mm. Load can be distributed over the wall using furring channel or uni-struts. By spreading load across the system, it can take incredibly large weight even though the system is non-load bearing.

Speedpanel® comes in small pre-fabricated panels which can be butt jointed in certain applications, making it an easy solution for construction in tight and difficult work zones.







FAÇADE SYSTEMS

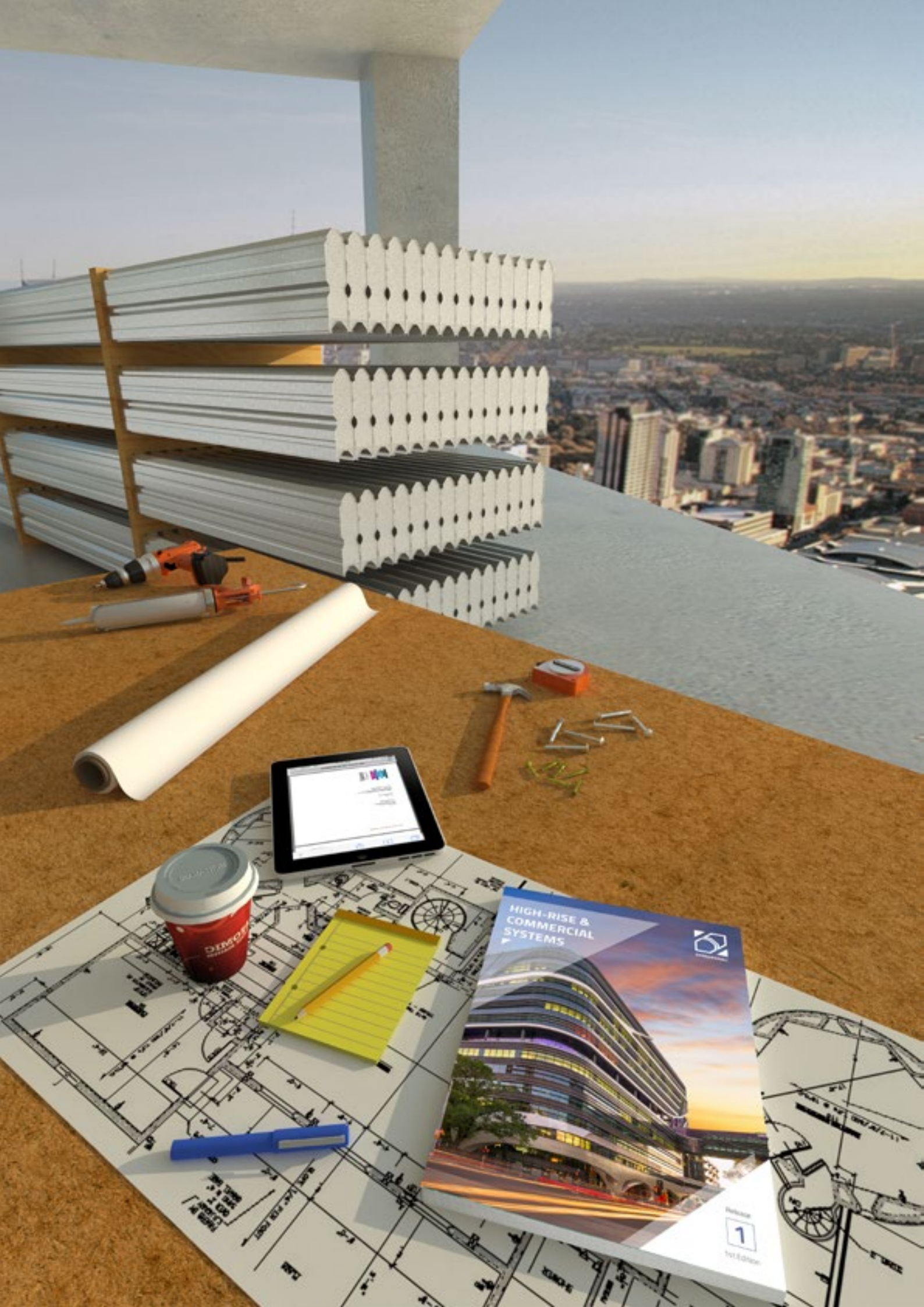
WHY USE SPEEDPANEL®?

Speedpanel® Systems provide a pre-finished aesthetic with various galvanised or colour steel options. This often negates the need for additional finishes and painting requirements.

When working on an external or boundary wall of a building it is often impossible to erect expensive scaffolding, or to even gain access to other elevated work platforms. Therefore, Speedpanel® have developed systems that allow all fixings and sealants to be constructed from one side of the wall. This means that Speedpanel® walls can be built on a boundary without requiring any access to the neighbouring property.

Speedpanel® have completed testing on wind loading and deflection requirements and created systems that have been suitable for building applications such as external façade elements in either a horizontal or vertical fashion, in standard or low wind regions of Australia and New Zealand up to the highest 'wind region' category (including region C & D) as defined in AS/NZ 1170.2:2011.

Although Speedpanel® is non-load bearing in common structural terms, Speedpanel® systems do have the ability to support large weight in the form of façades, electrical boxes and other service componentry based on screw fixing tests into specific locations within the Speedpanel® system. Always ensure that a Speedpanel® / Façade combination has been sufficiently designed by a qualified engineer before proceeding.


HIGH-RISE &
COMMERCIAL
SYSTEMS
1

02

SPEEDPANEL®

INSTALL GUIDE

2.1 DESIGN CONSIDERATIONS

IMPORTANT NOTICE

Your project will have various building code requirements in line with the NCC. It is the responsibility of the reader of this guide to determine the suitability of Speedpanel®, Speedpanel® Products or Speedpanel® Systems for your project.

All construction information contained within this guide has been written in conjunction with documented fire tests and assessments in accordance with AS1530.4. Furthermore, these assessments have been based on an internal environment that is subject to internal wind loads.

The construction guidance herein is subject to the particular acoustic performance criteria when constructed to methods outlined within Chapter 3 of this guide "Speedpanel® Acoustic Systems".

Whilst Speedpanel® have carried out testing and gained various assessments for performance criteria including but not limited to seismic, air infiltration, structural, wind loading and cyclonic conditions, unless specifically stated in this guide these performance characteristics may not be applicable to all scenarios described or illustrated within this guide.

The list below (which is not exhaustive) is provided for consideration on your project, and advisement of additional information available. It in no way means that all scenarios have been tested accumulatively on a single configuration system, thereby meaning that the information mentioned within this guide may only be applicable to one form of test standard performance, rather than multiple criteria at once.

FIRE

All Speedpanel® systems have been tested to AS1530.4 to determine fire resistance performance and confirm the product has non-combustible product properties. Speedpanel® utilises assessments issued by 3rd party NATA certified laboratories to extend the scope of application of tested systems.

ACOUSTICS

Speedpanel® Systems have been tested by NATA certified laboratories in accordance with AS 1191 for acoustic ratings of the panels by themselves and Speedpanel® proprietary acoustic systems. Furthermore, all acoustic data has been modelled by qualified acoustic engineers to produce bespoke higher acoustic rating systems.

WIND LOADING / DEFLECTION

All wind loading deflection testing has been undertaken by NATA registered laboratories in accordance with AS 4040.2-1992 (non-cyclone regions).

CYCLONIC

Cyclonic wind load debris testing has been undertaken by James Cook University (Townsville, Australia) in accordance with the guidance of AS/NZS 1170.2 for impact testing of horizontal trajectories. Testing was undertaken for regions, as defined in AS 1170.2, up to region D for a 10,000 year event.

STRUCTURAL

Speedpanel® panels have been subjected to individual structural tests in Column, Flat Beam, Local Loading and Two-Panel Compression modes by accredited 3rd party structural laboratories based in Australia.

SEISMIC

Speedpanel® panels are tested and assessed by accredited laboratories to AS/NZS 1170.0, AS 1170.4 (Australia Earthquake Actions) and AS 1170.5 (New Zealand Earthquake Actions).

AIR INFILTRATION

Speedpanel® can be used as a fire-rated pressurised plenum or shaft that needs to be air tight. Panels have been tested in accordance with AS/NZS 4284:2008 using NATA accredited laboratory equipment.

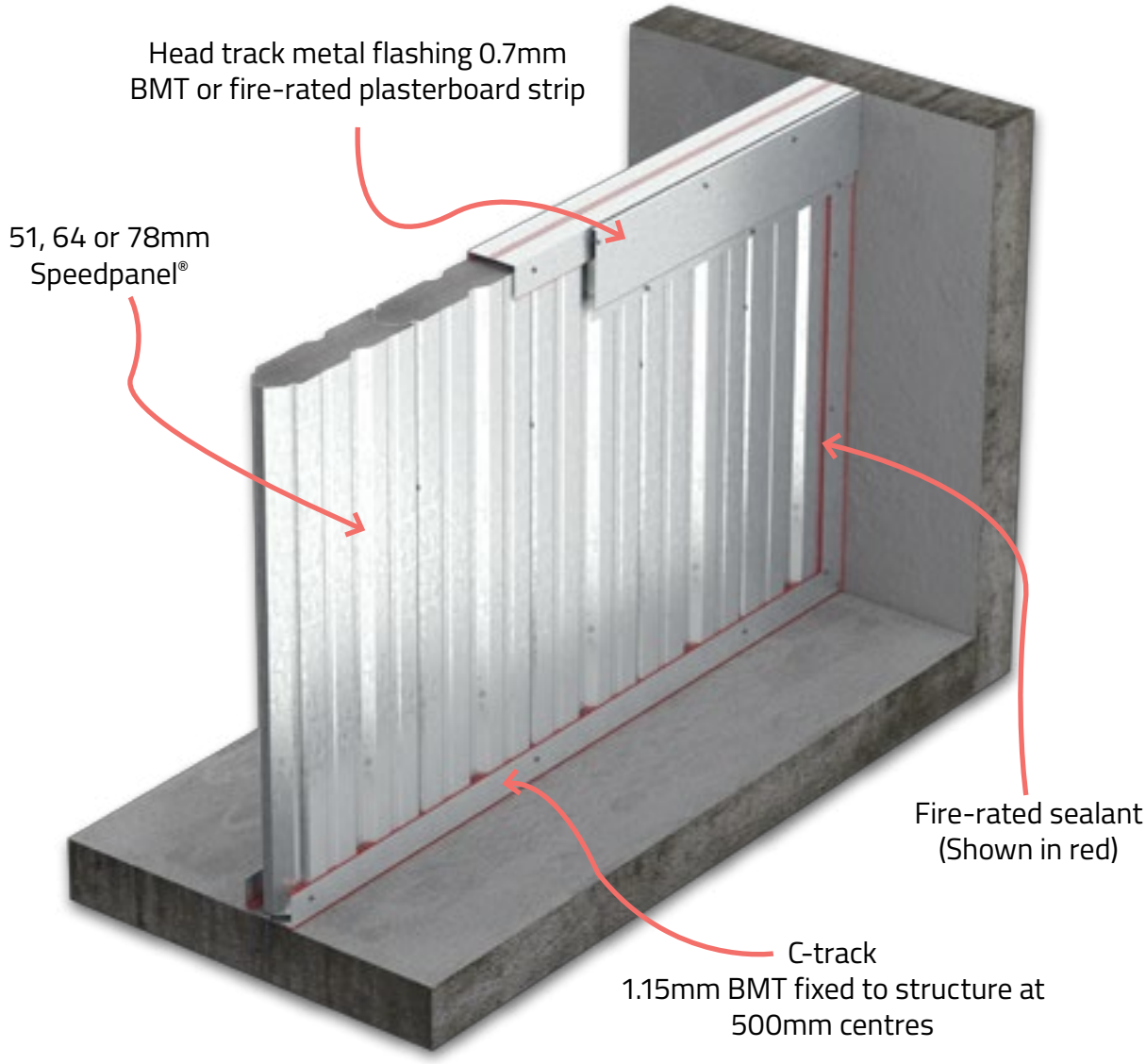
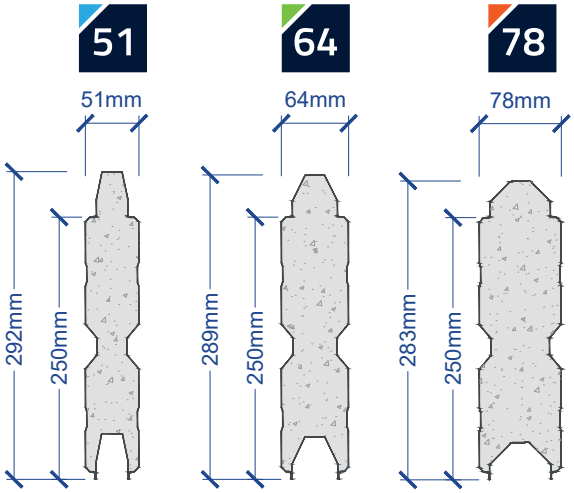


Figure 1

SPEEDPANEL® PROPERTIES

The tables below illustrate Speedpanel® properties for all three panel sizes. For more information regarding other Speedpanel® densities please contact our office on +61 3 9724 6888.

PANEL PROPERTIES									
Panel profile	51			64			78		
Density (kg/m³)	435	600	750	435	600	750	435	600	750
Weight per lm (Kg)	7.7	9.6	11.3	9.1	11.5	13.7	10.6	13.6	16.3
Weight per m² (Kg)	30.8	38.4	45.3	36.5	46.2	55.1	42.6	54.6	65.5
Shell material	0.4 BMT galvanised steel								
Core material	Light weight concrete								



SPEEDPANEL® FRL AND ASSOCIATED SPANS - WALL SYSTEMS

The tables below illustrate Speedpanel® FRL and associated spans in Speedpanel® Wall Systems. Please read these tables in conjunction with the relevant chapter and fire assessment for each specific system.

SPEEDPANEL® WALL SYSTEM							
Panel profile	51		64		78		
Fire rating	-/60/60		-/90/90		-/120/120		
Direction of fire rating	Both Ways		Both Ways		Both Ways		
Panel orientation	Vertical	Horizontal	Vertical	Horizontal	Vertical	Horizontal	
						All other applications	Scissor Stair application only
Max. span between structural connections	5.0m	3.0m	5.0m	3.0m	6.0m	4.5m	5.0m
Max. wall length (Single span)	Unlimited	3.0m	Unlimited	3.0m	Unlimited	4.5m	5.0m
Max. wall height (Single span)	5.0m	5.0m	5.0m	5.0m	6.0m	Unlimited	Unlimited
Max. wall length (Multiple structural connections)*	N/A	Unlimited	N/A	Unlimited	N/A	Unlimited	N/A
Max. wall height (Multiple structural connections)**	14.0m	N/A	14.0m	N/A	14.0m	N/A	N/A

* Intermediate fire-rated structure between "Max. wall length" panel dimensions.

** Based on 600 kg/m³ density panel core. Reduced density may result in reduced height, for more information please contact our office on +61 39724 6888.

SPEEDPANEL® FRL AND ASSOCIATED SPANS - CEILING & BULKHEAD SYSTEMS

The tables below illustrate Speedpanel® FRL and associated spans in Speedpanel® Ceiling & Bulkhead Systems. Please read these tables in conjunction with the relevant chapter and fire assessment for each specific system.

SPEEDPANEL® BULKHEAD SYSTEM		
Panel profile	78	
Fire rating	-/120/120	
Direction of fire rating	Varies^	
Section of bulkhead	Vertical	Horizontal
Max. span between structural connections	1.5m	3.0m
Max. bulkhead length (Single span)	Unlimited	Unlimited
Max. bulkhead width (Single span)	3.0m	3.0m

SPEEDPANEL® CEILING SYSTEM	
Panel profile	78
Fire rating	-/120/120
Direction of fire rating	Varies^
Panel orientation	Laid flat
Max. span between structural connections	3.0m
Max. ceiling run	Unlimited

^ Direction of the fire rating on these Speedpanel® Systems varies from one sided only to both side protection, see the relevant chapter for more information.

SPEEDPANEL® WIND LOADING DATA

The tables below illustrate wind loading data for 51, 64 and 78mm Speedpanel® with 435kg/m³ density.

51 64 51 & 64mm SPEEDPANEL® WIND LOADING TABLE*

Span (m)	ULS	L/150 (Kpa)	L/200 (Kpa)	L/250 (Kpa)	L/300 (Kpa)
2.0	7.66	7.66	6.20	4.96	4.13
2.5	4.90	4.12	3.18	2.54	2.12
3.0	3.40	2.41	1.84	1.47	1.22
3.5	2.49	1.53	1.16	0.92	0.77
4.0	1.91	1.03	0.77	0.62	0.51
4.5	1.50	0.73	0.54	0.43	0.36
5.0	1.22	0.53	0.39	0.31	0.26

78 78mm SPEEDPANEL® WIND LOADING TABLE

Span (m)	ULS	L/150 (Kpa)	L/200 (Kpa)	L/250 (Kpa)	L/300 (Kpa)
2.0	10.69	10.69	9.37	8.03	7.10
2.5	6.87	6.04	4.96	4.21	3.66
3.0	4.79	3.63	2.95	2.48	2.13
3.5	3.53	2.36	1.90	1.58	1.35
4.0	2.71	1.62	1.30	1.07	0.91
4.5	2.14	1.17	0.92	0.76	0.64
5.0	1.74	0.87	0.68	0.56	0.46
5.5	1.44	0.66	0.52	0.42	0.35
6.0	1.21	0.52	0.40	0.33	0.27
6.5	1.03	0.41	0.32	0.26	0.21
7.0	0.89	0.34	0.26	0.21	0.17
8.0	0.68	0.23	0.18	0.14	0.11

* Theoretical values based on testing of 4.2m span panels.

SPEEDPANEL® AIR INFILTRATION DATA

Pressure (Pa)	Unsealed (L/m².s)	Sealed (L/m².s)
+300	0.81	<0.1
-300	-0.85	<-0.1
+750	N/A	+0.1
-750	N/A	-0.1
+1000	N/A	+0.1
-1000	N/A	-0.2
+1500	N/A	+0.2
-1500	N/A	-0.3

QUICK & SIMPLE

PICK THE RIGHT DETAIL...

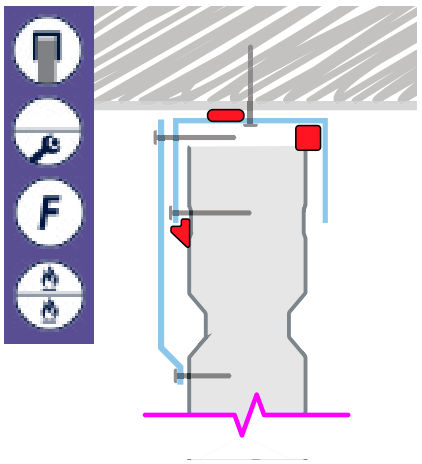
Throughout this publication there are instances where you will have several options available when approaching a building design solution.

To help you narrow down the most suitable options, we have developed a guide to assist in recognising the attributes of each construction method or detail.

Each symbol represents a different option. Once you have established which symbols match your requirements, you only have to locate the details with the relevant symbols.

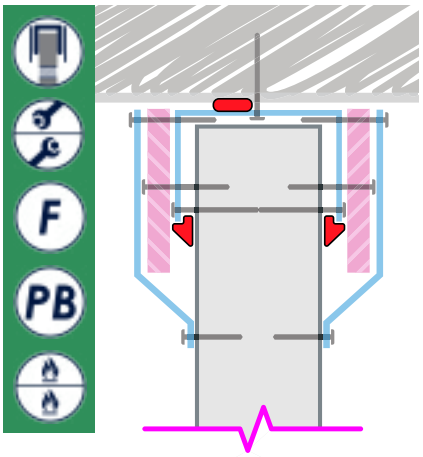
Please have a look at the examples below to get a better understanding of the symbols.

EXAMPLE



The head detail above must be constructed using C-tracks and Metal flashing. This detail is fire-rated from both sides and the installer needs only one side access to the wall in order to build this detail.

EXAMPLE



The head detail above must be constructed using C-tracks, fire-rated plasterboard and metal flashing. This detail is fire-rated from both sides and the installer must have access to the both sides of the wall in order to build this detail.

HEAD DETAIL CONSTRUCTION OPTIONS:

OPTION A: C-TRACK HEAD DETAIL

C-section head tracks require 50% less fixings into the slab than the angle head track option and 75% of the quantity of fire-rated sealant. However, C-tracks require additional head track protection. This can be either a 13mm fire-rated plasterboard strip or our aesthetic metal flashing option.

OPTION B: ANGLE HEAD DETAIL

Angles enable significantly easier construction of walls in confined spaces where panel maneuverability is limited. The angle solution allows the final panels to be easily placed without any cutting or maneuverability issues in tight areas. Angles are also the most suitable option for curved walls.

OPTION C: SUSPENDED HEAD DETAIL

Used when large penetrations are required in a Speedpanel® wall, suspended head details require additional head track protection and fixings due to the nature of this construction.

SPEEDPANEL® QUICK REFERENCE SYMBOLS:

ACCESS TO ONE SIDE

When build ability or access restrictions mean installation from both sides of the wall is not possible.

ACCESS TO BOTH SIDES

When the Speedpanel® wall being constructed is freely accessible from either side.

FIRE PROTECTION: FLASHING

Metal Flashing offered is custom shaped and has a metal aesthetic similar to match the galvanised finish of Speedpanel®.

FIRE PROTECTION: PLASTERBOARD

Plasterboard is easily cut to size and is often freely available on building sites.

FIRE PROTECTION ONE SIDE

When protection from fire is required from one side only.

FIRE PROTECTION TWO SIDES

These details are designed for when protection from fire is required from either side.

TESTED & CERTIFIED

THAT EXTRA PEACE OF MIND.

Speedpanel® Systems are fire tested & certified by Independent Testing Bodies including Exova Warringtonfire, Branz and CSIRO.

This extensive certification includes several heights, spans and connecting configurations allowing large span and unlimited height availability in specific applications. Complete service penetration requirements including pipes, cables, ducts, cable trays, dampers and doors have all been accredited.

Speedpanel® Systems may provide up to a -/240/240 FRL.

Note: Not all of our assessments are referenced in this guide. Please refer to our website or contact our office to access further certification and assessments. Ph: + 61 3 9724 6888

HOW TO USE QR CODES

You can download a QR Code reader app on your smart-phone to scan the codes provided in this guide.

You will find these QR-Codes at the start of each chapter which will lead you to the relative assessments used for that specific chapter.

Below you will find all the assessment reports used in this guide with a short description.

1 - REPORT 21622

The fire resistance performance of 51mm, 64mm and 78mm thick Speedpanel® walls incorporating various apertures for penetrations and dampers when tested in accordance with AS1530.4.

1 - REPORT 21622

2 - REPORT 28928

An assessment of the fire resistance performance of 51mm, 64mm and 78mm thick vertically orientated Speedpanel® walls if tested in accordance with AS1530.4.

2 - REPORT 28928

3 - REPORT 28961

An assessment of the fire resistance performance of walls made from 51mm, 64mm and 78mm thick horizontally orientated Speedpanel® if tested in accordance with AS1530.4.

3 - REPORT 28961

4 - REPORT 22551

An assessment of the fire resistance performance of vertical 78mm thick Speedpanel® 6.0m wall systems with angled or curved walls when tested in accordance with AS1530.4.

4 - REPORT 22551

5 - REPORT 31919000

An assessment of the fire resistance performance of external Speedpanel® walls with parapet detail if tested in accordance with AS1530.4.

5 - REPORT 31919000

6 - REPORT 3580

An assessment of a non load-bearing continuous height, horizontal orientated Speedpanel® wall interfaced with a horizontal Speedpanel® wall.

6 - REPORT 3580

7 - REPORT 3584

An assessment of a non load-bearing continuous height, horizontal orientated Speedpanel® wall interfaced with a horizontal Speedpanel® wall.

7 - REPORT 3584

8 - REPORT 3789

An assessment of the fire resistance of a junction detail using horizontal to vertical orientated Speedpanel® in accordance with AS530.4.

8 - REPORT 3789

9 - REPORT 3895

An assessment of a non load-bearing horizontal and vertical orientated Speedpanel® wall with variations to connection details.

9 - REPORT 3895

10 - REPORT 35875300

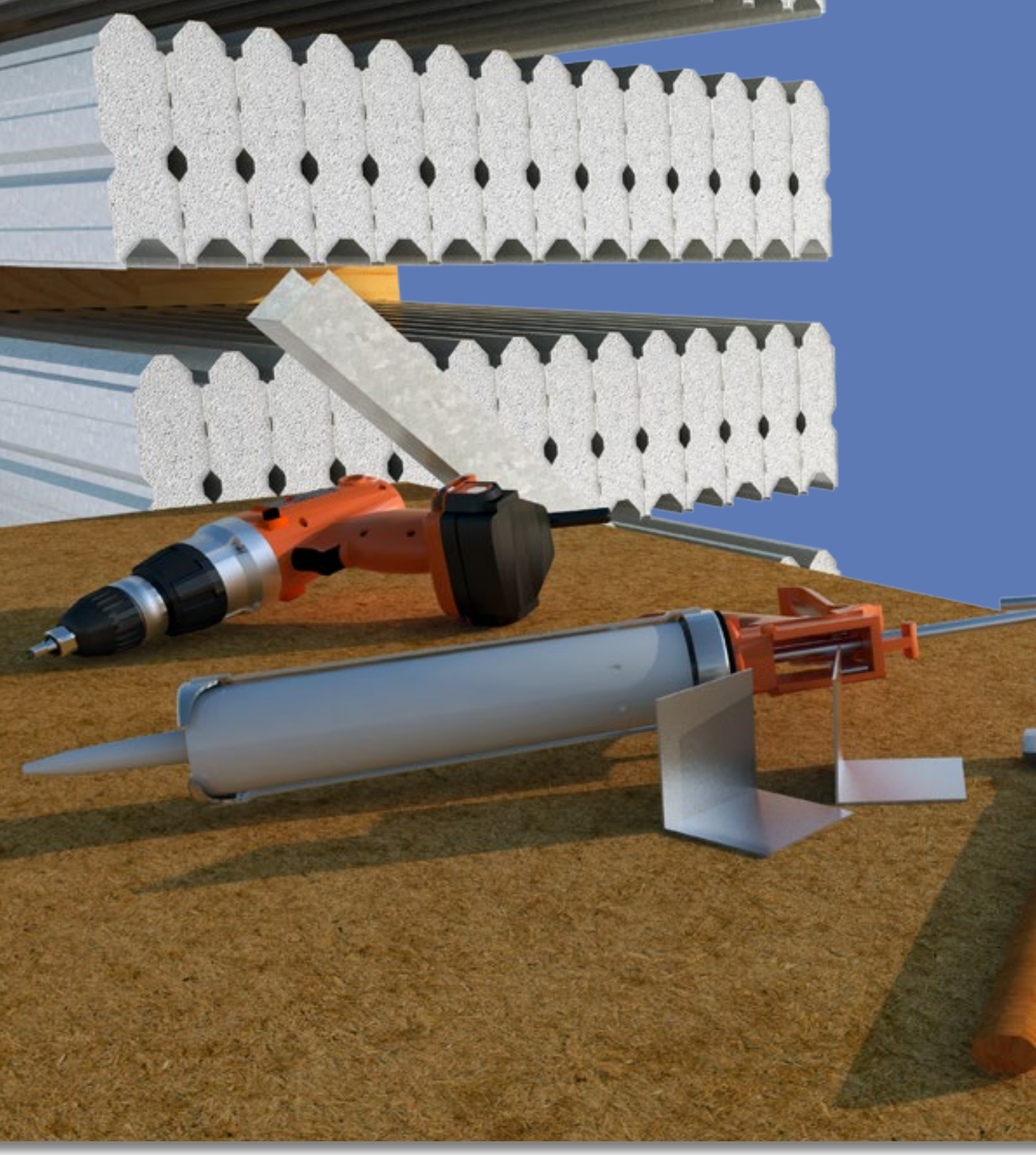
The fire resistance performance of a 78mm thick horizontally orientated Speedpanel® wall installed in a scissor stair configuration when tested in accordance with AS1530.4.

10 - REPORT 35875300

11 - REPORT 34352100

The fire resistance performance of 78mm horizontal Speedpanel® ceilings and walls if tested in accordance with AS1530.4.

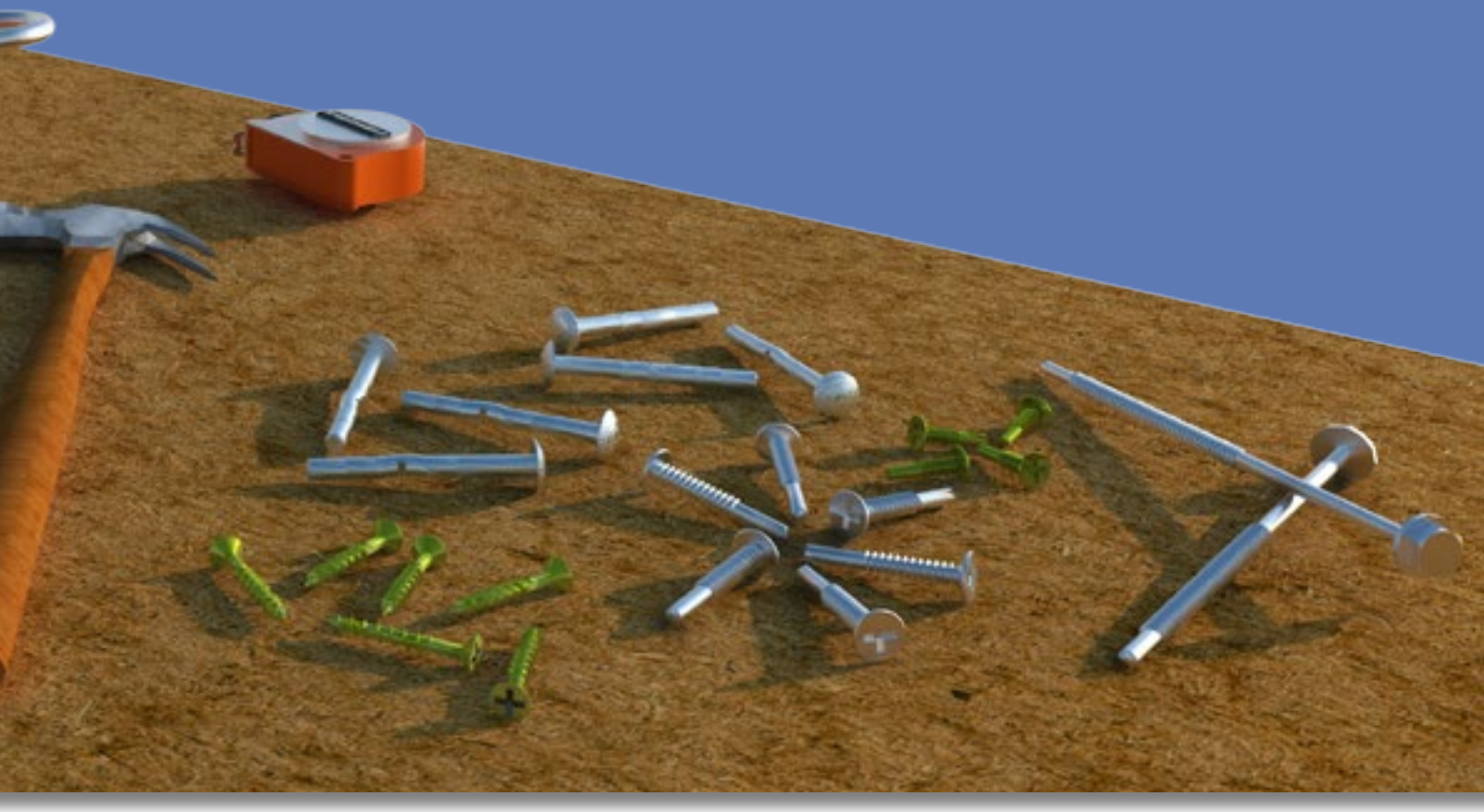
11 - REPORT 34352100



Personal Protective Equipment

It is important to wear protective equipment when handling Speedpanel®, including durable gloves and steel cap boots. When panels or C-track are required to be cut, further protection including safety glasses, noise cancelling headwear and a dust mask is recommended.

2.2



SYSTEM COMPONENTS

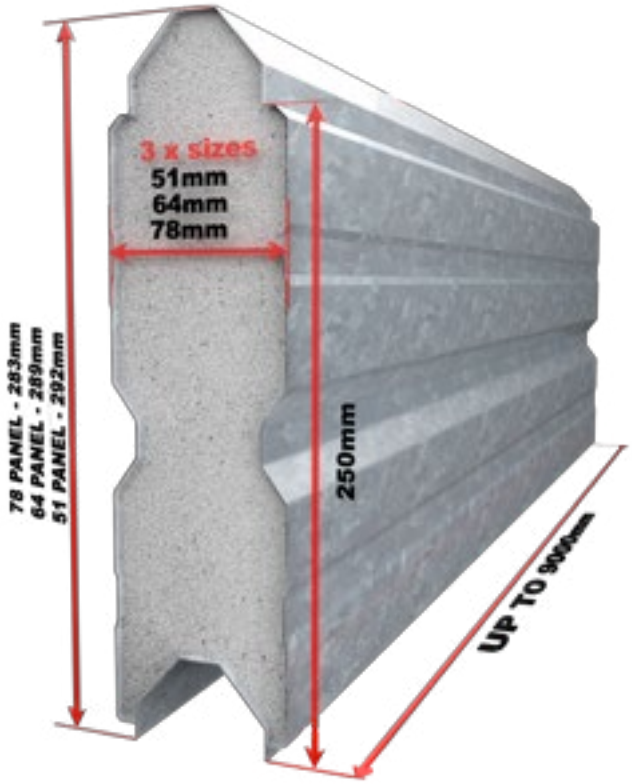
2.2 SYSTEM COMPONENTS

SPEEDPANEL®

Different panel thickness's are available to suit your fire rating or footprint. For external or visible walls, our 78mm panel is available in the entire colour steel range.

PANEL SIZE		FRL	PANEL WEIGHT
51	51 mm	-/60/60	7.4 kg per lm 29.6 kg per m²
64	64 mm	-/90/90	8.8 kg per lm 35.3 kg per m²
78	78 mm	-/120/120	10.3 kg per lm 41.4 kg per m²

SPEEDPANEL® READY FOR TRANSPORT



SPEEDPANEL® CRITICAL DIMENSIONS
FIGURE 2

*Minimum order quantities may apply for some colours

C-TRACK

1.15mm BMT Galvanised 55mm Deep x Width of Speedpanel® for general use around perimeter of Speedpanel® walls and encapsulating square & rectangular apertures.

FIGURE 3

WEEP HOLE C-TRACK

1.15mm BMT Hot Dip Galvanized C-Track 55mm Deep x Width of Speedpanel® with Weep Holes at every 500mm.

Weep holes are only required in the base C-track of external Speedpanel® walls. Weep holes are orientated facing outside and are designed to prevent pooling of water within the C-tracks.

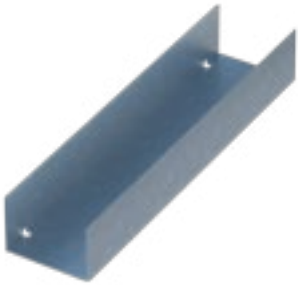


FIGURE 4

J-TRACK

Used similar to the C-track, a J-track enables difficult connections between Speedpanel® Systems. Used typically where a suitable fixing location to a regular C-track would be covered up. Where a C-track is unable to be drilled/ screwed an elongated flange is used.

Note: Custom flange lengths can be made to suit project

FIGURE 5

TWO 50x50mm EQUAL ANGLES

Equal Angles 1.15mm BMT for general use around perimeter of Speedpanel® walls as a secondary option to C-track.

FIGURE 6

BACK TO BACK C-TRACK FLASHING

Back to back connections require additional protection from fire. This thermal barrier is achieved by using a back to back flashing over the connection. Flashing should fully cover both C-tracks & leave a 5mm minimum gap from all surfaces of C-track flashings 0.7mm thick, screw fixed into track and panel at 500mm centres.

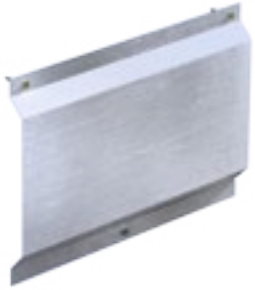


FIGURE 7

HEAD TRACK PROTECTION

Head tracks in Speedpanel® Systems **MUST** be protected by either a 0.7mm BMT metal flashing or a 13mm fire rated plasterboard. Fixings are to be staggered at 125mm centres horizontally at the top and bottom as shown in figures: 31-32 (page 61).

Note: Additional protection is required only on the top 'C-track to structure connection'.

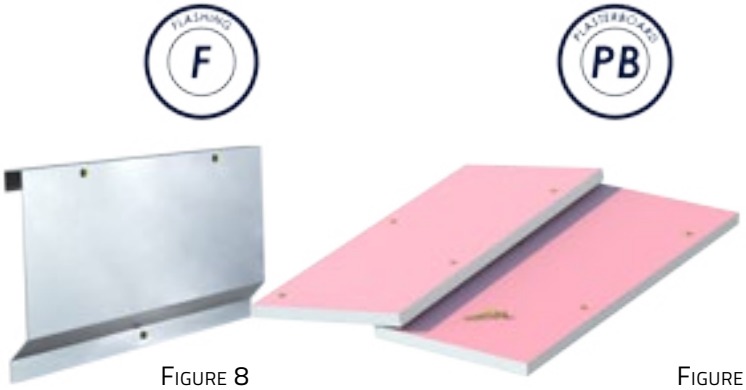


FIGURE 8

FIGURE 9

SPEEDPANEL® COVER SKIN

Cover skins are a thin sheet of steel that fit over the profile of Speedpanel®. It can be useful to cover blemishes on panels or to protect butt joint panels. Cover skins can be ordered in our full range of colour steel and galvanised finishes. Please refer to Chapter 2.10 "Alternative Speedpanel® Wall Systems" and certification for fixing and sealing requirements.

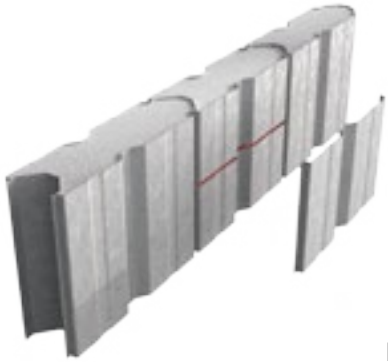
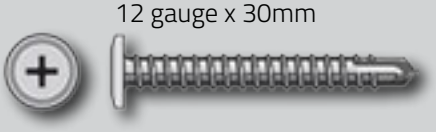
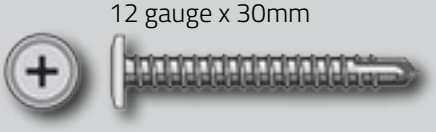


FIGURE 10

Typical Fixings

		C-TRACK	PANEL
EXTERNAL / INTERNAL FIXINGS	Concrete	M6.5 x 50mm Mushroom Head Spike 	-
	Steel	Hex Head 14-10 x 30mm 	-
	Panel	SDS 10 Gauge x 30mm (Class 3) 	SDS 10 Gauge x 16mm (Class 3)  14-20 Gauge x 115mm (only at T-Junctions) 
INTERNAL FIXINGS ONLY	Panel	SDS 10 Gauge x 30mm (Zinc Yellow) 	SDS 10 Gauge x 16mm (Zinc Yellow) 
	Plasterboard	Bugle Head fine thread SDS 6 gauge x 40mm 	Bugle Head fine thread SDS 6 gauge x 40mm 
CEILING & BULKHEADS ONLY	Corrugated steel roof sheeting	SDS 10 Gauge x 16mm (Class 3) 	SDS 10 Gauge x 16mm (Class 3) 
	Steel angle	Wafer Head SDS (Class 3) 12 gauge x 30mm 	Wafer Head SDS (Class 3) 12 gauge x 30mm 
	Plasterboard strip	-	Bugle Head fine thread SDS (Class 3) 12 gauge x 45mm 

Typical Fire Sealant

FIRE RATED SEALANT

Speedpanel® Australia Ltd recommends **Hilti CP606 (acrylic)** fire rated sealant. Although Speedpanel® Australia Ltd have tested various brands and types of fire sealants within our wall systems, not every brand has currently been tested in every application referenced in this guide. For further information please contact our office +61 3 9724 6888

Fire rated sealant comes in a light shade of grey, however for clarity purposes all sealant has been represented in **RED** throughout this installation guide.

Figure 11

Alternative fixings and fire sealants

Alternative fixings or sealants to those shown may affect the performance of the Speedpanel® Systems. Fixings or sealants shown have been tested and certified under real fire conditions. Please contact Speedpanel® Australia Ltd. to confirm the compatibility of any alternative desired fixings or sealants.

Supplementary Components

FIRE RATED PENETRATIONS

Penetrations are easily cut directly through Speedpanel®. Various branded passive fire products are certified to fire rate many forms of service penetrations. To view our current certification please visit: **speedpanel.com.au**

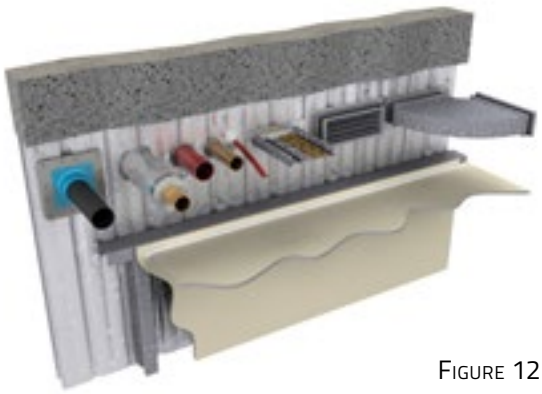


Figure 12

OTHER THIRD PARTY PRODUCTS

Speedpanel® Systems are thoroughly tested not just with our own product range, but with many leading third party products. We aim to provide the user with the most versatile and fully tested systems on the market. For more information on Speedpanel® Systems and acoustic performance please contact our office on +61 3 9724 6888.

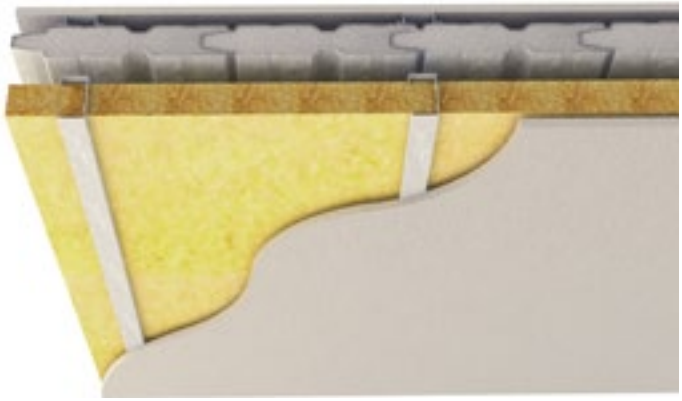
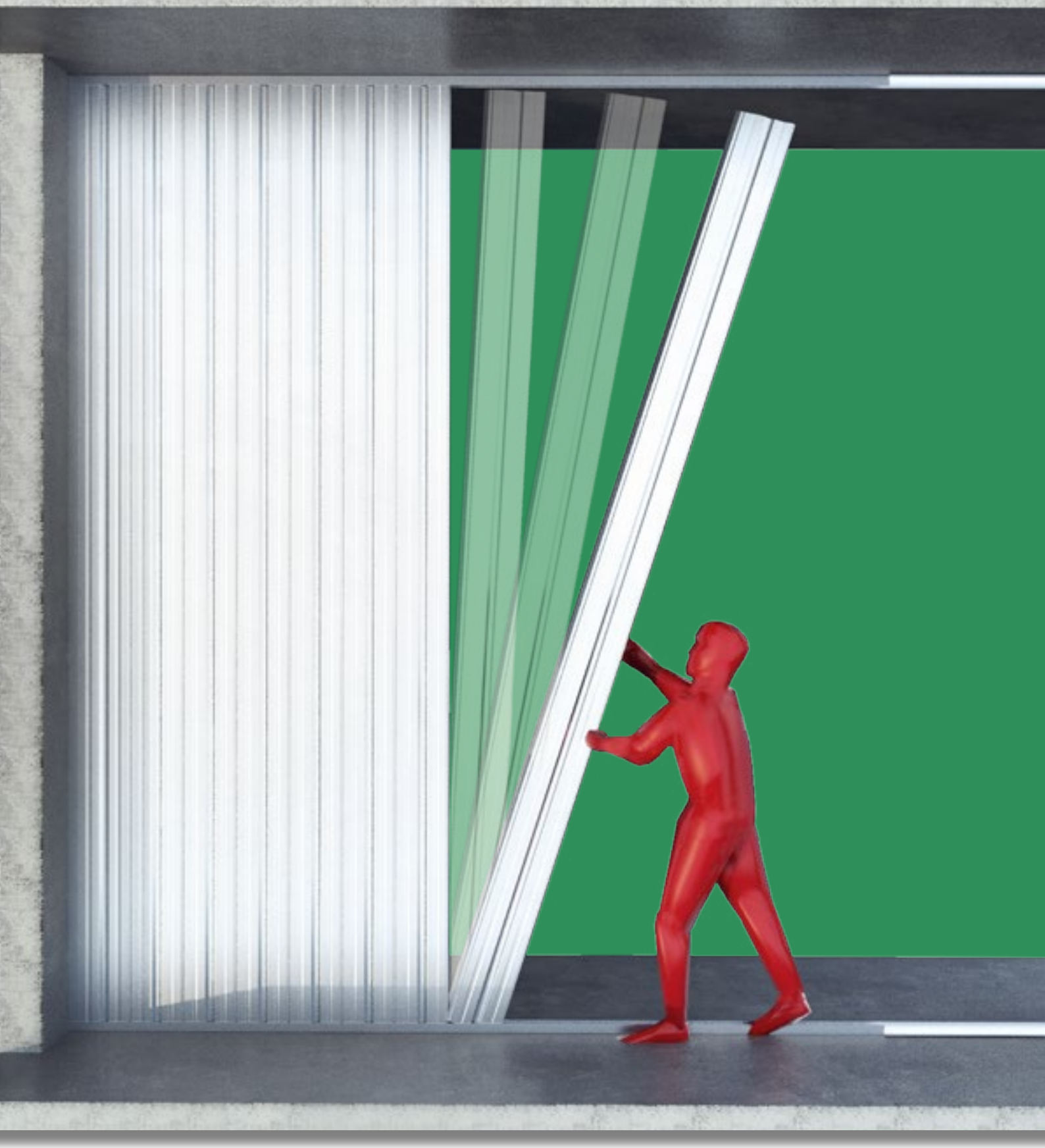


Figure 13



SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

1 - REPORT 21622

2 - REPORT 28928

2.3 A

STEP BY STEP

VERTICAL INSTALLATION

2.3A VERTICAL INSTALLATION

PART A (C-TRACK)

KEY INFORMATION TO ASSIST IN

ORDERING SPEEDPANEL®

1. Notify us of your fire and acoustic requirements.
2. Notify us of your wall spans - we pre-cut to size.
3. Nominate: coloured steel or standard galvanised finish.
4. Determine how many panels you require.

$$\frac{\text{WALL LENGTH (MM)}}{\text{PANEL LENGTH 250 (MM)}} = \text{AMOUNT OF PANELS REQUIRED (ROUND UP TO NEAREST WHOLE NUMBER)}$$

VERTICAL SPEEDPANEL® SYSTEM

Note that the head protection (flashing or fire-rated plasterboard) is not shown for clarity purposes.

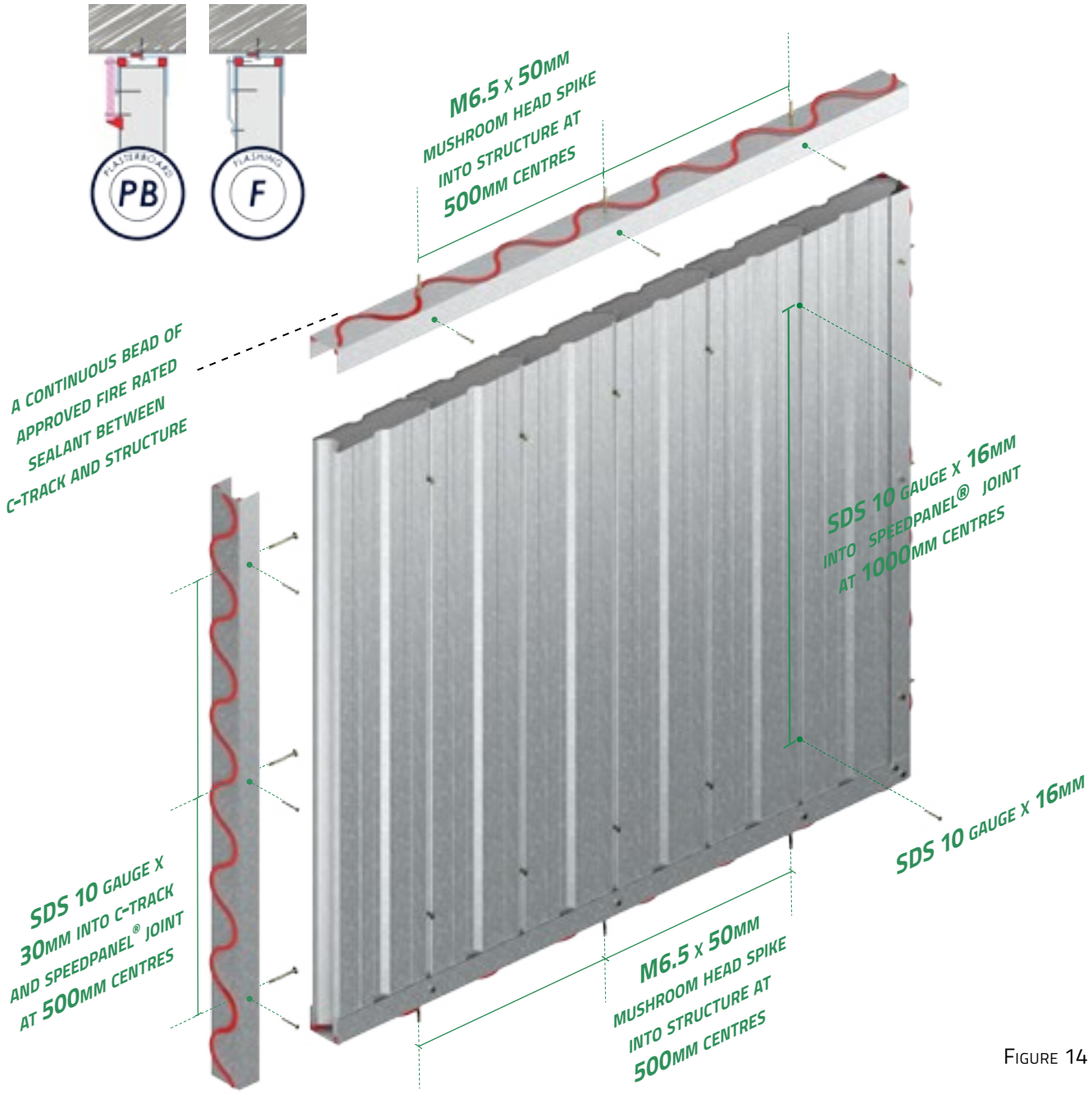


FIGURE 14

STEP 1 - APPLY SEALANT BETWEEN STRUCTURE AND C-TRACK

Before C-track/angles are fixed to structure, place a continuous bead of Speedpanel® approved fire-rated sealant between C-track/angles and structure for the entire perimeter - top, bottom and both sides.

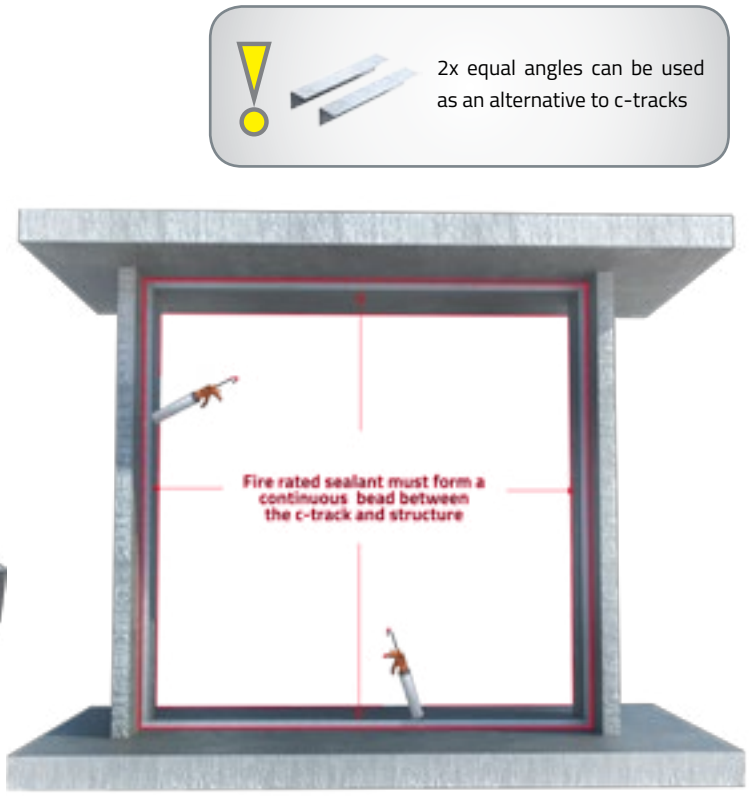


FIGURE 15

STEP 2 - PRE-DRILL C-TRACK TO STRUCTURE

Pre-drill through C-track/angles into structure at 500mm centres with a masonry drill bit.

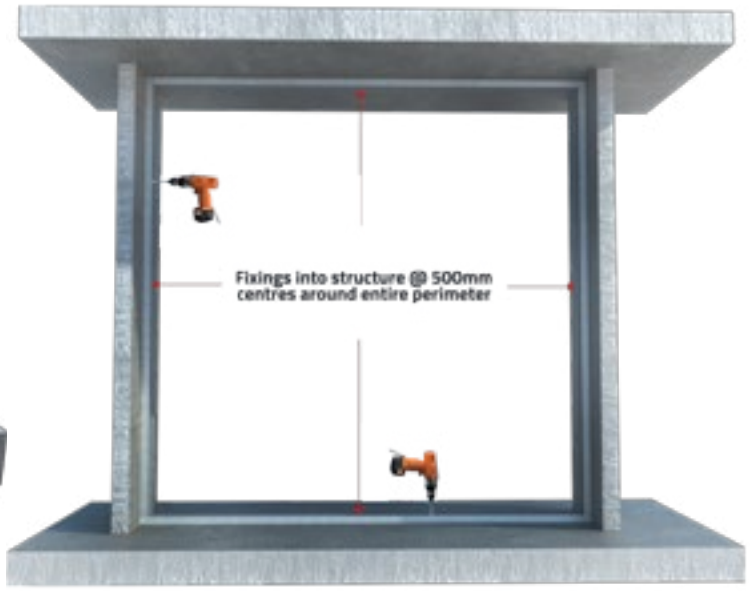


FIGURE 16

Vertical Installation

STEP 3 - FIX C-TRACK TO STRUCTURE

Place fixings through the C-track or angles into structure at 500mm centres.

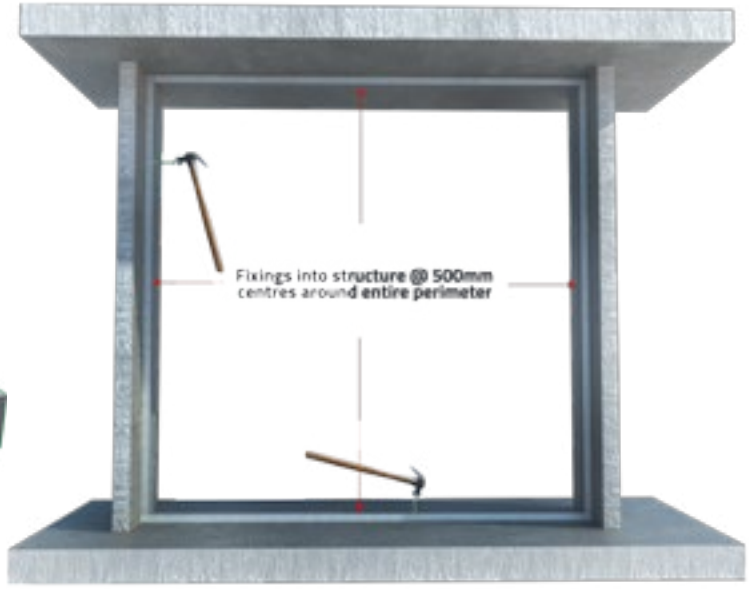


FIGURE 17

STEP 4 - APPLY SEALANT

Place a continuous bead of fire-rated sealant along the internal corner of one side of the C-track. Sealant to be applied for the entire internal perimeter - top, bottom and both sides.

Due to unevenness in the substrate, it may be necessary to place a bead of sealant after the C-track has been secured to ensure a proper seal.

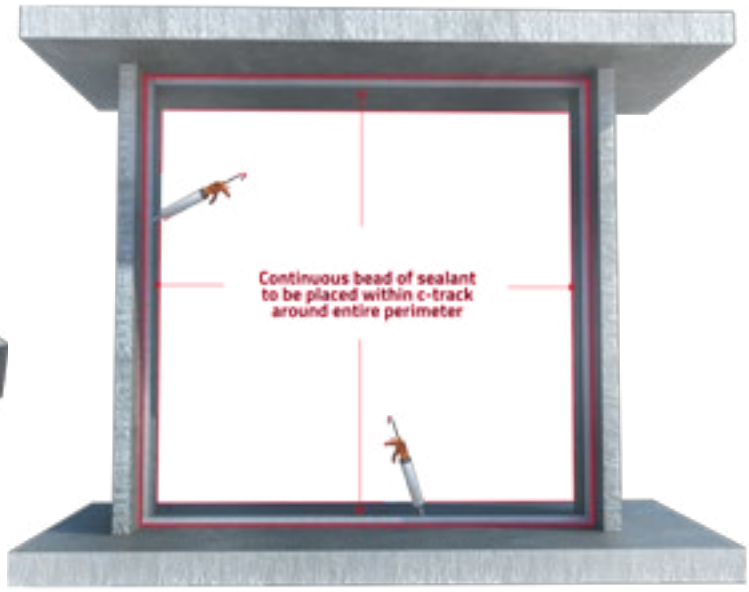


FIGURE 18

STEP 5 - NOTCHING & FOLDING C-TRACK

Cut and fold out the top and bottom C-tracks with an angle grinder, perform cuts in line, to both top and bottom C-tracks on the internal flange of the C-tracks [notching and folding will enable the last few panels to be installed with ease].

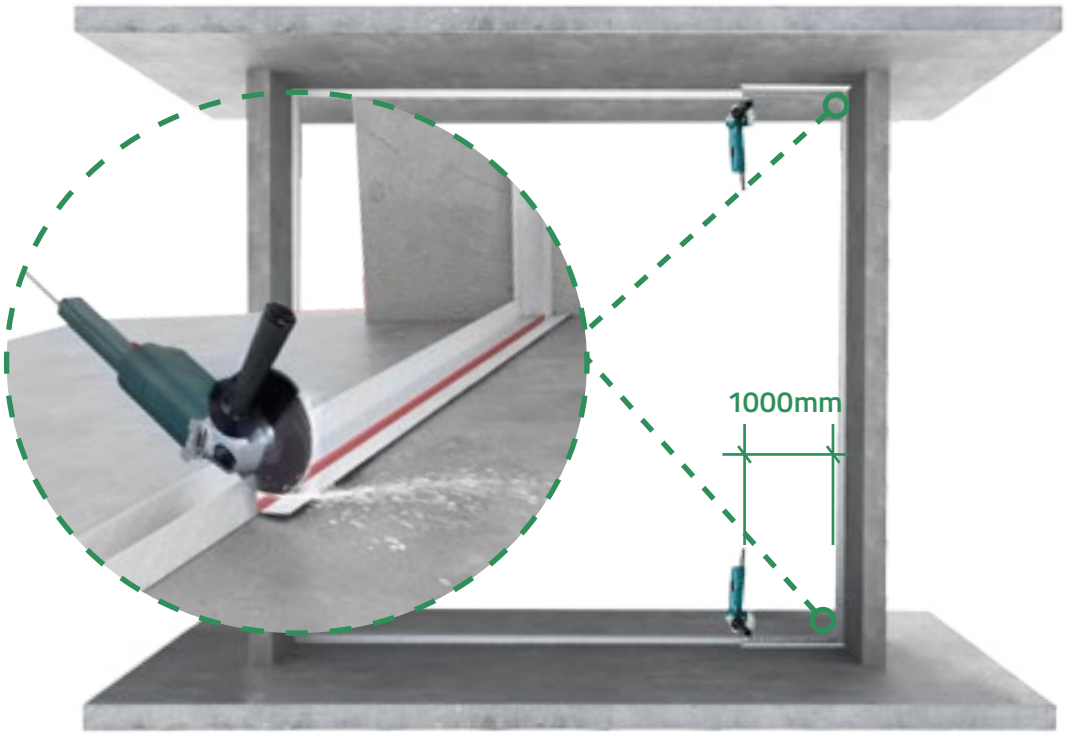


Figure 19

STEP 6 - INSTALL SPEEDPANEL® VERTICALLY

Slide each of your panels into the C-track, stopping at the folded C-track mark. Panels should be a maximum of 20mm shorter than the tight dimension between structures to assist with fitting. Eg; slab to slab = 4.0m panel length of panel will be: 3.98m.

Each panel must fully interlock before fixing to ensure your fire rating and acoustic properties are maintained.

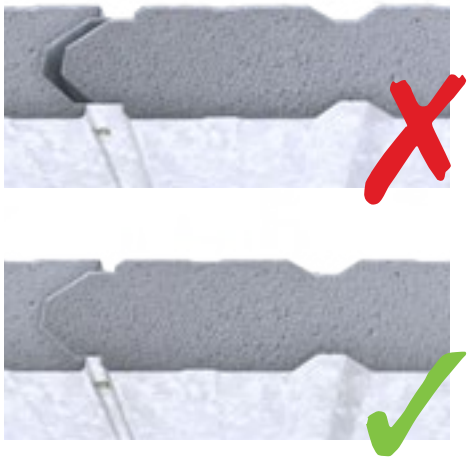


Figure 20

We recommend plastic film to be removed from all Speedpanel® products to avoid an unsightly appearance, however if not removed, the plastic will not effect fire performance. Please refer to page 5 for more information.

Figure 21

Vertical Installation

STEP 7 - FITTING FINAL PANELS

Installing the last four panels is done by placing the panels in an arc, and in 'one movement', snapping them into place.

SNAPPING ACTION SHOWN BELOW.

FIGURE 22

FOLD C-TRACK FLANGE BACK & PLACE SEALANT OVER NOTCHES

Once the wall is completed, fold back the C-track flange to its original location, fix and seal the notch cut with fire-rated sealant.

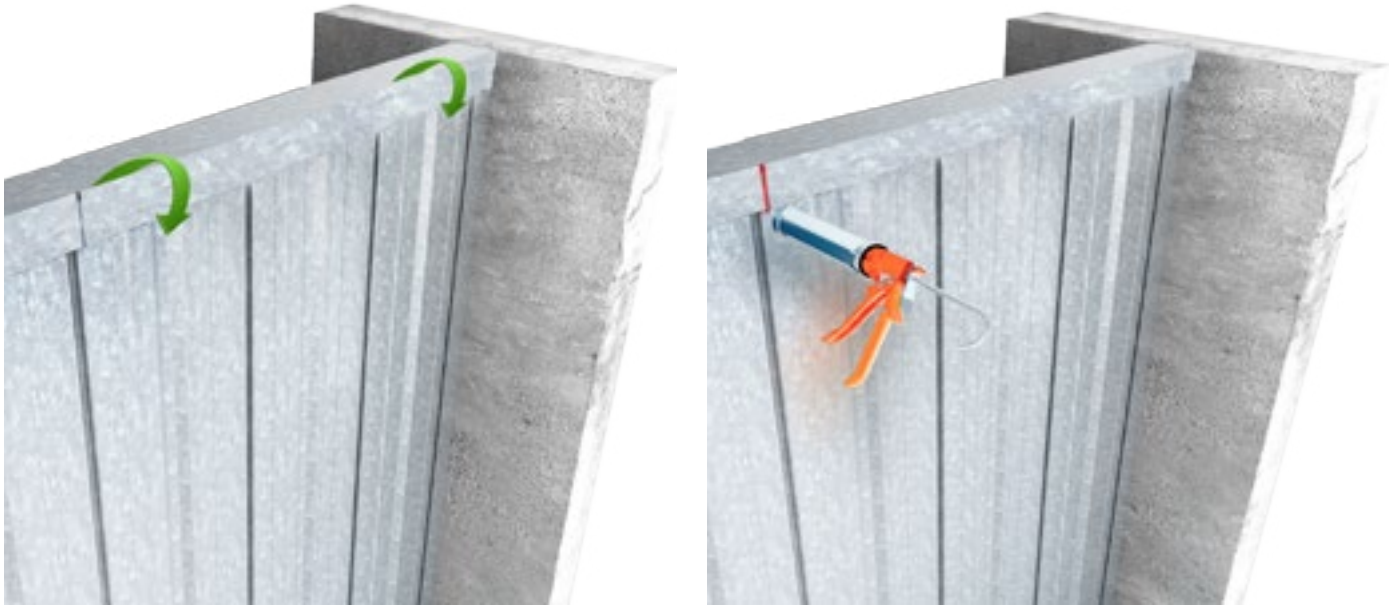


FIGURE 23

STEP 8 - RIPPING PANELS

To complete the Speedpanel® wall, a panel may need to be cut lengthways. This is known as ripping. The reason a Speedpanel® may need to be ripped is due to the fact that most wall lengths will not be specific to 250mm incremental measurements (250mm is the coverage of installed Speedpanel®).

The recommended tools to use when ripping a Speedpanel® are:

- Sabre saw (also known as a reciprocating saw)
- Radial saw with dust extraction (recommended cutting disc: Hilti DC-D 305/22)

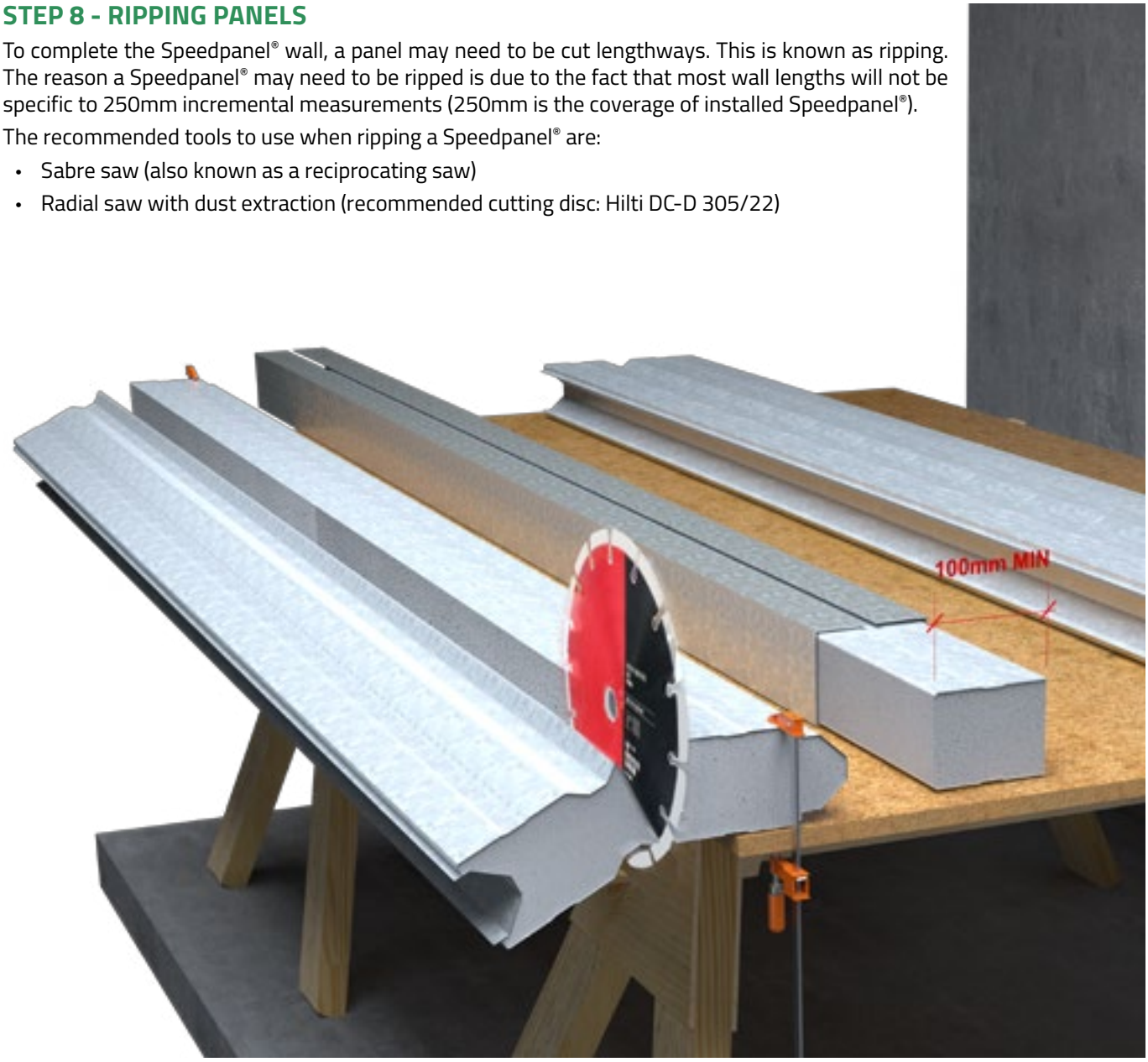


FIGURE 24

FITTING FINAL PANELS (RIPPED)

Using the snapping together method of finishing a wall, outlined in step 7, the newly ripped panel is used as the finishing panel to the wall, placing the open cut edge into the C-track.

Where a ripped panel may be required between doors or other penetrations the minimum width of panel is to be 100mm.

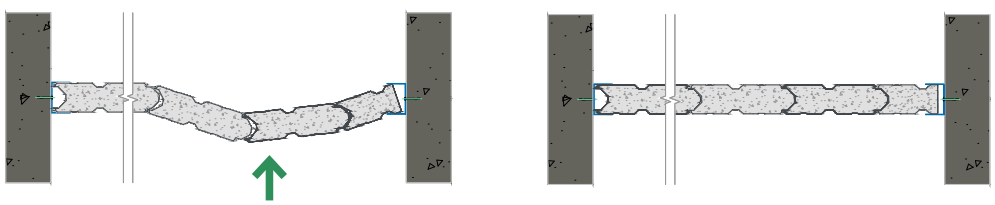


FIGURE 25

Vertical Installation

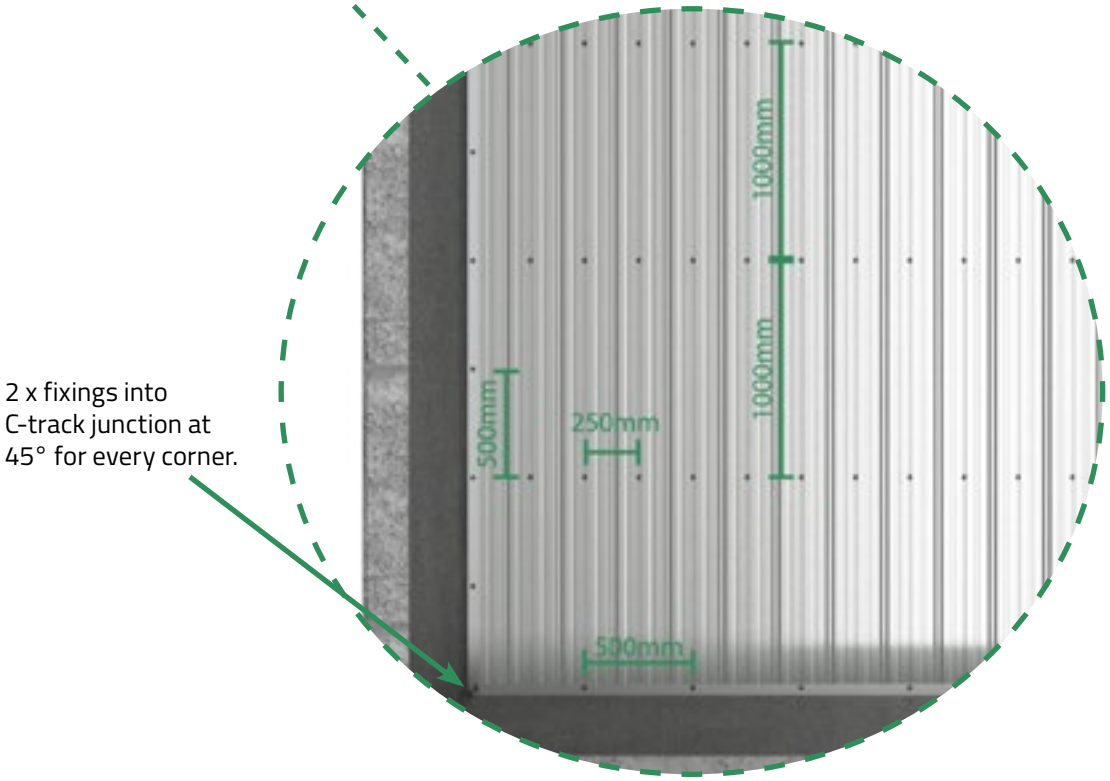
STEP 9 - STANDARD FIXINGS OF VERTICAL WALLS

A) WALLS UP TO 5.0m IN HEIGHT

All panels are screwed directly into the panel joints vertically at 1.0m centres and horizontally at 250mm centres. C-track/angle enclosing the panels are fixed at 500mm centres. At C-track/angle corner junctions there are to be two fixings screwed at 45° as shown.

Panel size	Max. height
51mm / 64mm	Up to 5.0m
78mm	Up to 6.0m

FIGURE 26



B) WALLS UP TO 6.0m IN HEIGHT

Walls up to 6m high require additional fixings to withstand the extra load. Working your way toward the centre (from both sides) fix the first two panels at 500mm, the second two at 750mm and the rest at 1000mm centres vertically as shown below.

Note: Only 78mm panels can be used for walls up to 6.0m height.

> Speedpanel® walls 6-9m high must be supported with additional structures. Please contact our office for more information.

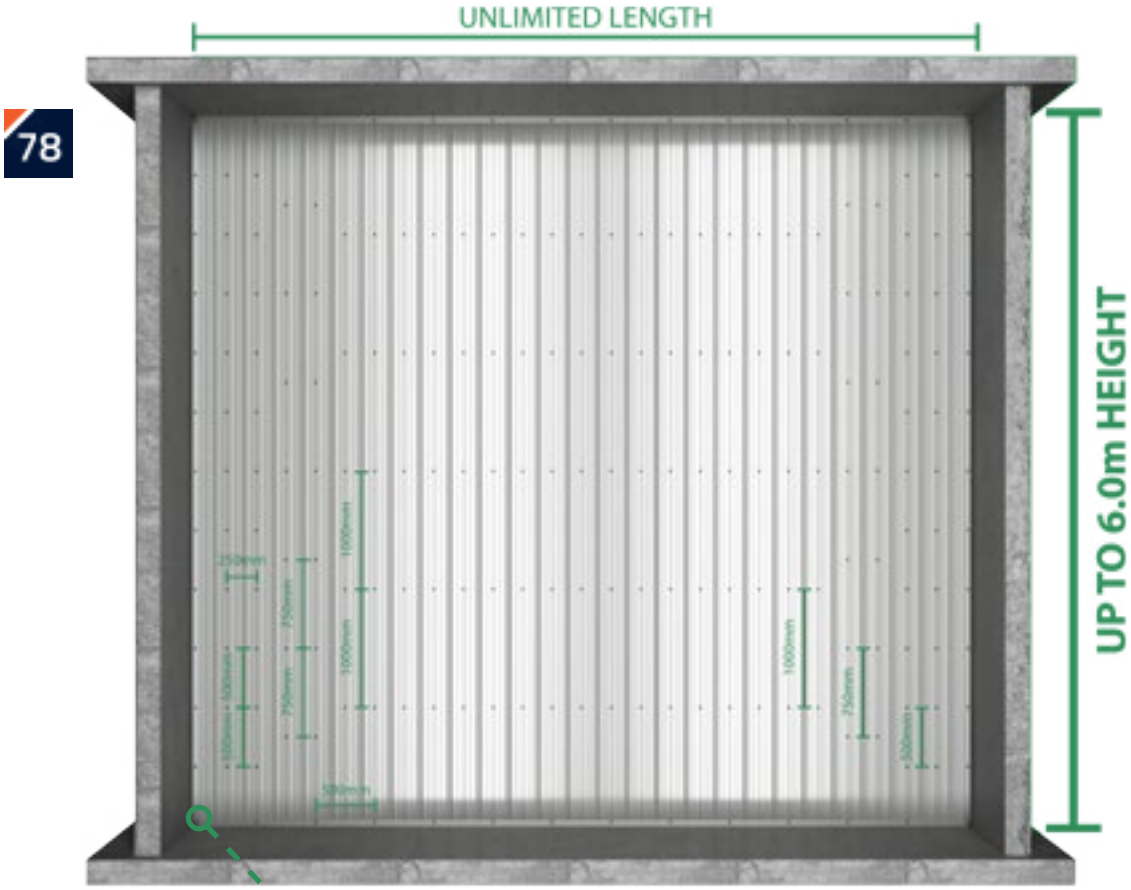
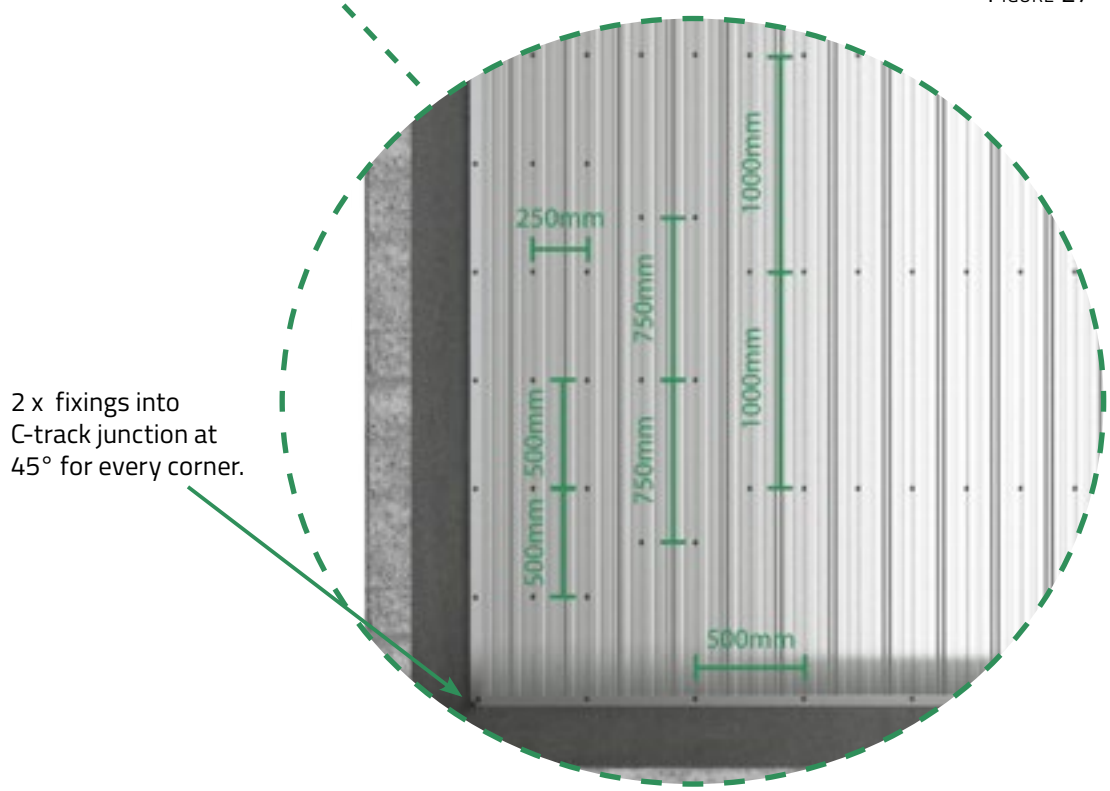


FIGURE 27



Vertical Installation

STEP 10 - PLACE SEALANT BEAD TO C-TRACK PERIMETER

Fire-rated sealant applied along one side of the length of C-track or angle only where Speedpanel® meets C-track or angle - must be top, bottom and sides.

We recommend plastic film to be removed from all Speedpanel® products to avoid an unsightly appearance, however if not removed, the plastic will not effect fire performance. Please refer to page 5 for more information.

FIGURE 28

Vertical sectional view showing one sealant placement option. For further options see pages 62 to 65.

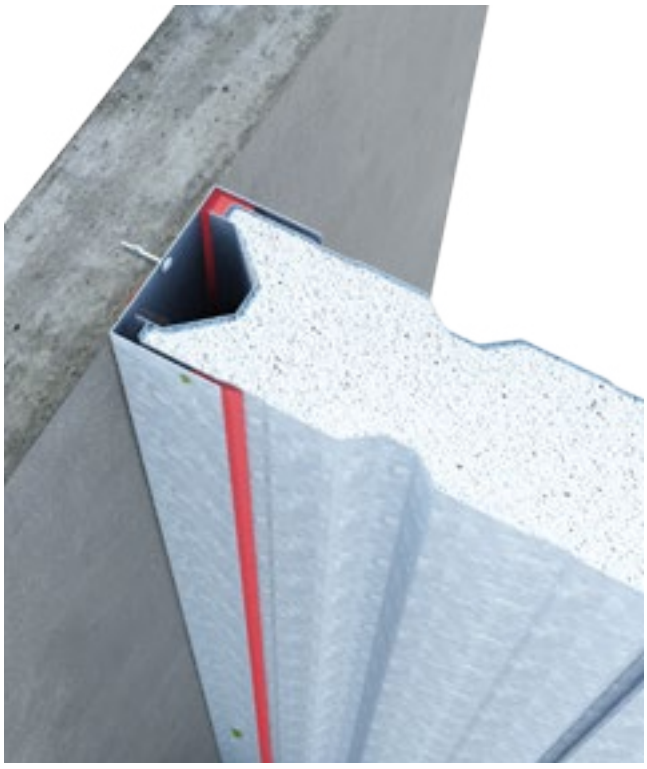


FIGURE 29 [1]

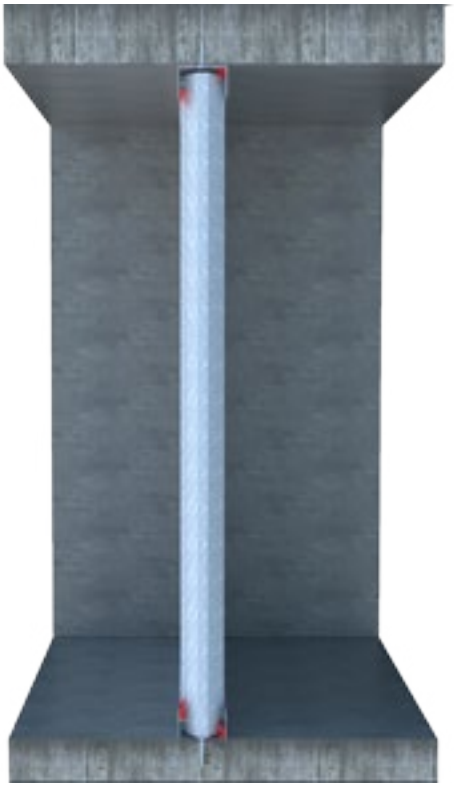


FIGURE 30

1. Exova Warringtonfire - Report No. 21622

STEP 11 - HEAD-TRACK PROTECTION

A) METAL FLASHING (ARCHITECTURAL OPTION)

A 130mm deep sheet of head-track protection is required on the top C-track only. Head-track protection is fixed with 30mm self drilling screws at 125mm centres fixed through to top C-track.

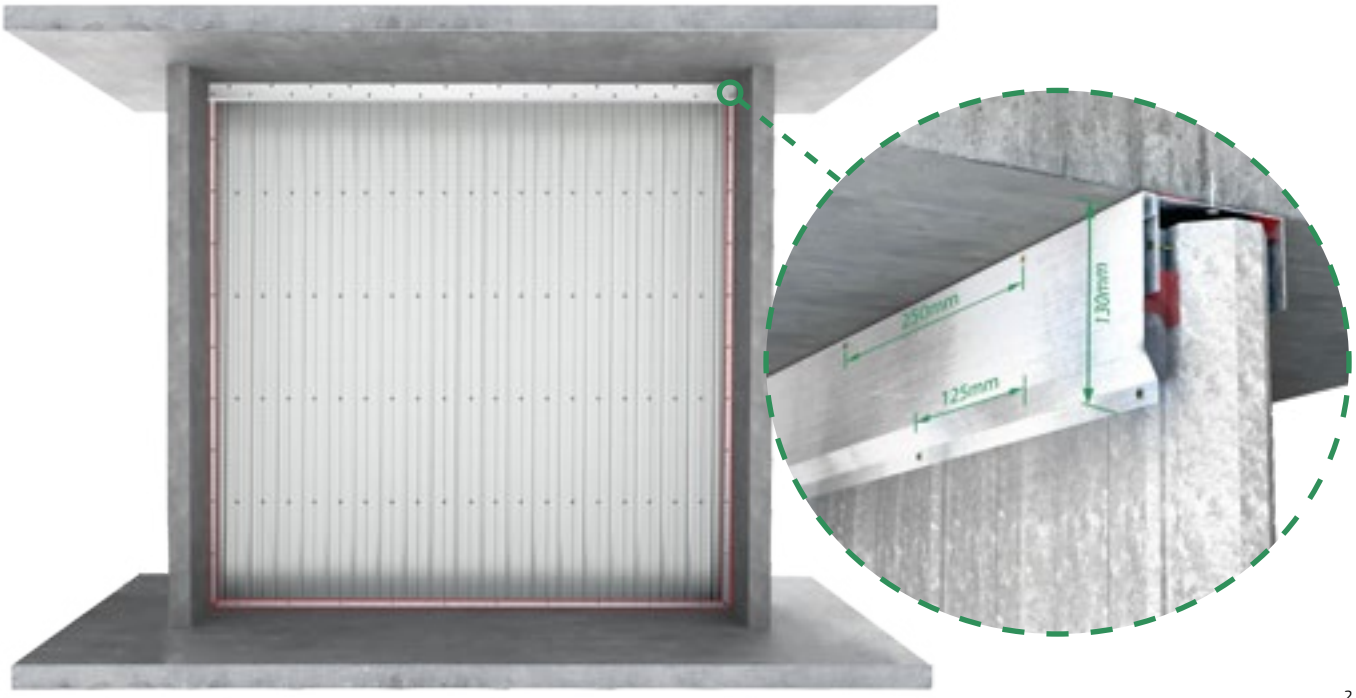


FIGURE 31 [2]

B) FIRE-RATED PLASTERBOARD (COMMON OPTION)

A 120mm deep sheet of head-track protection is required on the top C-track only. Head-track protection is fixed with 40mm x 6 Gauge self drilling screws at 125mm centres fixed through to top C-track. Fire-rated plasterboard strips are required to be butt joint and sealed with a fire-rated sealant.

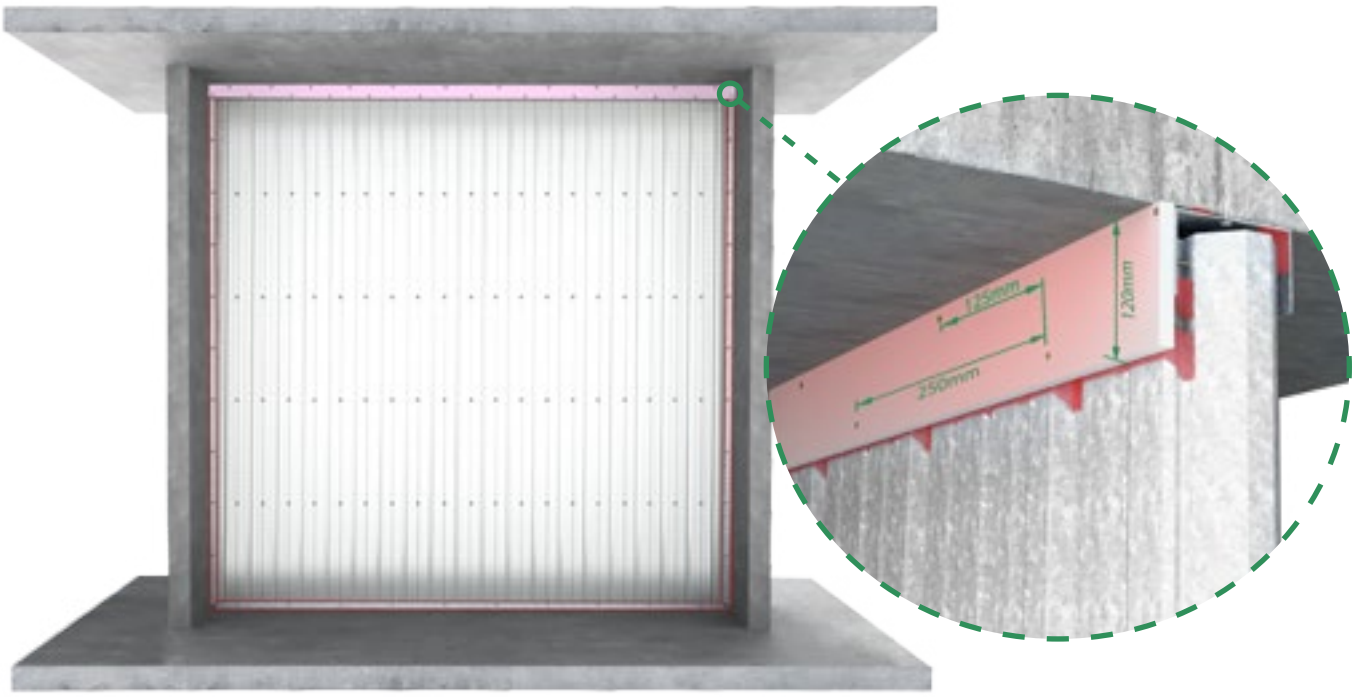


FIGURE 32 [2]

2. Exova Warringtonfire - Report No. 28928

Sealant Options

PLASTERBOARD PROTECTED HEAD-TRACK

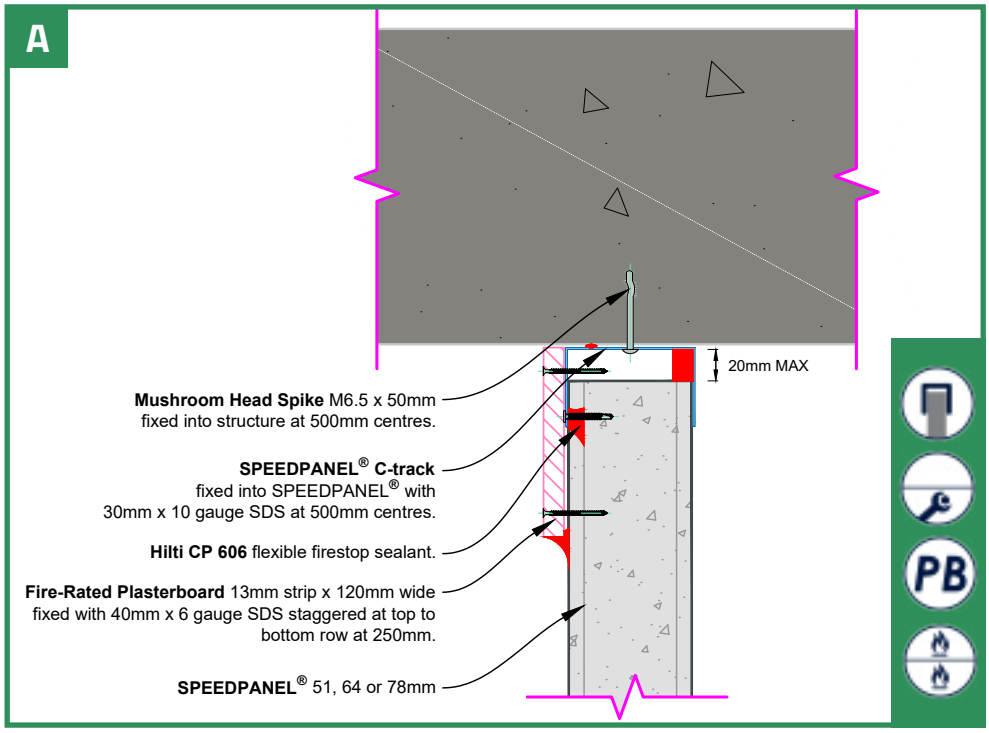


FIGURE 33 [2]

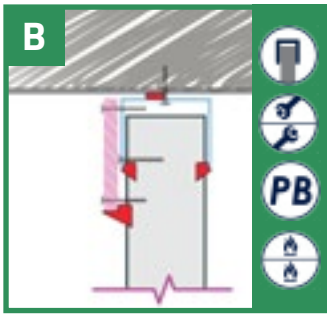


FIGURE 34 [2]

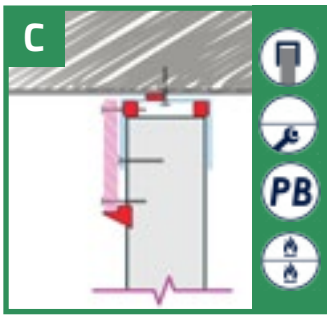


FIGURE 35 [2]

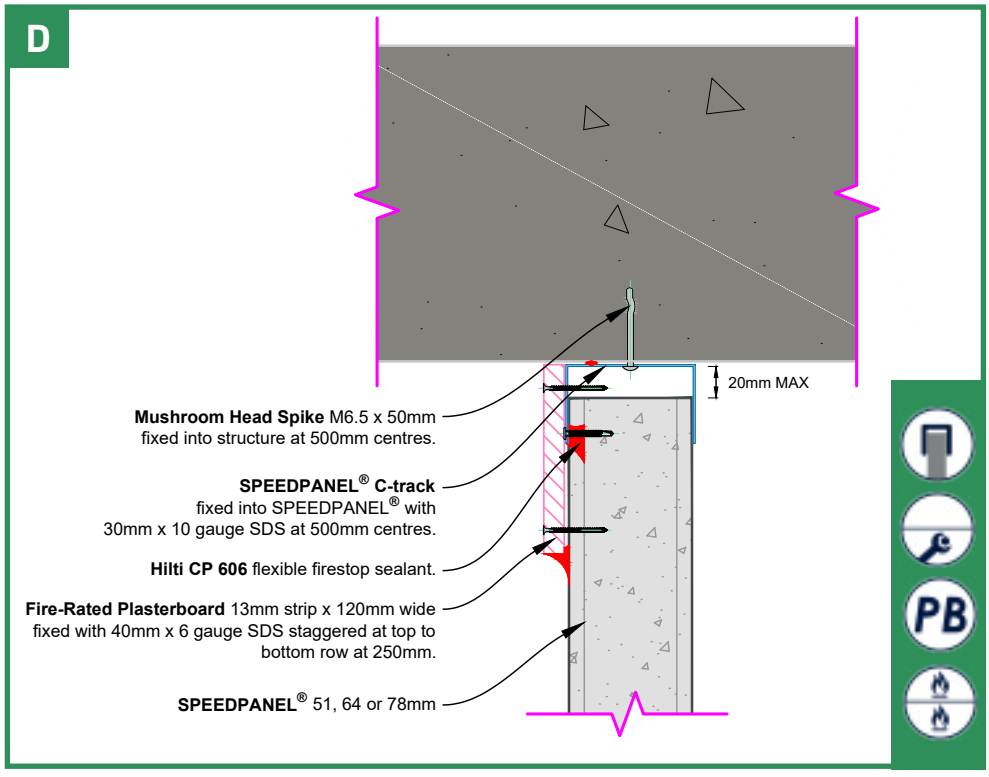


FIGURE 36 [2]

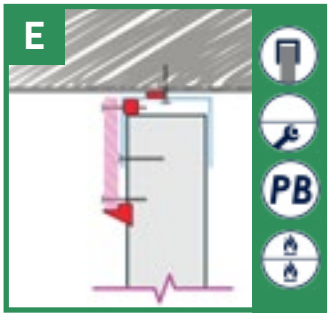


FIGURE 37 [2]

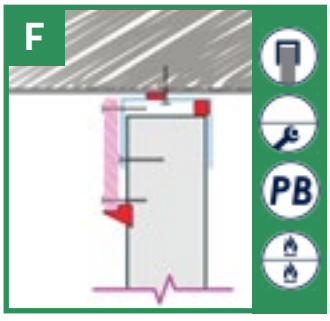


FIGURE 38 [1]

1. Exova Warringtonfire - Report No. 21622
2. Exova Warringtonfire - Report No. 28928

METAL FLASHING PROTECTED HEAD-TRACK

0.7BMT x 130mm flashing strip sealant options.

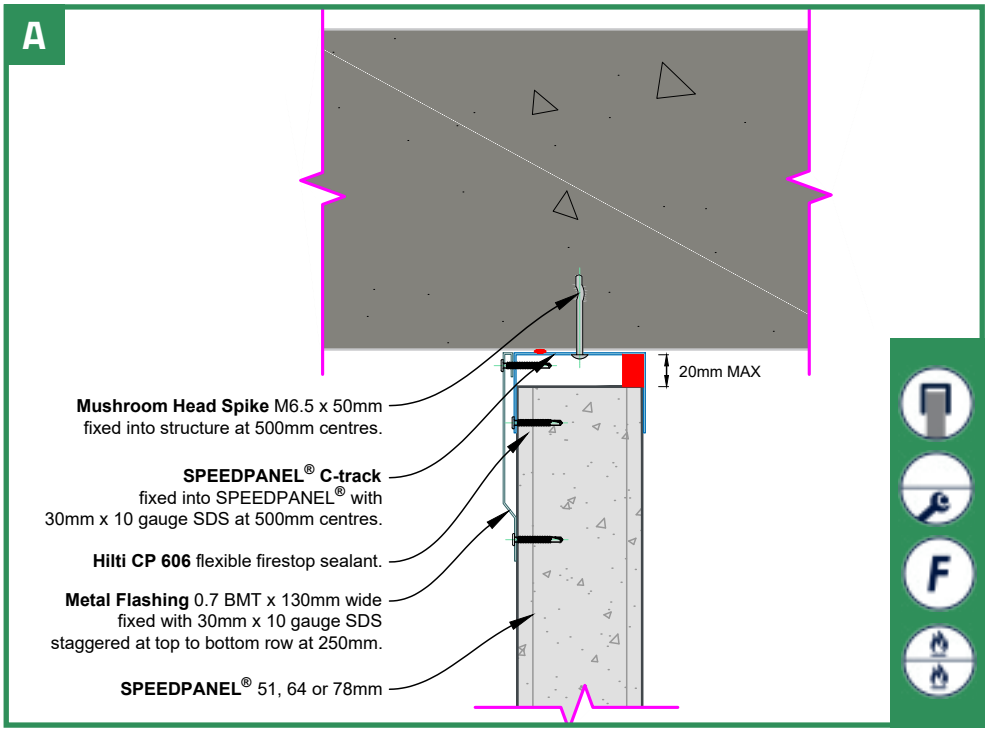


FIGURE 39 [2]

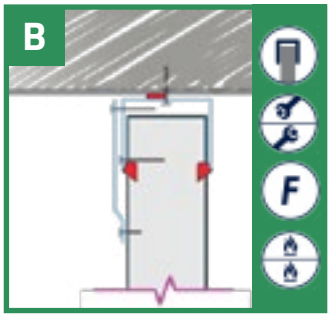


FIGURE 40 [2]

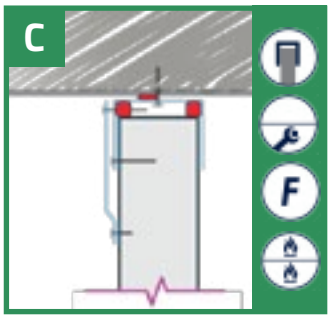


FIGURE 41 [2]

SUSPENDED HEAD-TRACK

Requirement options for particular wall penetrations. (Refer to the General Penetrations chapter for more information).

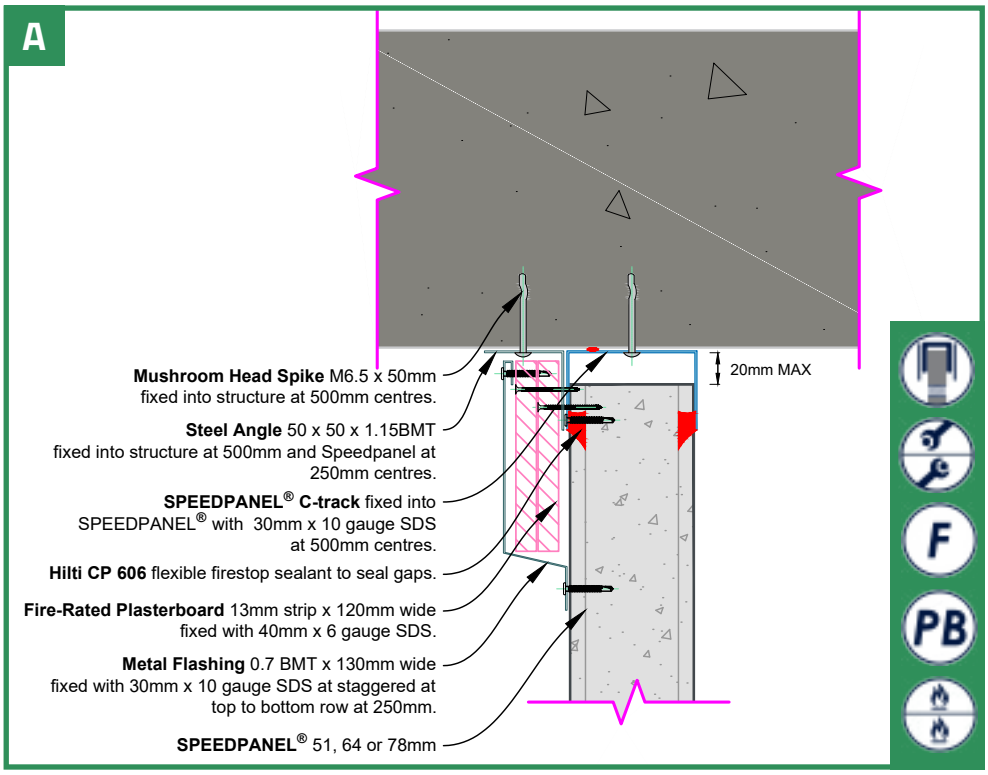


FIGURE 42 [1]

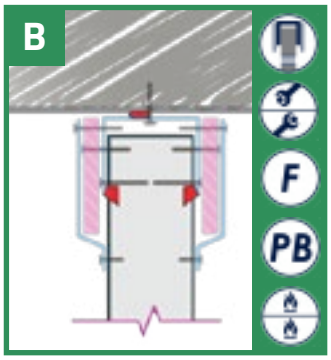


FIGURE 43 [1]

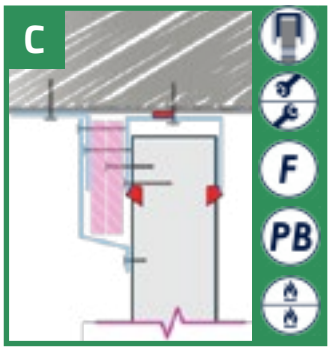


FIGURE 44 [1]

1. Exova Warringtonfire - Report No. 21622
2. Exova Warringtonfire - Report No. 28928

Sealant Options

VERTICAL WALL FEMALE ENDS

Sealant position options for full size female end panels.

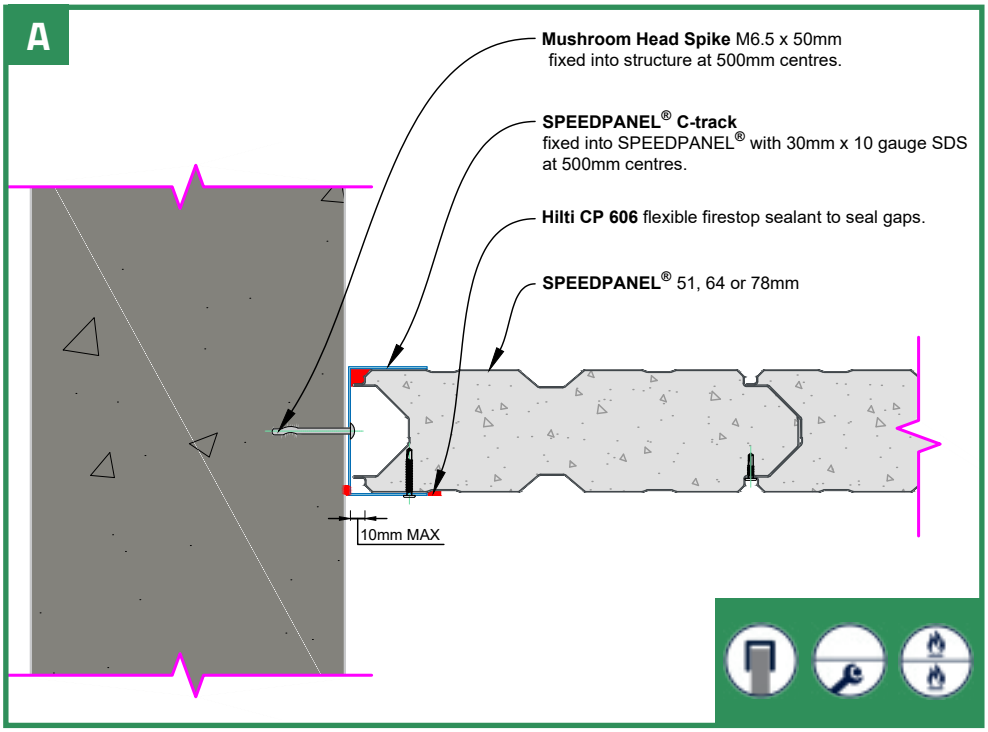


FIGURE 45

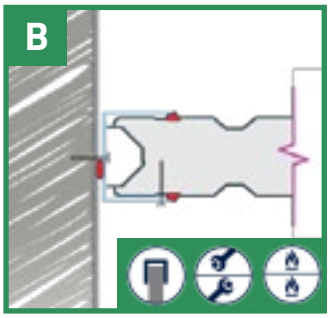


FIGURE 46 [1]

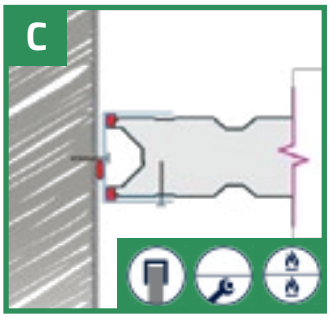


FIGURE 47 [1]

VERTICAL WALL MALE ENDS

Sealant position options for full size male end panels.

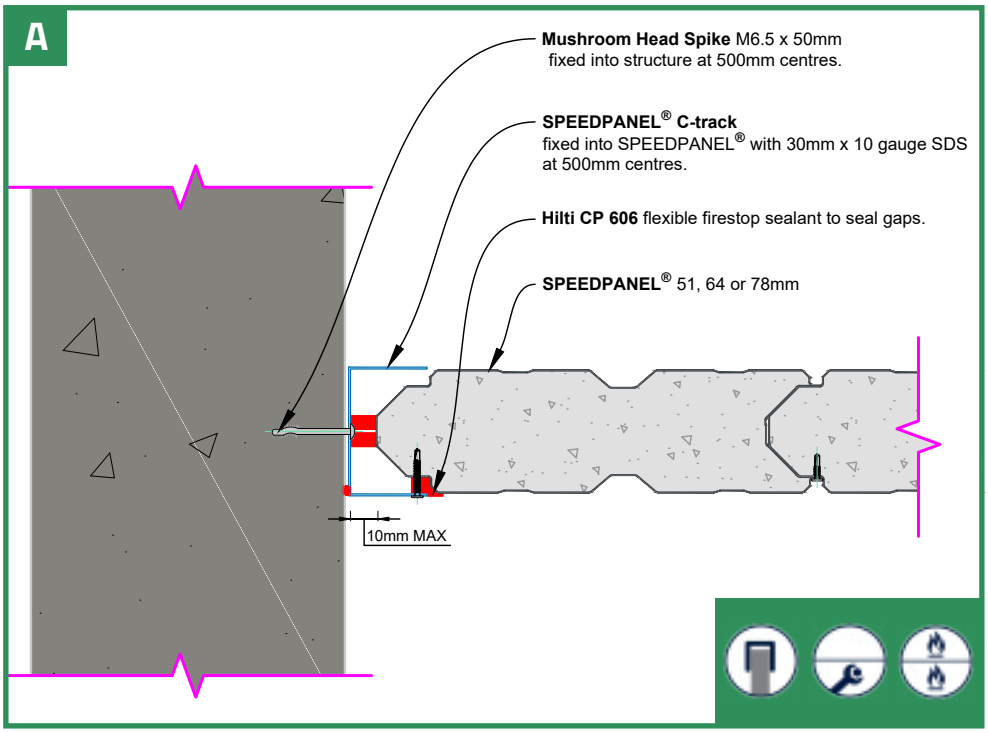


FIGURE 48

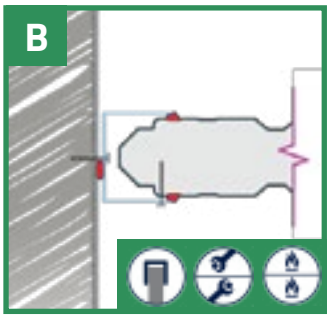


FIGURE 49 [1]

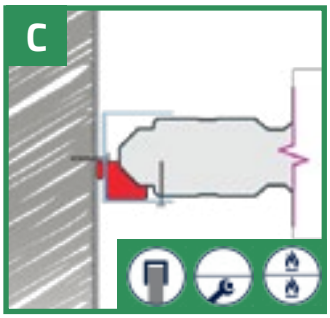


FIGURE 50 [1]

1. Exova Warringtonfire - Report No. 21622

VERTICAL WALL RIPPED ENDS

Sealant position options for ripped end panels.

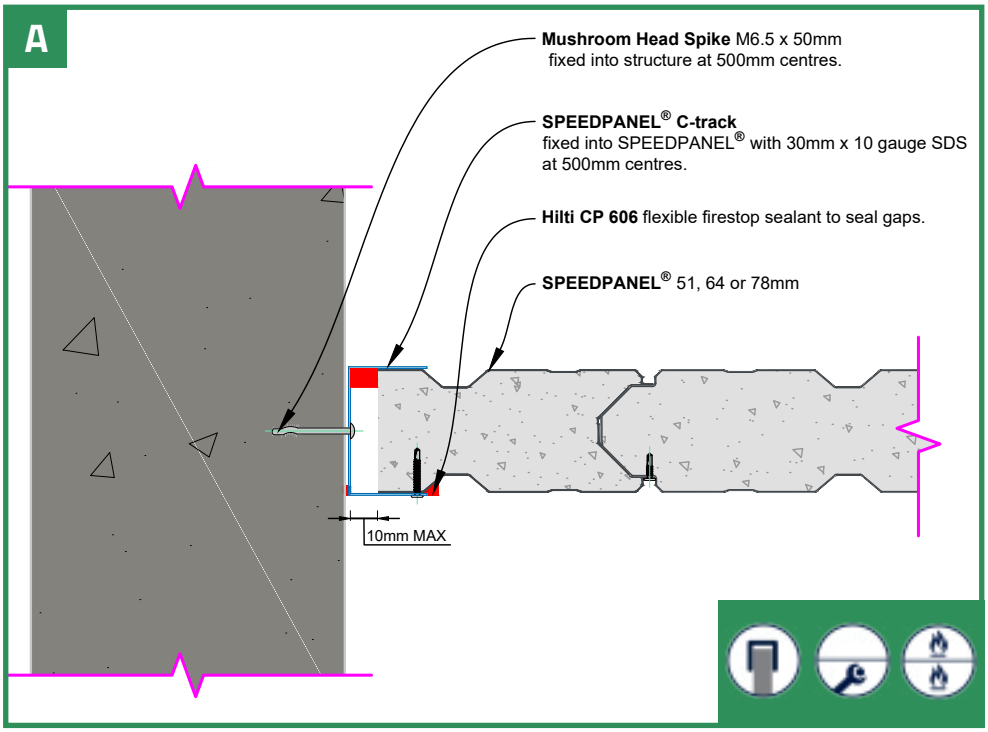


FIGURE 51

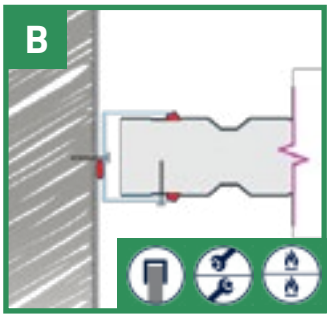


FIGURE 52

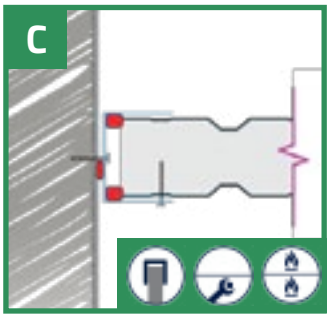


FIGURE 53

BASE OF VERTICAL WALLS

Bottom track sealant position options.

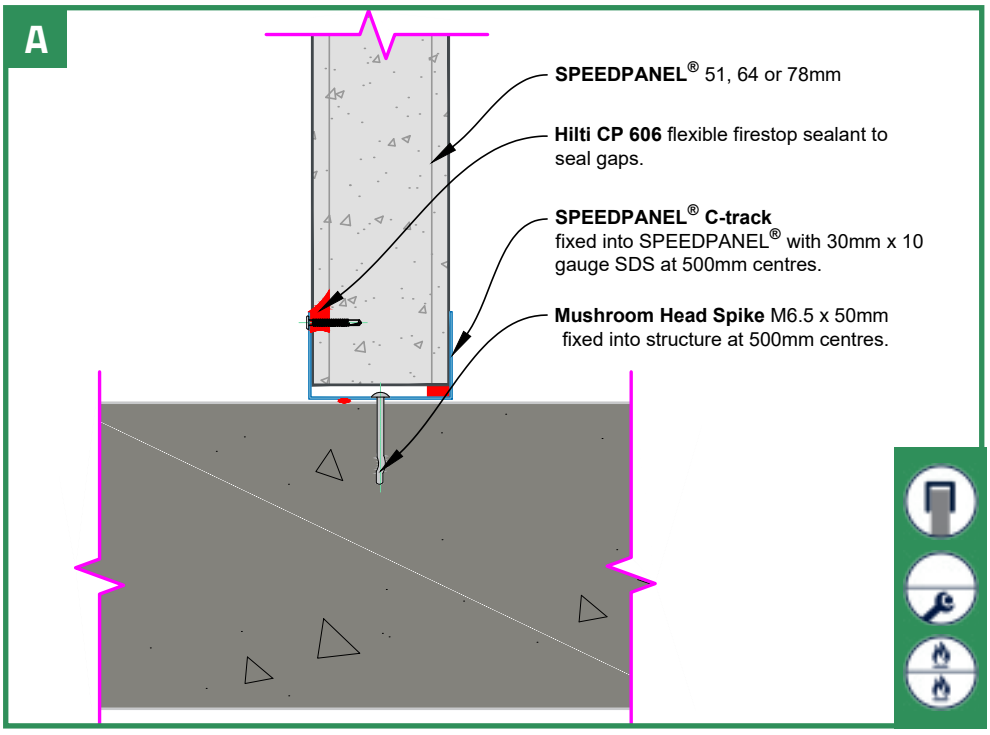


FIGURE 54

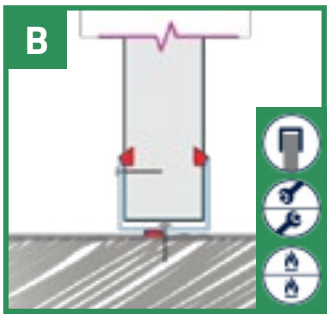


FIGURE 55 [1]

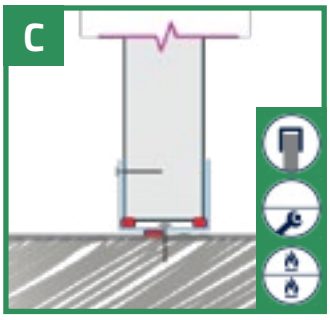
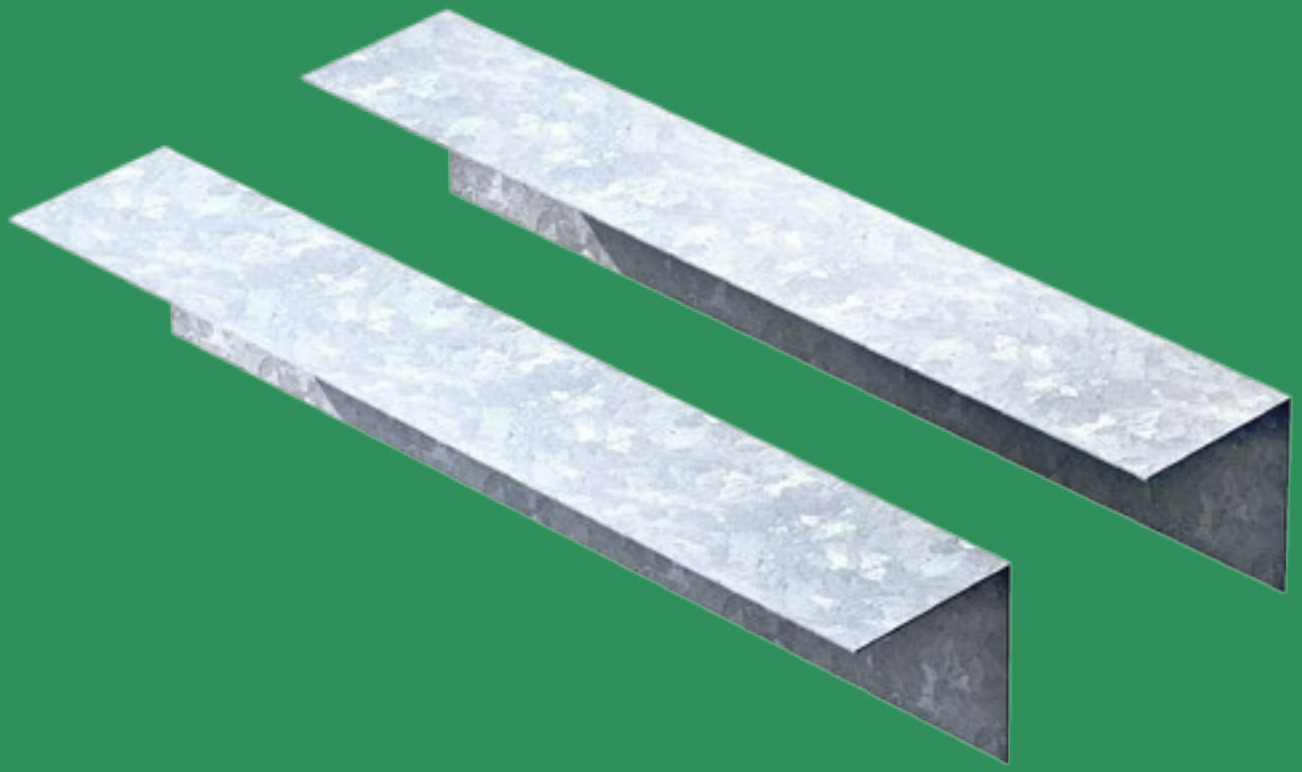


FIGURE 56 [1]

1. Exova Warringtonfire - Report No. 21622

2.3 B

ALTERNATIVE HEAD-TRACK OPTION: STEEL ANGLES



EQUAL ANGLES CAN BE USED AS AN ALTERNATIVE TO C-TRACK

2.3B VERTICAL INSTALLATION

PART B (EQUAL STEEL ANGLE)

STEP 1 - INSTALL ANGLE INTO PLACE

As an alternative to a head C-track, two 50 x 50 x 1.15mm BMT equal angles can be used for easier installation in difficult areas. Fit equal angle first in line with wall position.

Note: Remember to apply sealant as explained previously in Chapter 2.3A.

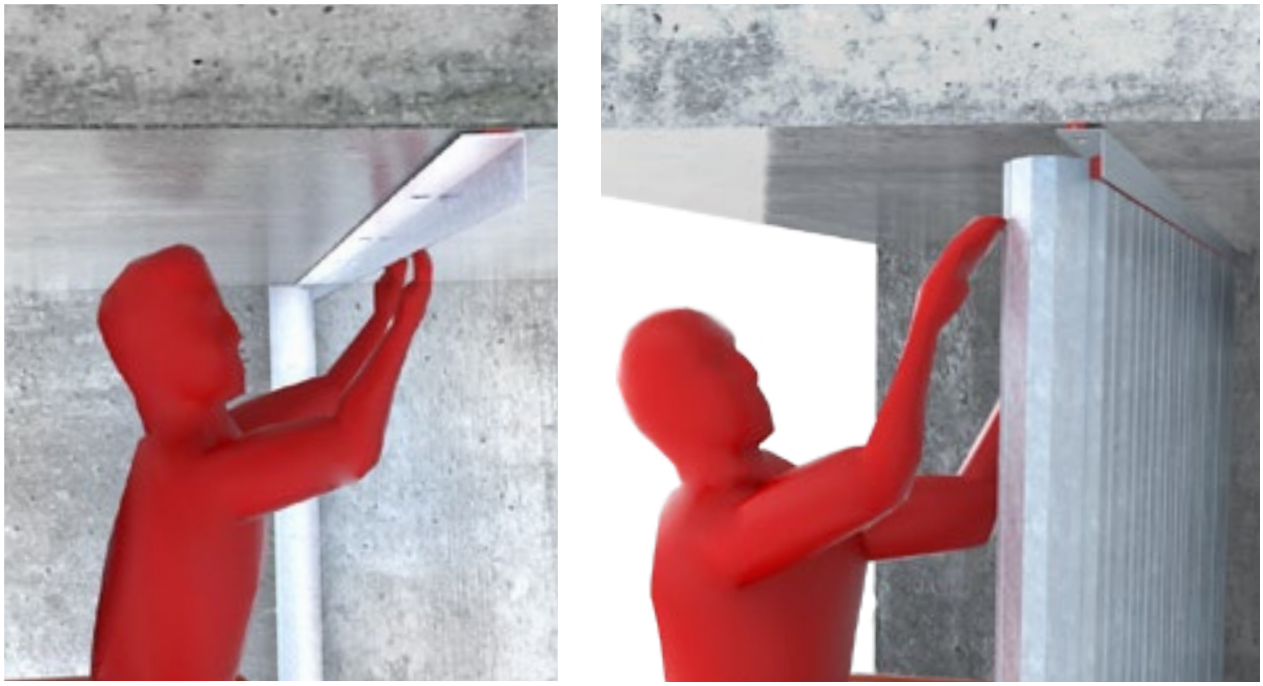


FIGURE 57

INSTALL FINAL PANELS AS PER NORMAL C-TRACK INSTALLATION.

FIGURE 58

Fit an equal angle to close off the head-track.

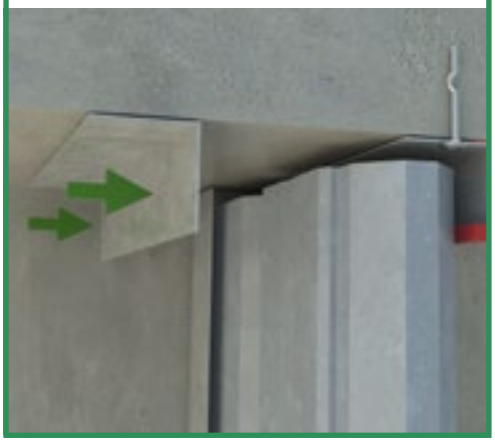


FIGURE 59

Equal angle: Vertical walls

STEP 2 - CLOSING OFF THE BOTTOM TRACK

As an alternative to using a folded down flap on C-track, equal angle can be fitted to close off a wall. Once equal angle is fitted, fix and seal as per normal C-track requirements.

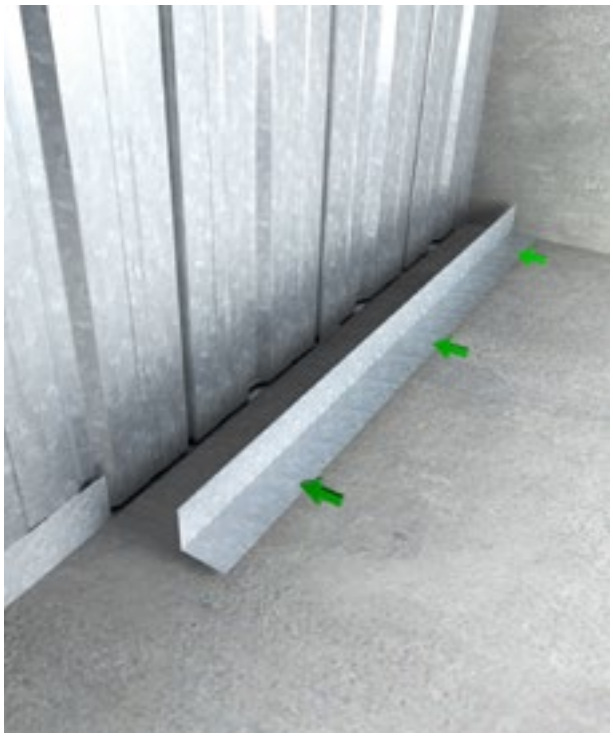


Figure 60

Figure 61

STEP 3 - SEALANT & HEAD TRACK PROTECTION

Fit and apply sealant as per normal C-track installation. Head track protection can now be fitted as per normal C-track protection, using metal flashing or fire-rated plasterboard when the air gap is larger than 10mm between soffit and Speedpanel® (max. 20mm).

Figure 62

Figure 63

SEALANT OPTIONS

Equal angle option details for sealant positions on metal flashing or fire-rated plasterboard.

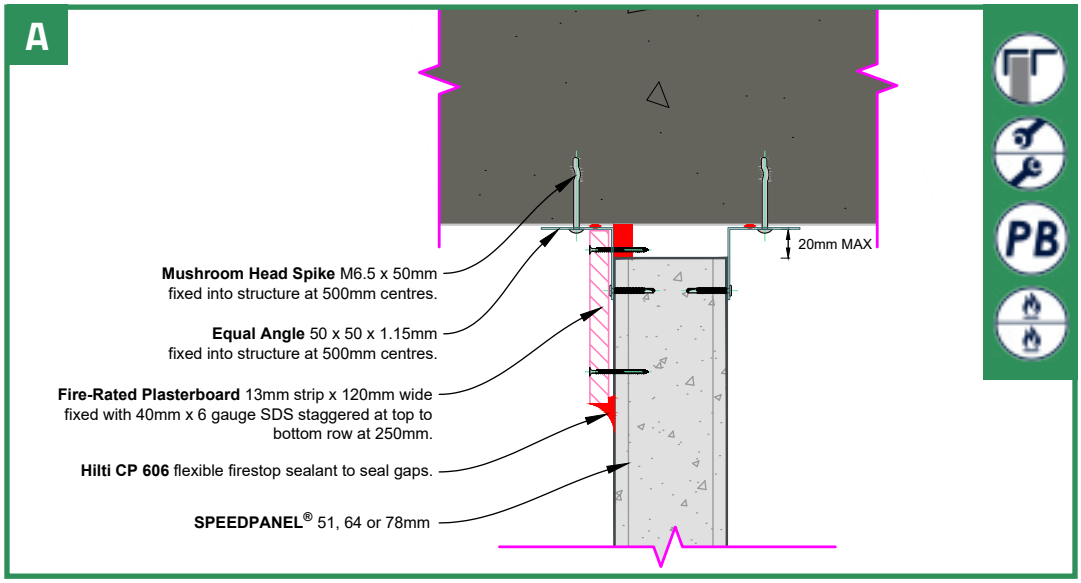


FIGURE 64 [2]

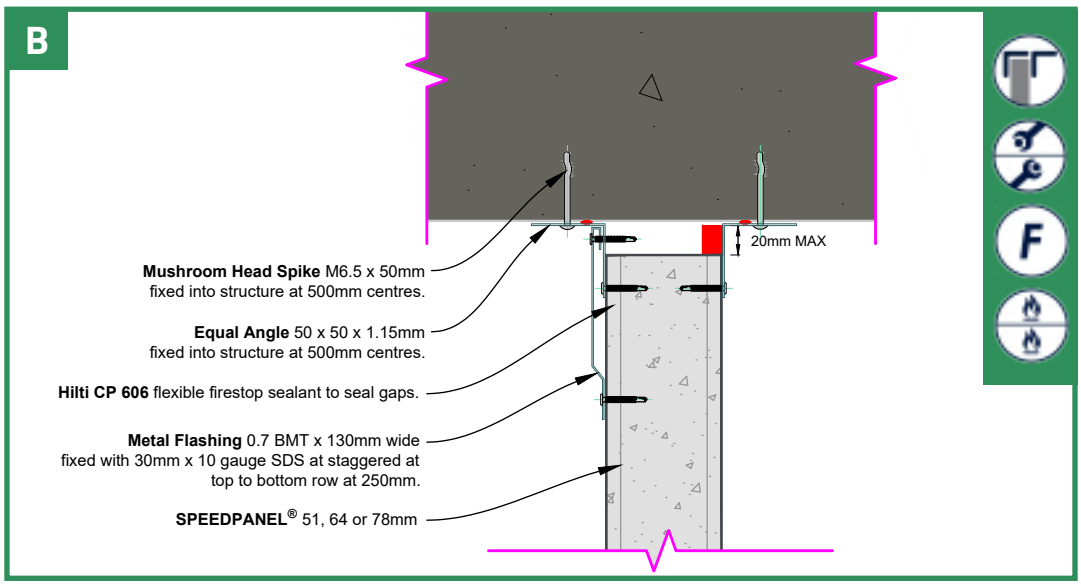


FIGURE 65

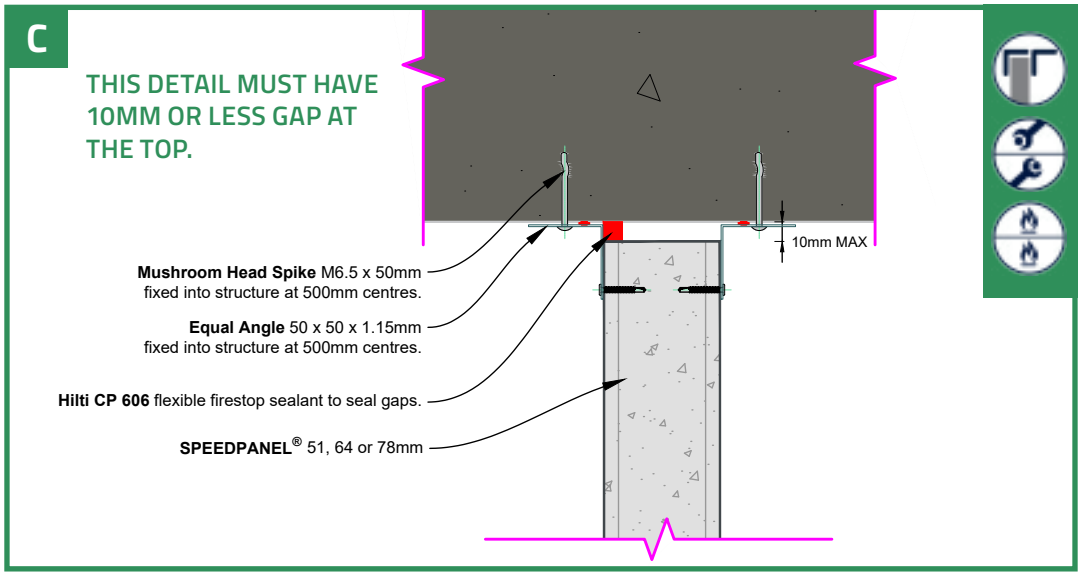


FIGURE 66 [1]

1. Exova Warringtonfire - Report No. 21622
2. Exova Warringtonfire - Report No. 28928

SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

1 - REPORT 21622

3 - REPORT 28961

2.4 A

STEP BY STEP

HORIZONTAL INSTALLATION

2.4 HORIZONTAL INSTALLATION

PART A (C-TRACK)

KEY INFORMATION TO ASSIST IN

ORDERING SPEEDPANEL®

1. Notify us of your fire and acoustic requirements.
2. Notify us of your wall spans - we pre-cut to size.
3. Nominate: coloured steel or standard galvanised finish.
4. Determine how many panels you require.

$$\frac{\text{WALL LENGTH (MM)}}{\text{PANEL LENGTH 250 (MM)}} = \text{AMOUNT OF PANELS REQUIRED (ROUND UP TO NEAREST WHOLE NUMBER)}$$

HORIZONTAL SPEEDPANEL® SYSTEM

Note that the head protection (flashing or fire-rated plasterboard) is not shown for clarity purposes.

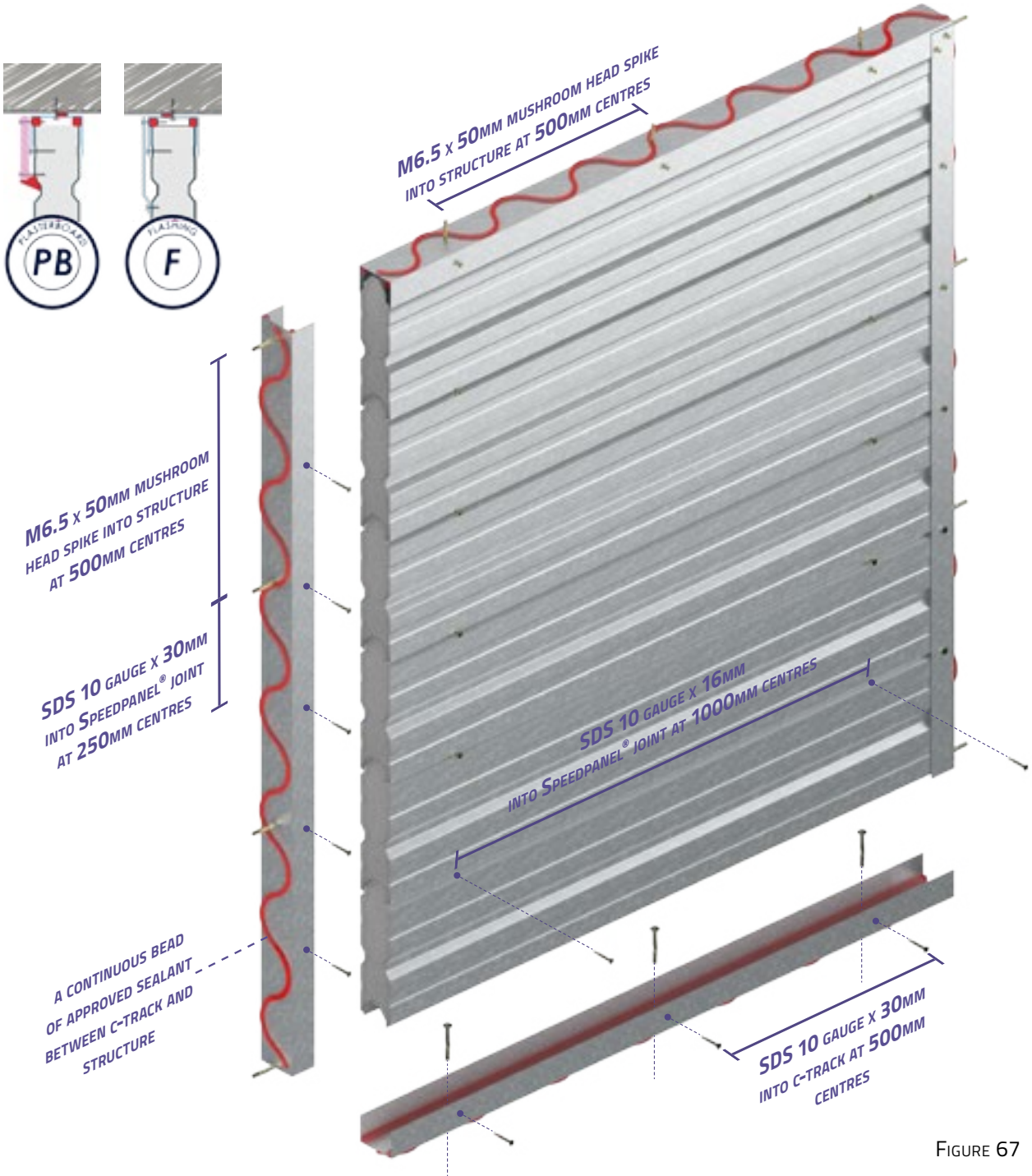


Figure 67

STEP 5 - NOTCHING & FOLDING C-TRACK

Cut and fold out the side C-tracks with an angle grinder, perform cuts in-line to side C-tracks on the internal flange of the C-tracks (notching & folding will enable the last few panels to be installed with ease).

For Step 1-4 of this installation please refer to Vertical Installation chapter on pages 53-54.

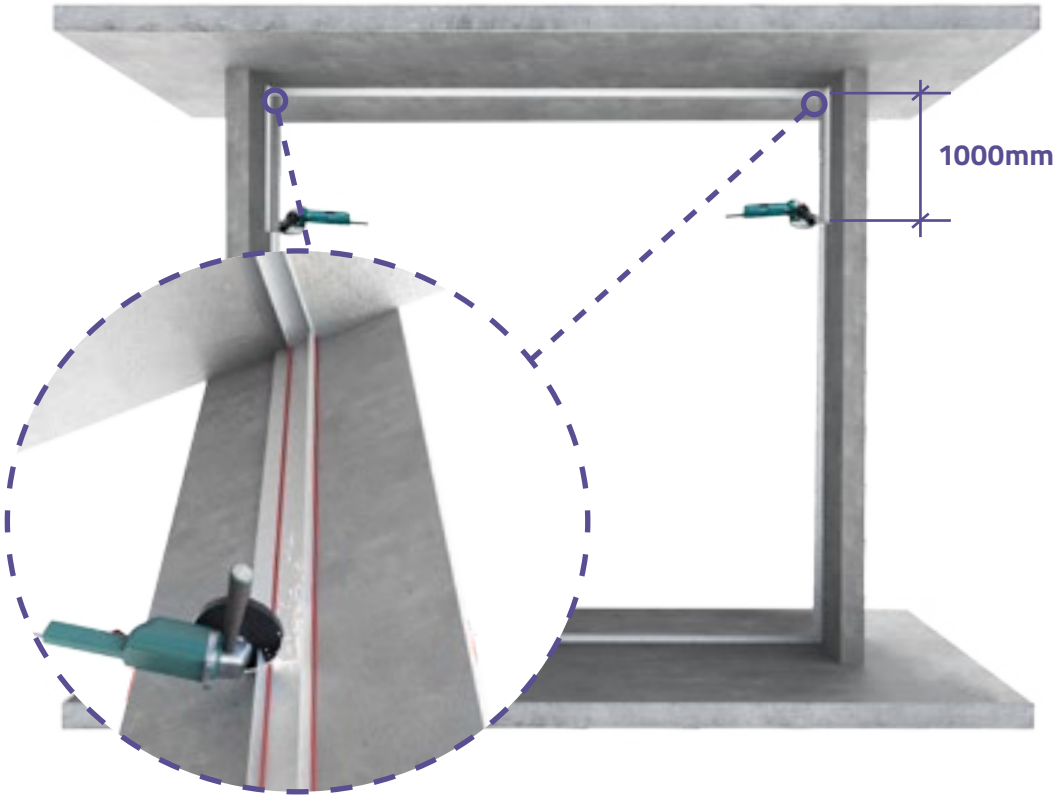


FIGURE 68

STEP 2 - INSTALL SPEEDPANEL® HORIZONTALLY

Slide each of your panels within the C-track, stopping at the folded C-track mark. To assist fitting panels, panels should be a maximum of 20mm shorter than the tight dimension between structures. Eg; concrete wall to concrete wall = 4.0m Speedpanel® length will be: 3.98m (shown below figure 70).

We recommend plastic film to be removed from all Speedpanel® products to avoid an unsightly appearance, however if not removed, the plastic will not effect fire performance. Please refer to page 5 for more information.

Each panel must fully interlock before fixing to ensure your fire rating and acoustic properties are maintained.

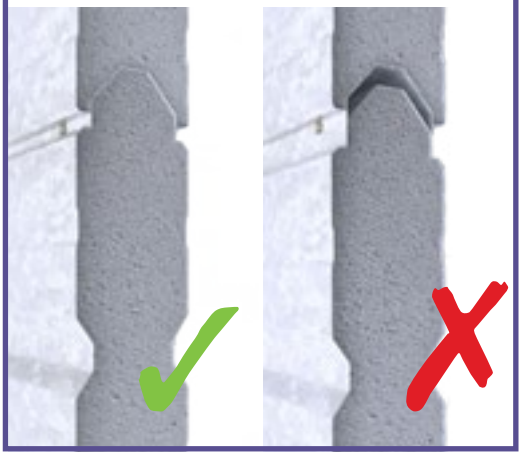


FIGURE 69

FIGURE 70

Horizontal Installation

STEP 3 - FITTING FINAL PANELS

Installing the last two panels is done by placing the panels in an arc and in one movement snapping them into place.

Snapping action shown below.

Figure 71

FOLD C-TRACK FLANGE BACK & PLACE SEALANT OVER NOTCHES

Once the wall is completed, fold back the C-track flange to its original location, fix and seal the notches cut with fire-rated sealant, both top and bottom.

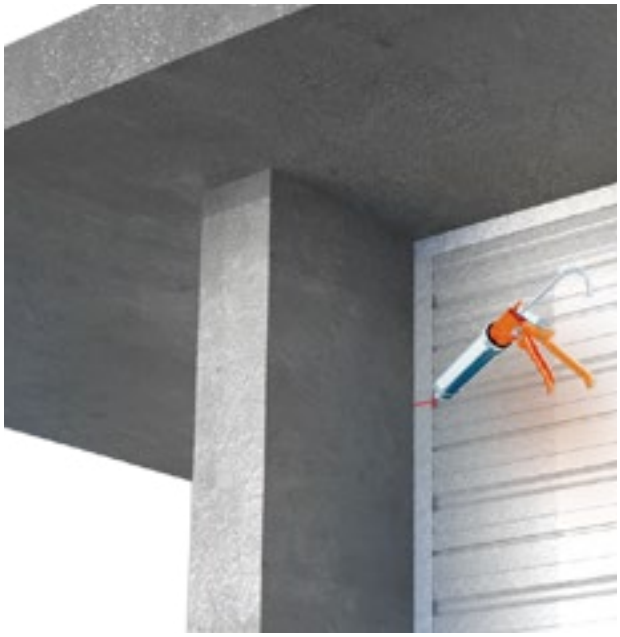


Figure 72

STEP 4 - RIPPING PANELS

To complete the Speedpanel® wall, a panel may need to be cut lengthways. This is known as ripping. The reason a Speedpanel® may need to be ripped is due to the fact that most wall lengths will not be specific to 250mm incremental measurements. (250mm is the coverage of an installed Speedpanel®).

The recommended tools to use when ripping a Speedpanel® are:

- Sabre saw (also known as a reciprocating saw)
- Radial saw with dust extraction (recommended cutting disc: Hilti DC-D 305/22)

FIGURE 73

FITTING FINAL PANELS (RIPPED)

Using the snapping together method of finishing a wall, outlined in step 3, the newly ripped panel is used as the finishing panel to the wall, placing the open cut edge into the C-track.

Where a ripped panel may be required between doors or other penetrations the minimum width of the panel is to be 100mm.

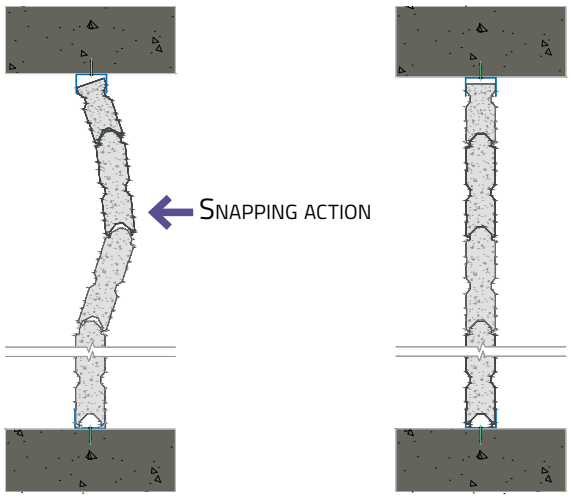


FIGURE 74

Horizontal Installation

STEP 5 - HORIZONTAL WALL STANDARD FIXING

All panels are screwed directly into the panel joints vertically at 250mm centres on both sides and 1000mm centres horizontally into panel joints. Side C-track/angles enclosing the panels are fixed at 250mm centres while top and bottom tracks are fixed at 500mm centres. Where two C-tracks or angles meet there are to be two fixings screwed at 45° as shown.

Panel size	Max. height
51mm / 64mm	Up to 3.0m
78mm	Up to 5.0m

Unlimited height can be achieved up to 4.5m spans by using 78mm panels only. Refer to Chapter 2.7 'Shafts & Risers' for more details.

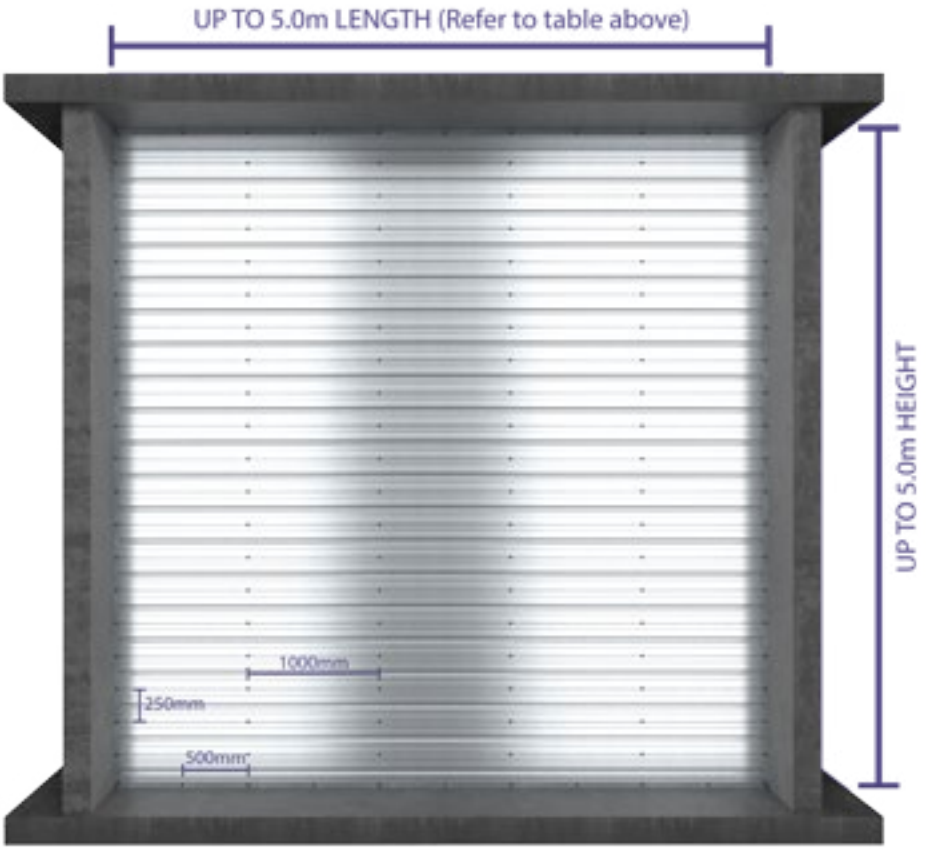


FIGURE 75

STEP 6 - PLACE SEALANT BEAD TO C-TRACK PERIMETER

Fire-rated sealant applied along one side of the length of C-track or angle only where Speedpanel® meets C-track or angle - must be top, bottom and sides.

We recommend plastic film to be removed from all Speedpanel® products to avoid an unsightly appearance, however if not removed, the plastic will not effect fire performance. Please refer to page 5 for more information.

FIGURE 76

STEP 7 - HEAD TRACK PROTECTION

A) METAL FLASHING (ARCHITECTURAL OPTION)

A 130mm deep sheet of head track protection is required on the top C-track only. Head track protection is fixed with 30mm self drilling screws at 125mm centres fixed through to top C-track.

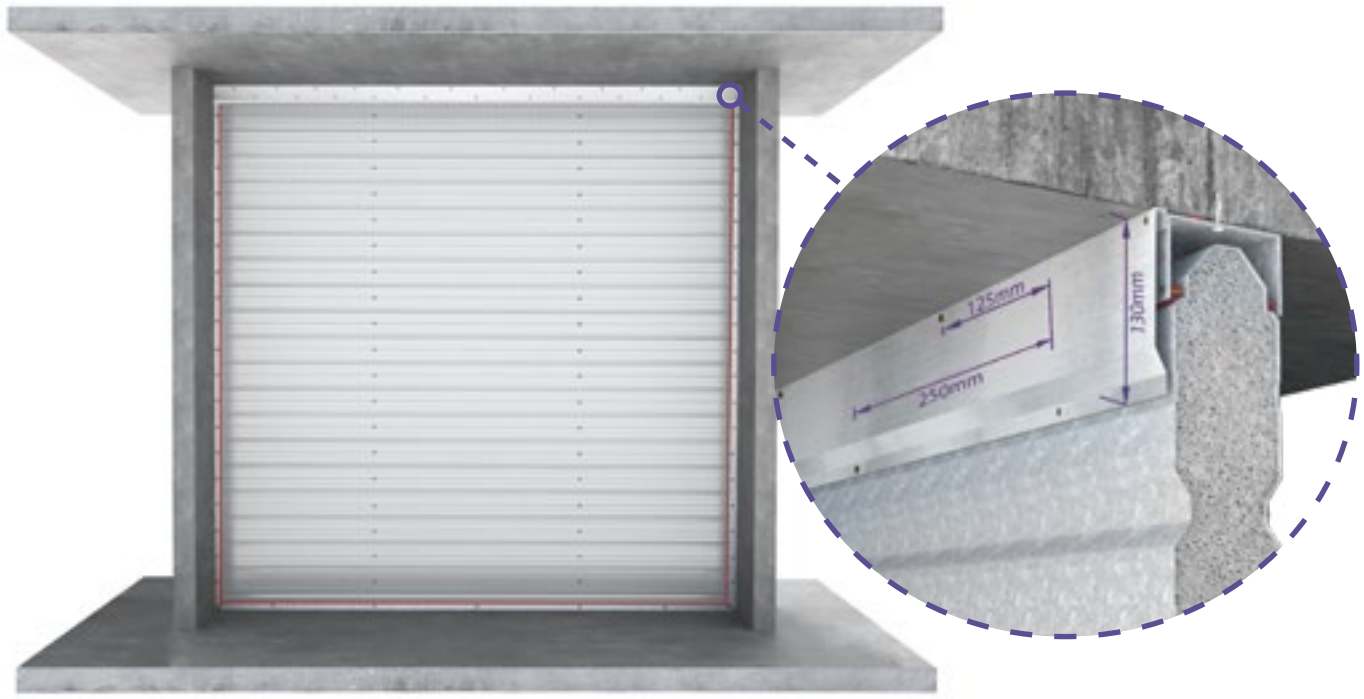


FIGURE 77 [3]

B) FIRE-RATED PLASTERBOARD (COMMON OPTION)

A 120mm deep sheet of head track protection is required on the top C-track only. Head track protection is fixed with 40mm x 6 Gauge self drilling screws at 125mm centres fixed through to top C-track. Fire-rated plasterboard is required to be butt jointed and sealed with a fire-rated sealant.

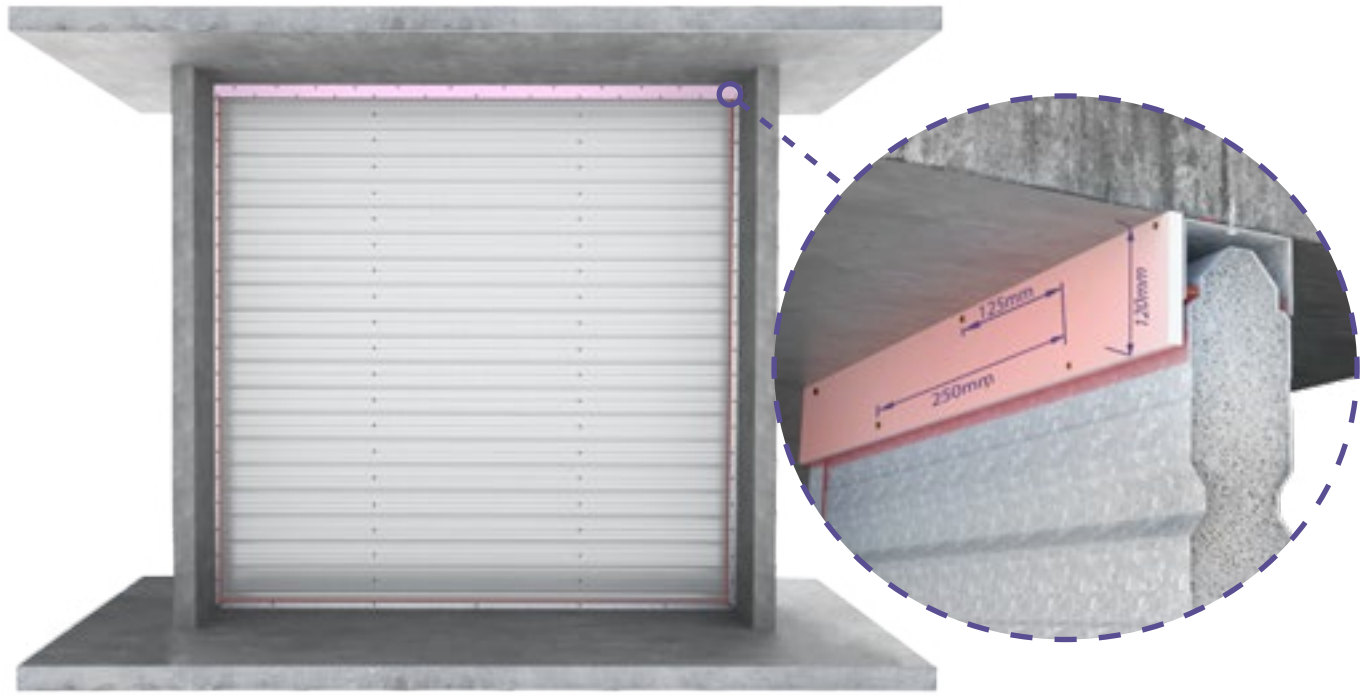


FIGURE 78 [3]

3. Exova Warringtonfire - Report No. 28961

Sealant Options

PLASTERBOARD PROTECTED RIPPED PANEL HEAD TRACK

Fire-rated plasterboard 13mm x 120mm strip sealant options.

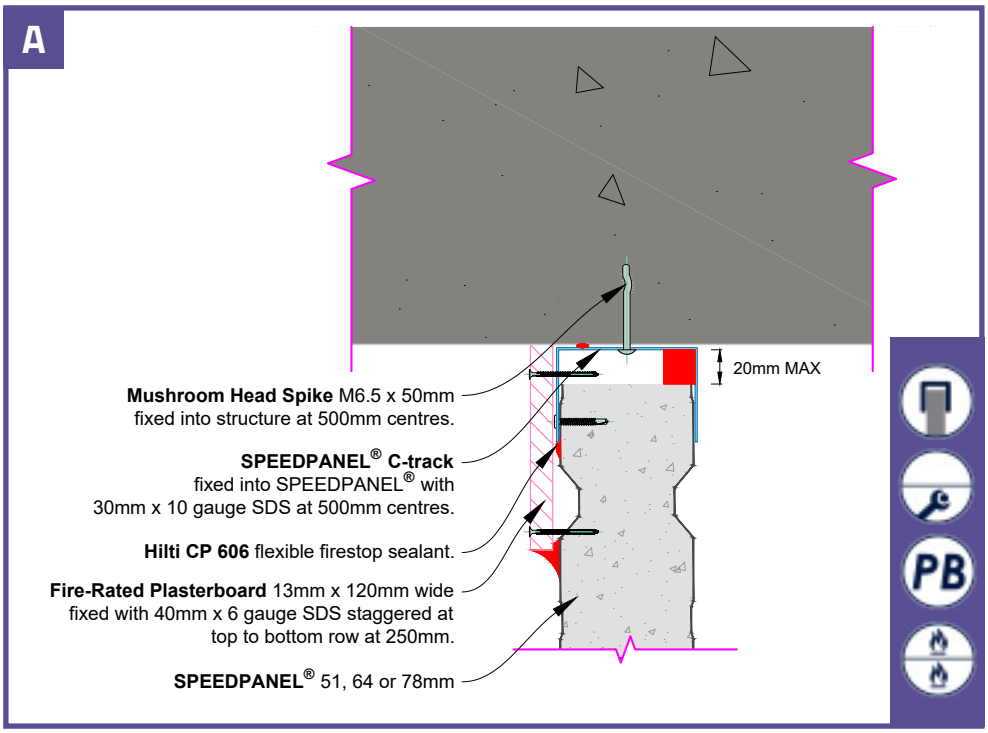


FIGURE 79

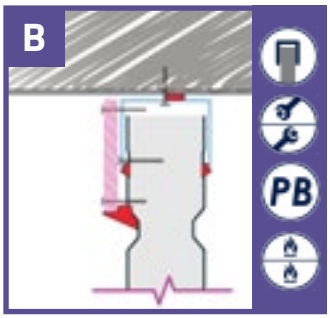


FIGURE 80 [3]

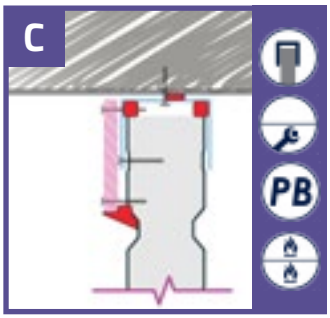


FIGURE 81

METAL FLASHING PROTECTED RIPPED PANEL HEAD TRACK

0.7BMT x 130mm strip sealant options.

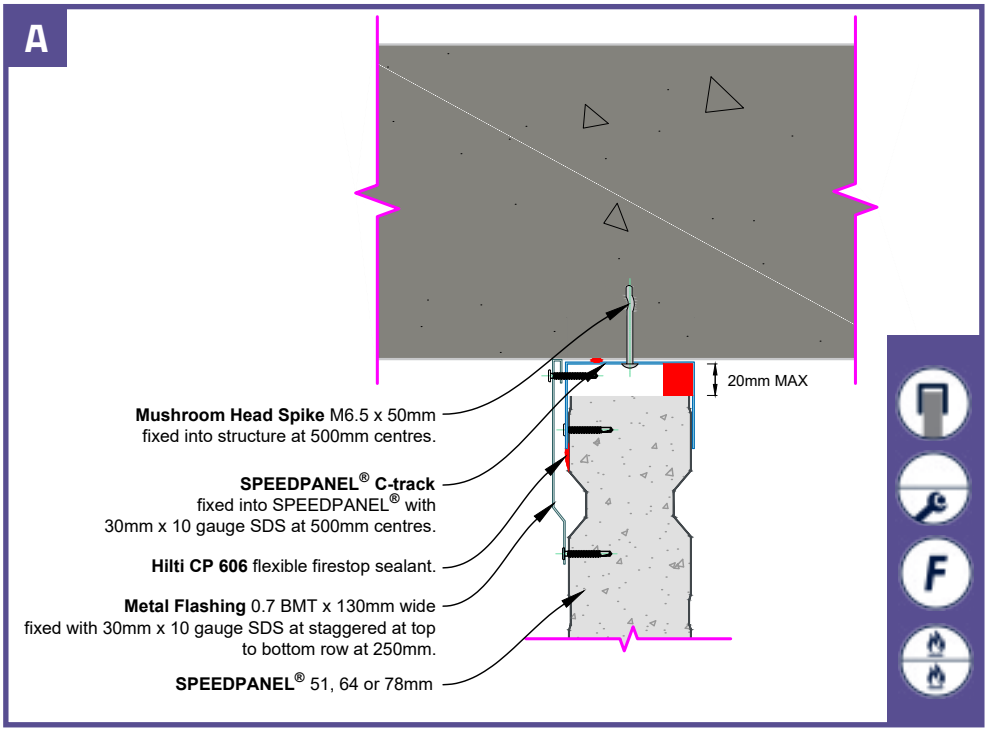


FIGURE 82

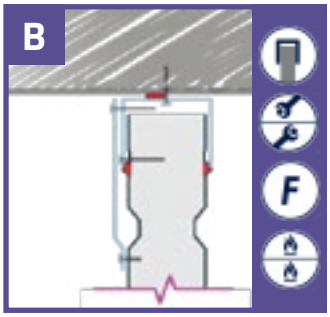


FIGURE 83 [3]

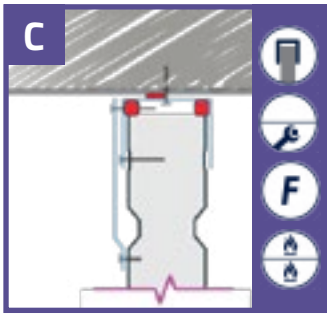


FIGURE 84

3. Exova Warringtonfire - Report No. 28961

HORIZONTAL WALL ENDS

Sealant position options of full size end panels.

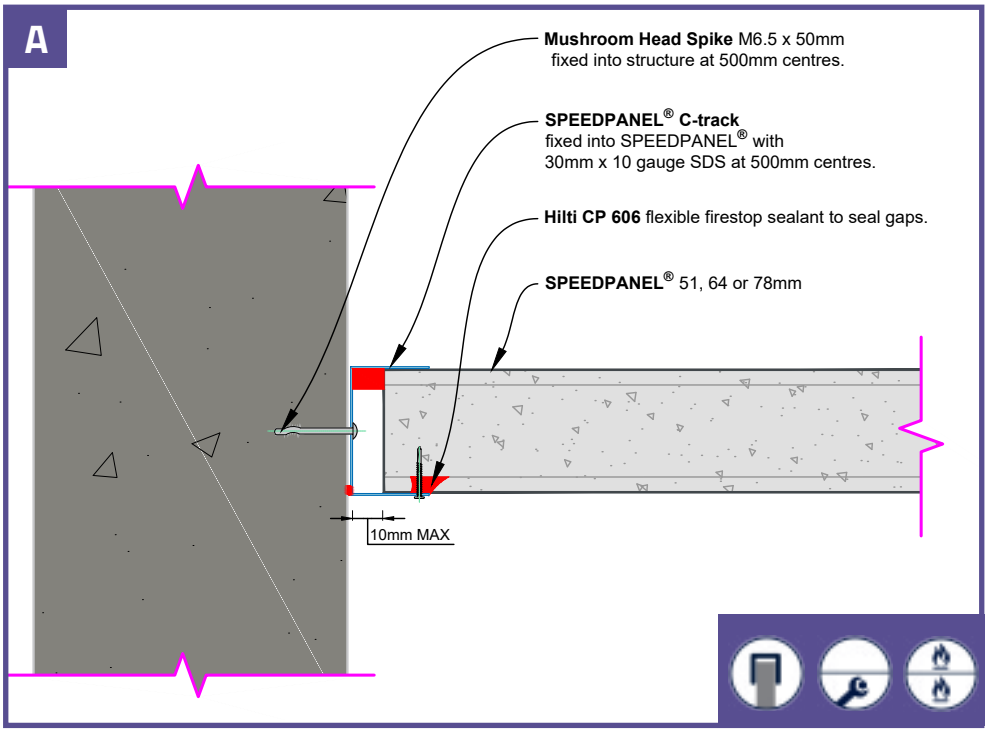


FIGURE 85

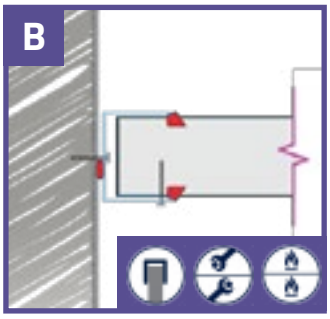


FIGURE 86 [1]

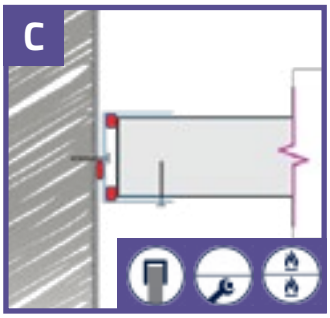


FIGURE 87 [1]

BASE OF HORIZONTAL WALLS

Bottom track sealant position options.

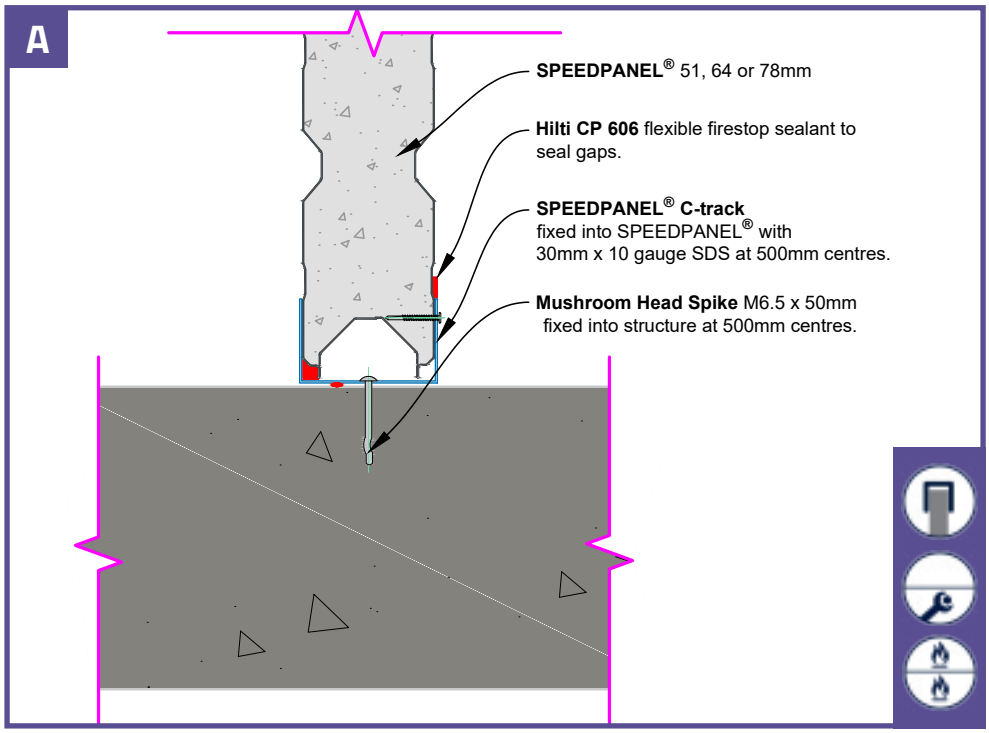


FIGURE 88

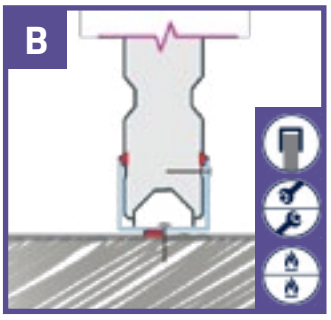


FIGURE 89 [1]

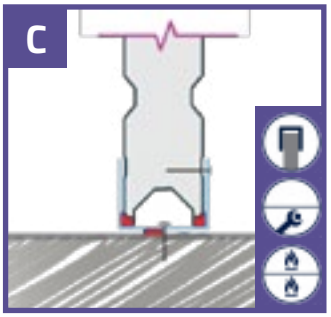
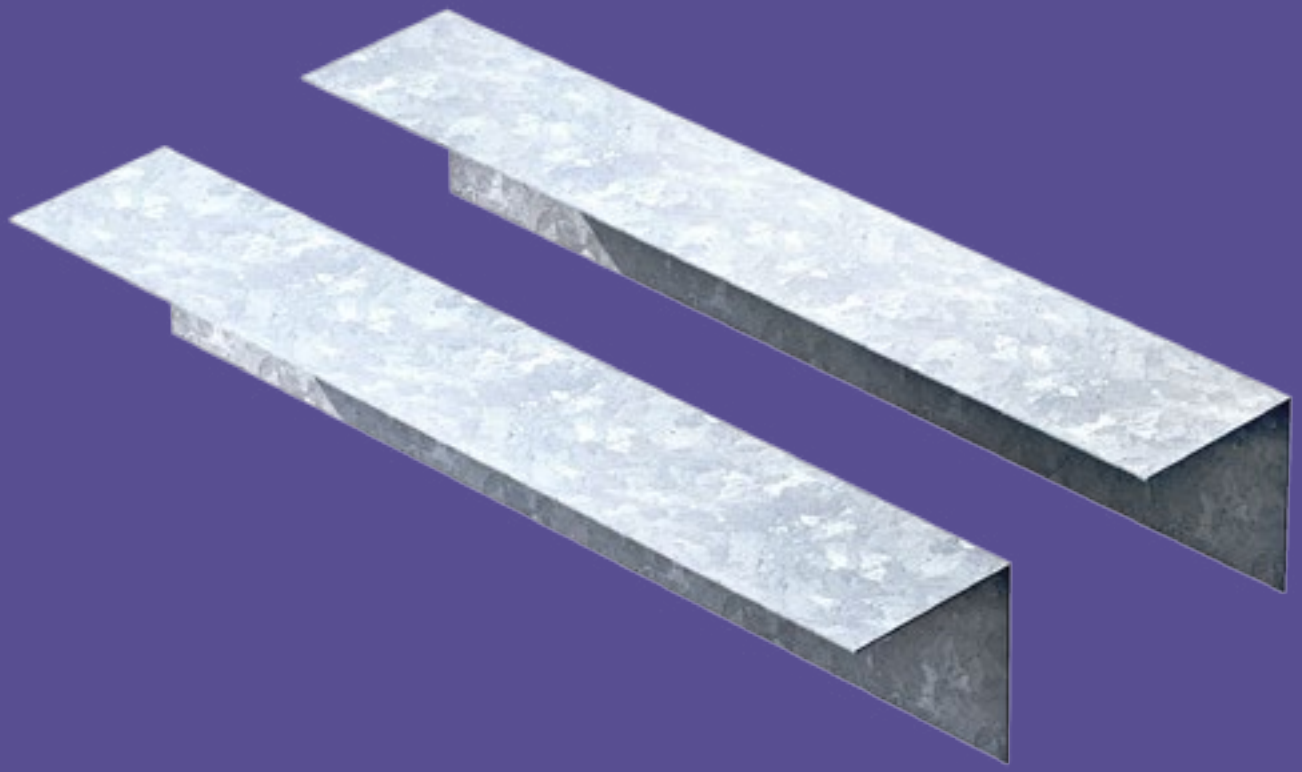


FIGURE 90 [1]

1. Exova Warringtonfire - Report No. 21622

2.4 B

ALTERNATIVE HEAD-TRACK OPTION: STEEL ANGLES



EQUAL ANGLES CAN BE USED AS AN ALTERNATIVE TO C-TRACK

2.4B HORIZONTAL INSTALLATION

PART B (EQUAL STEEL ANGLE)

STEP 1 - INSTALL ANGLE INTO PLACE

As an alternative to a head C-track, two 50 x 50 x 1.15mm BMT equal angles can be used for easier installation in difficult areas. Fit the first equal angle in line with wall position.

Figure 91

STEP 2 - FOLD C-TRACK FLANGE & PLACING THE EQUAL ANGLE

Following final panel installation, fold C-track back against panels then fix and seal joint.

Figure 92

Figure 93

Equal angle: Horizontal walls

STEP 3 - FIX AND SEAL

Once equal angle is fitted, fix and seal as per normal C-track requirements.

FIGURE 94

FIGURE 95

STEP 4 - HEAD TRACK PROTECTION

Final protection is now to be fitted as per normal C-track protection, using fire-rated plasterboard or metal flashing. Lastly, finish off the installation by adding the final sealants around the plasterboard if necessary.

FIGURE 96

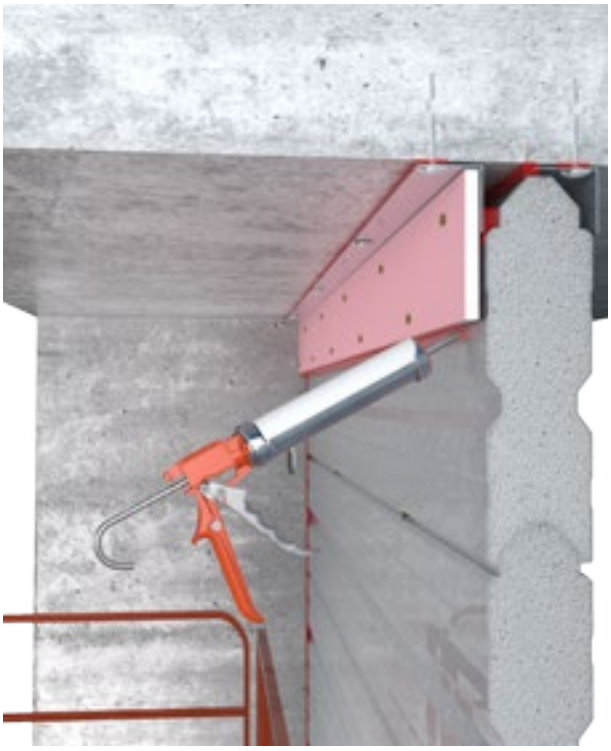


FIGURE 97

HORIZONTAL PANEL HEAD TRACK

Below are the approved options for sealant positions on both metal flashing and fire-rated plasterboard options.

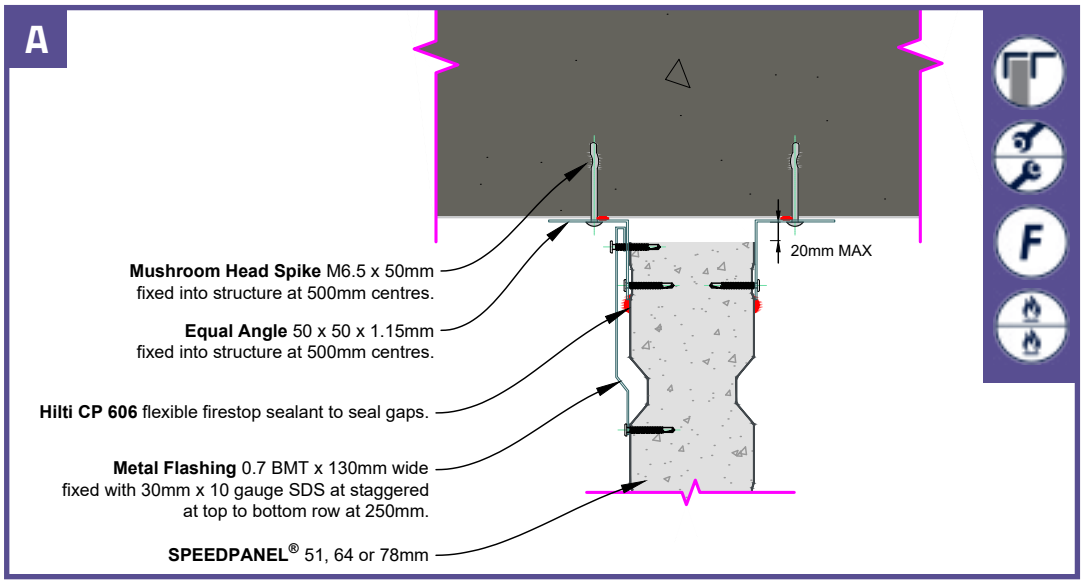


FIGURE 98

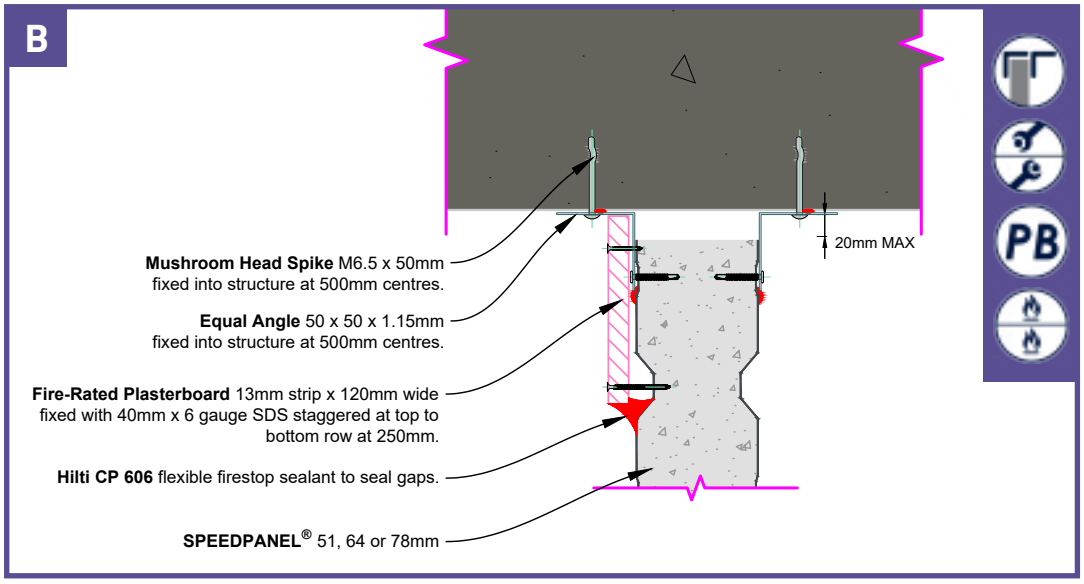


FIGURE 99

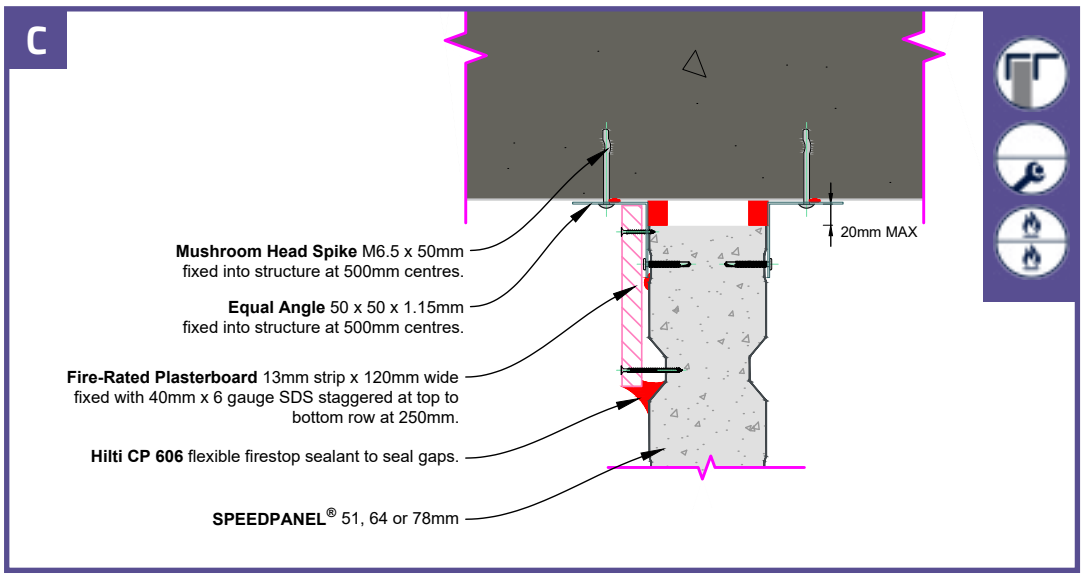
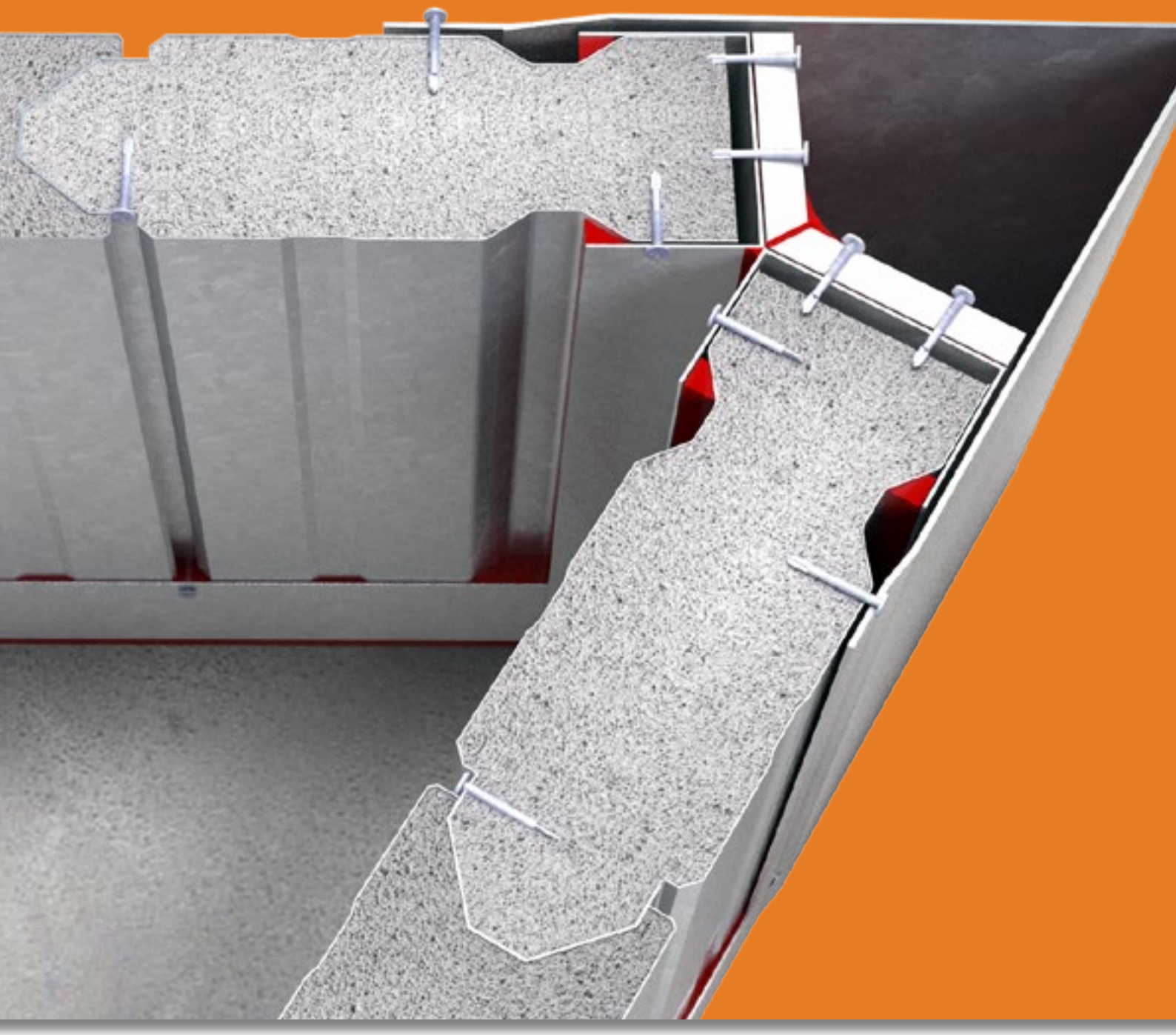


FIGURE 100



SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

1 - REPORT 21622

4 - REPORT 22551

5 - REPORT 31919000

2.5

CORNERS & INTERSECTIONS

2.5 CORNERS & INTERSECTIONS

Right Angles

VERTICAL WALL 90° CORNER DETAIL

A) Ideal positioning of fixings and sealants on corner detail with vertical panels supported by top and bottom floor slabs.

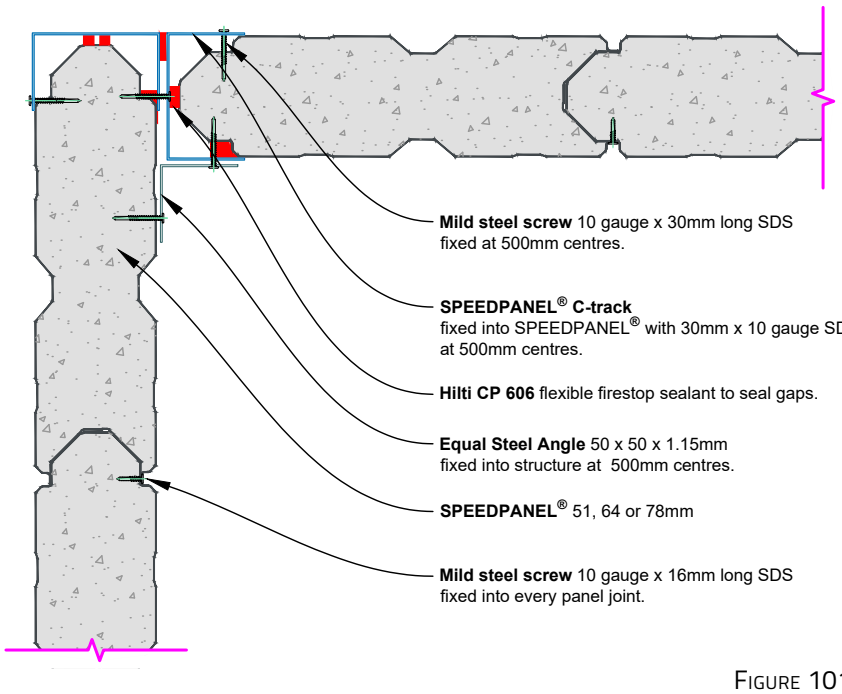


FIGURE 101

B) Secondary option for positioning fixings and sealants on corner detail with vertical panels supported by top and bottom floor slabs.

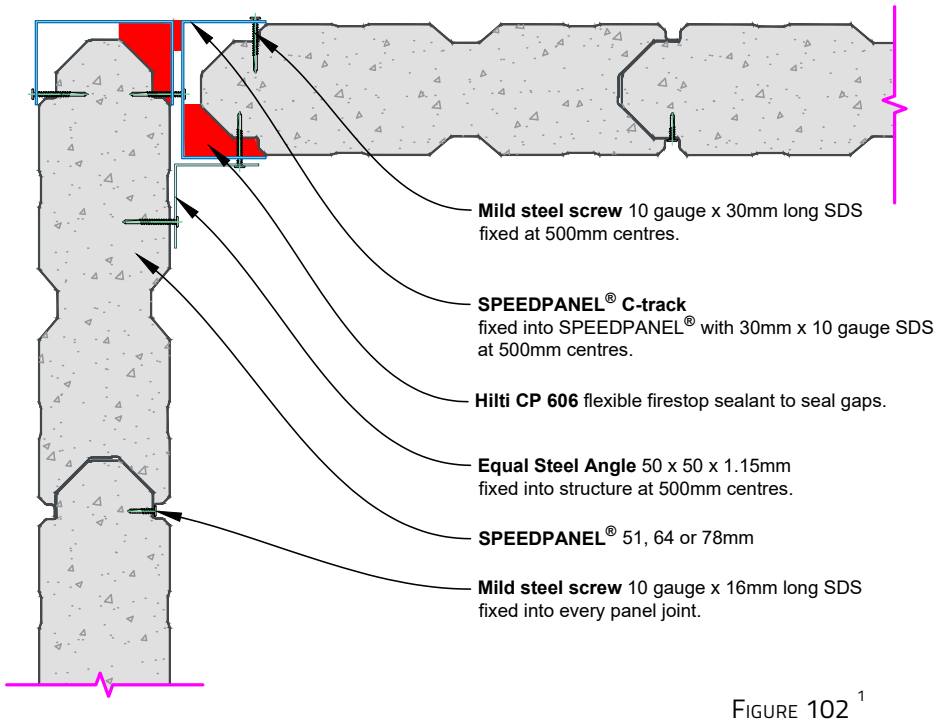


FIGURE 102 [1]

1. Exova Warringtonfire - Report No. 21622

VERTICAL WALL CONNECTION DETAIL

Ideal positioning of fixings and sealants on corner detail in a scenario where a vertical wall meets a masonry or concrete wall at corners.

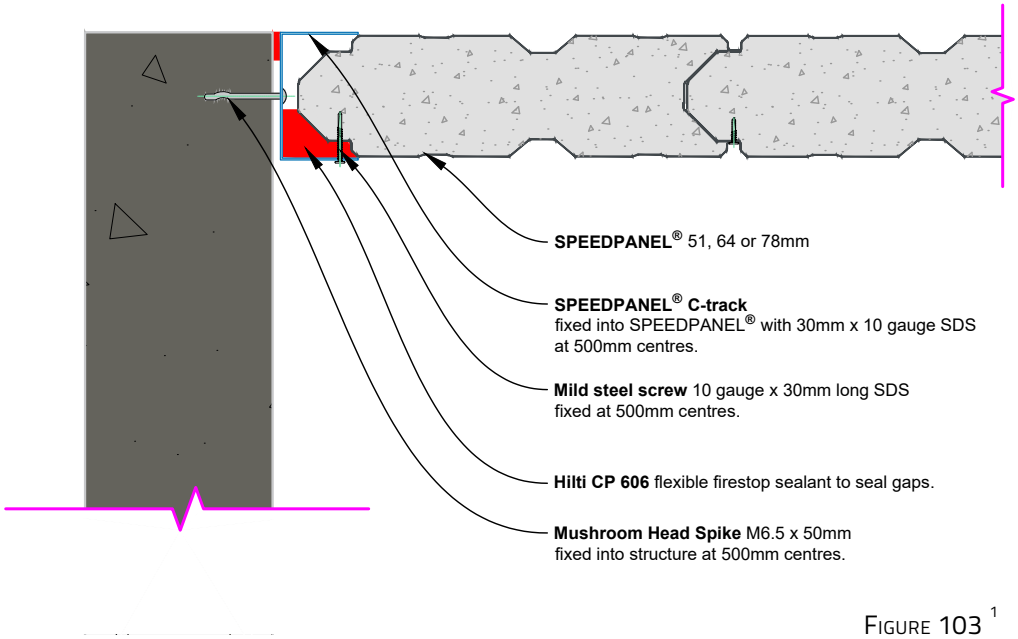


FIGURE 103 [1]

VERTICAL AND HORIZONTAL WALL CORNER DETAILS

Arrangement of fixings and sealants on corner detail when vertical panels are connected to horizontal panels from one side and concrete/masonry wall from the other. Note that these panels are supported by top and bottom floor slabs not the concrete/masonry wall.

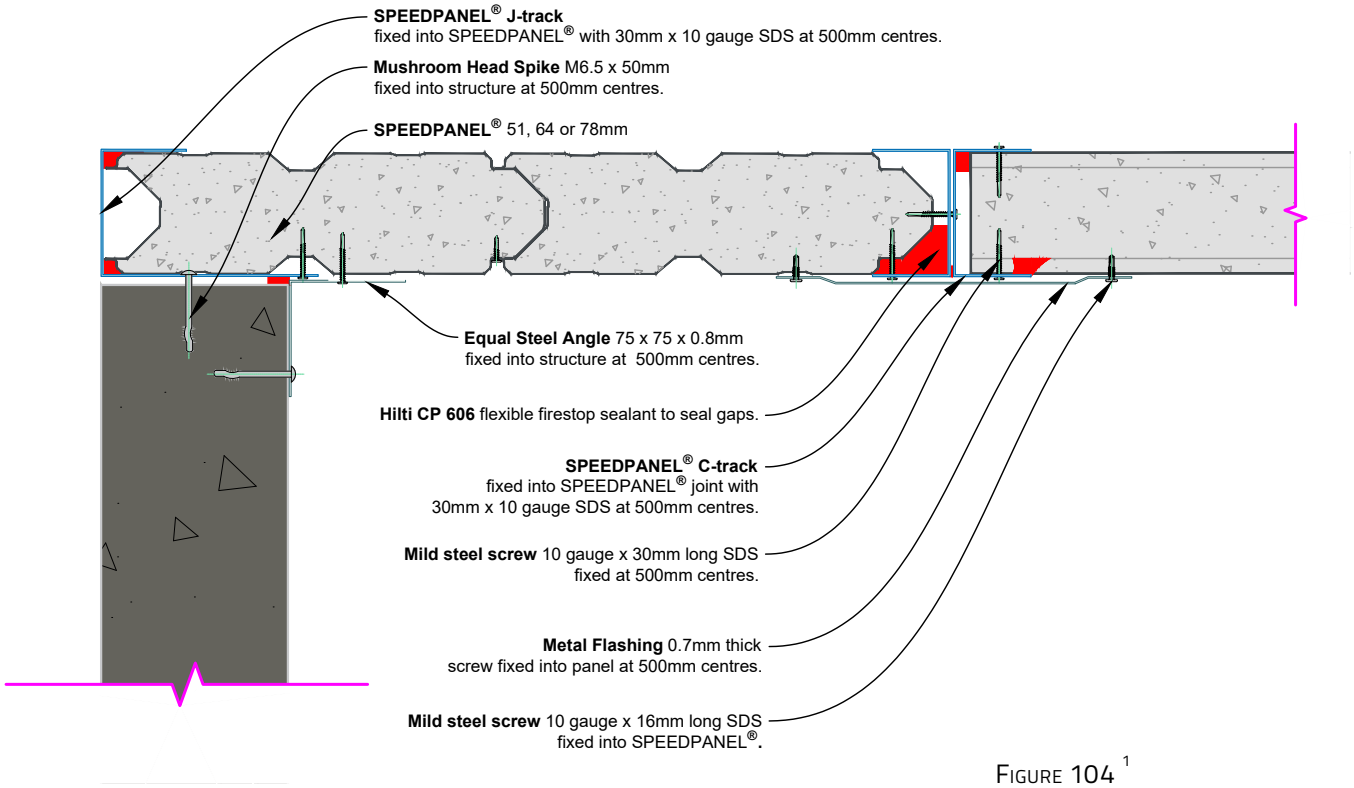


FIGURE 104 [1]

1. Exova Warringtonfire - Report No. 21622

Right Angles (continued)

VERTICAL AND HORIZONTAL WALL CONNECTION DETAIL

Arrangement of various fixings and sealant options on corner detail where vertical and horizontal panels meet each other. All of the vertical panels are supported by the top and bottom floor slabs and horizontal panels are supported by the vertical panels.

A)

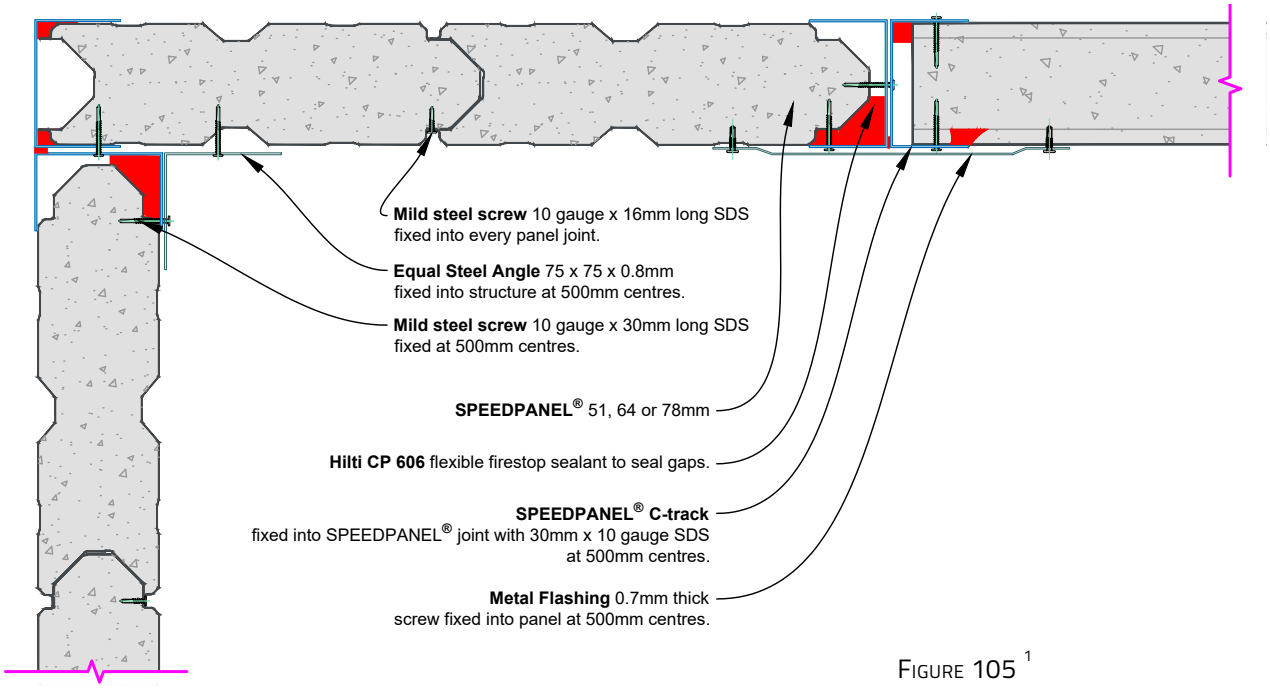


FIGURE 105 [1]

B)

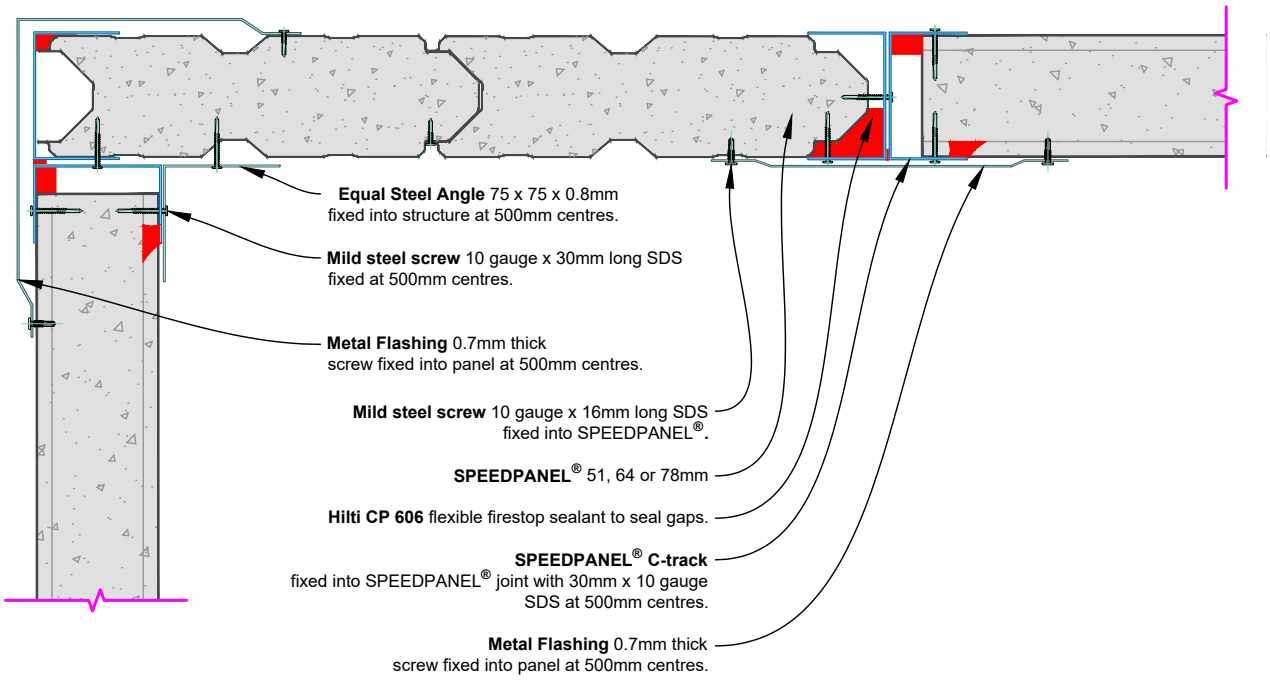


FIGURE 106 [1]

1. Exova Warringtonfire - Report No. 21622

Obtuse Angles

OBTUSE ANGLE DETAIL

A) Position of sealant and fixings where two ripped vertical panels meet each other in the range of 90°-166° angle.

Note: For the further protection of these panels on this detail, an additional protection lining is needed (13mm thick fire grade plasterboard, 20mm thick PROMATECT® 100 board or 50mm thick Intubatt is recommended).

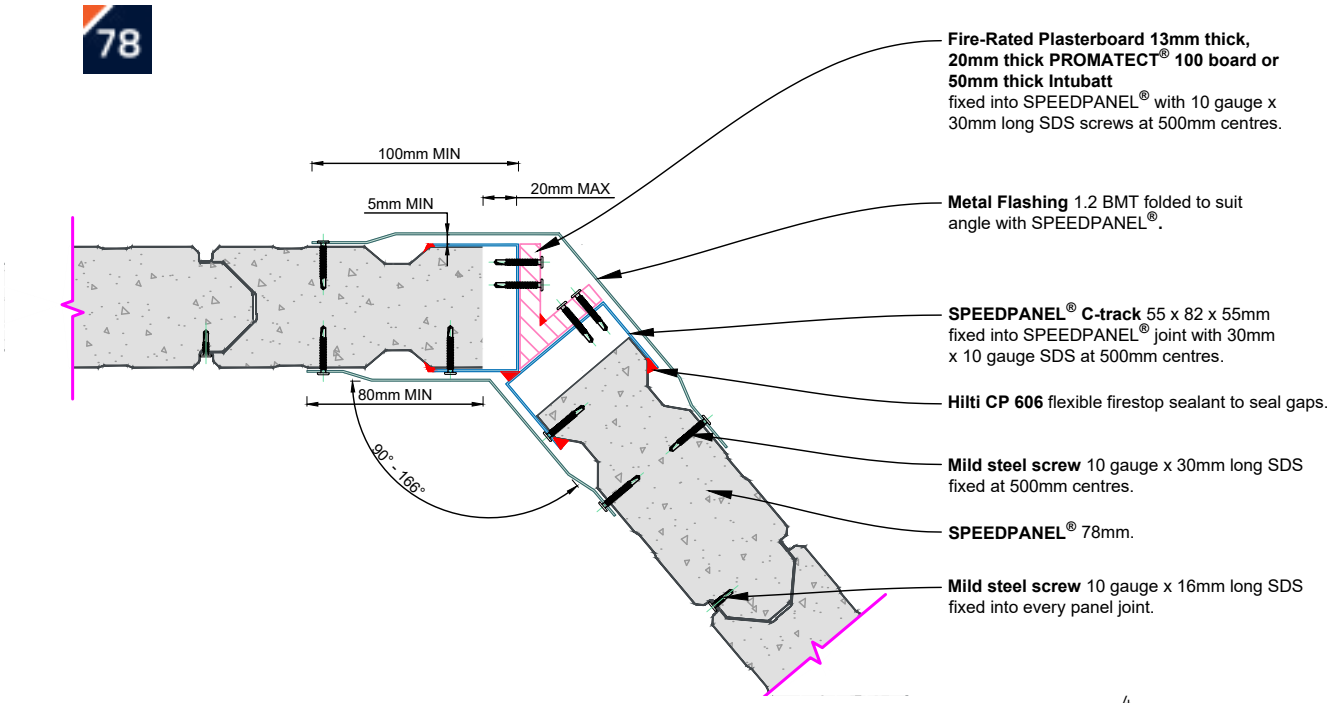


FIGURE 107 [4]

B) Position of sealant and fixings where two vertical panels meet each other in the range of 166°-180° angle.

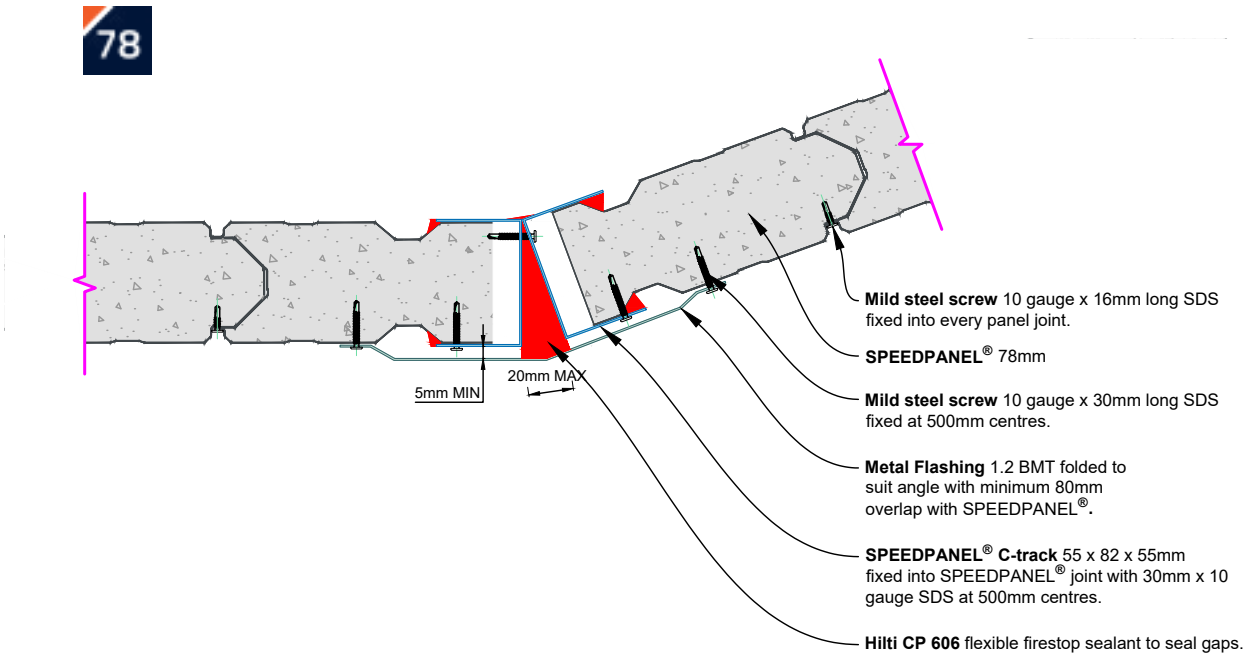


FIGURE 108 [4]

4. Exova Warringtonfire - Report No. 22551

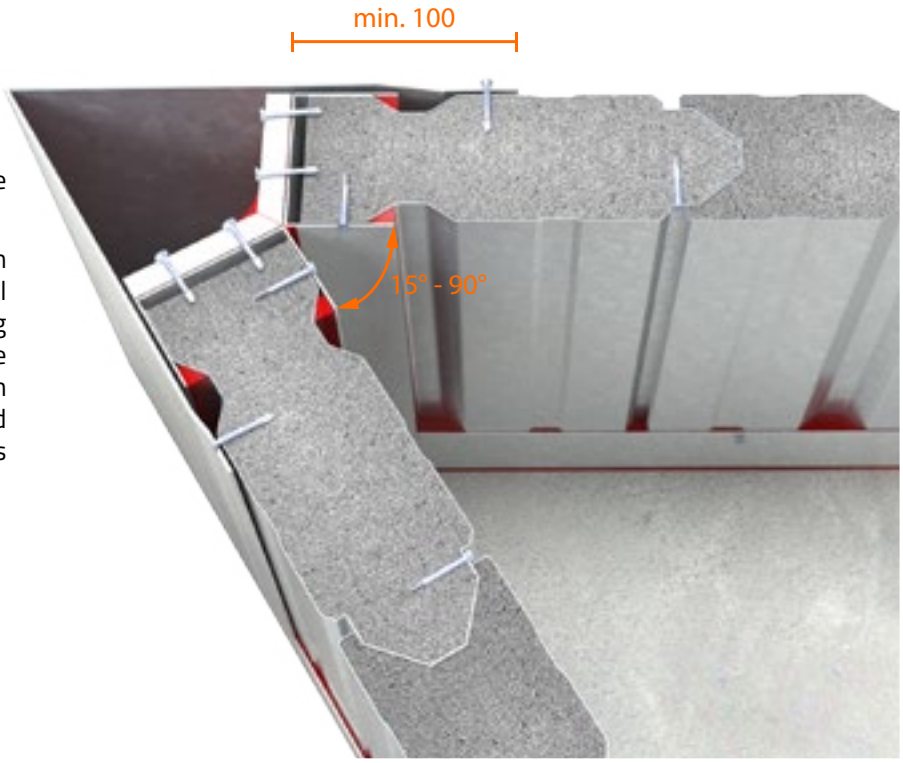
Acute Angles

78

ACUTE ANGLES

Position of sealant and fixings where two ripped vertical panels meet each other in the range of 15° - 90° angle.

Note: For the further protection of these panels on this detail an additional protection lining is needed. (13mm thick fire grade plasterboard, 20mm thick PROMATECT® 100 board or 50mm thick Intubatt is recommended).



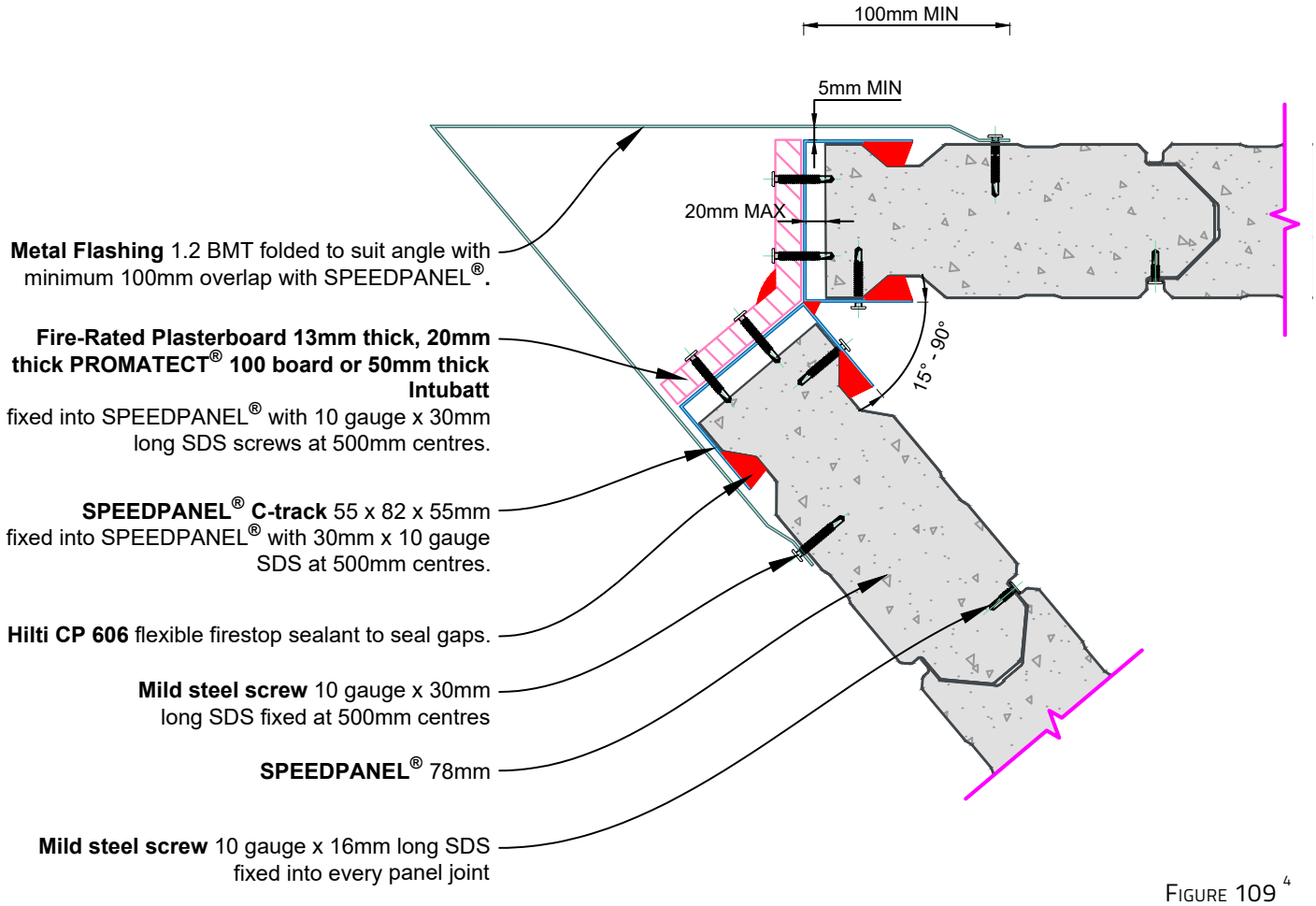


FIGURE 109 [4]

4. Exova Warringtonfire - Report No. 22551

Radius Connections

78

JOINTS WITH RADIUS DETAIL

Position of sealant and fixings in a radial wall comprising Speedpanel®.

Note: The radius of the curvature wall can vary from 1.5 to 3.32m (in plan). However the radius of the curvature wall in plan will directly effect the joint fixing spacing and the overall wall height.

Please refer to the table below for more detailed information.

Note: This application is only valid for 78mm Speedpanel®.

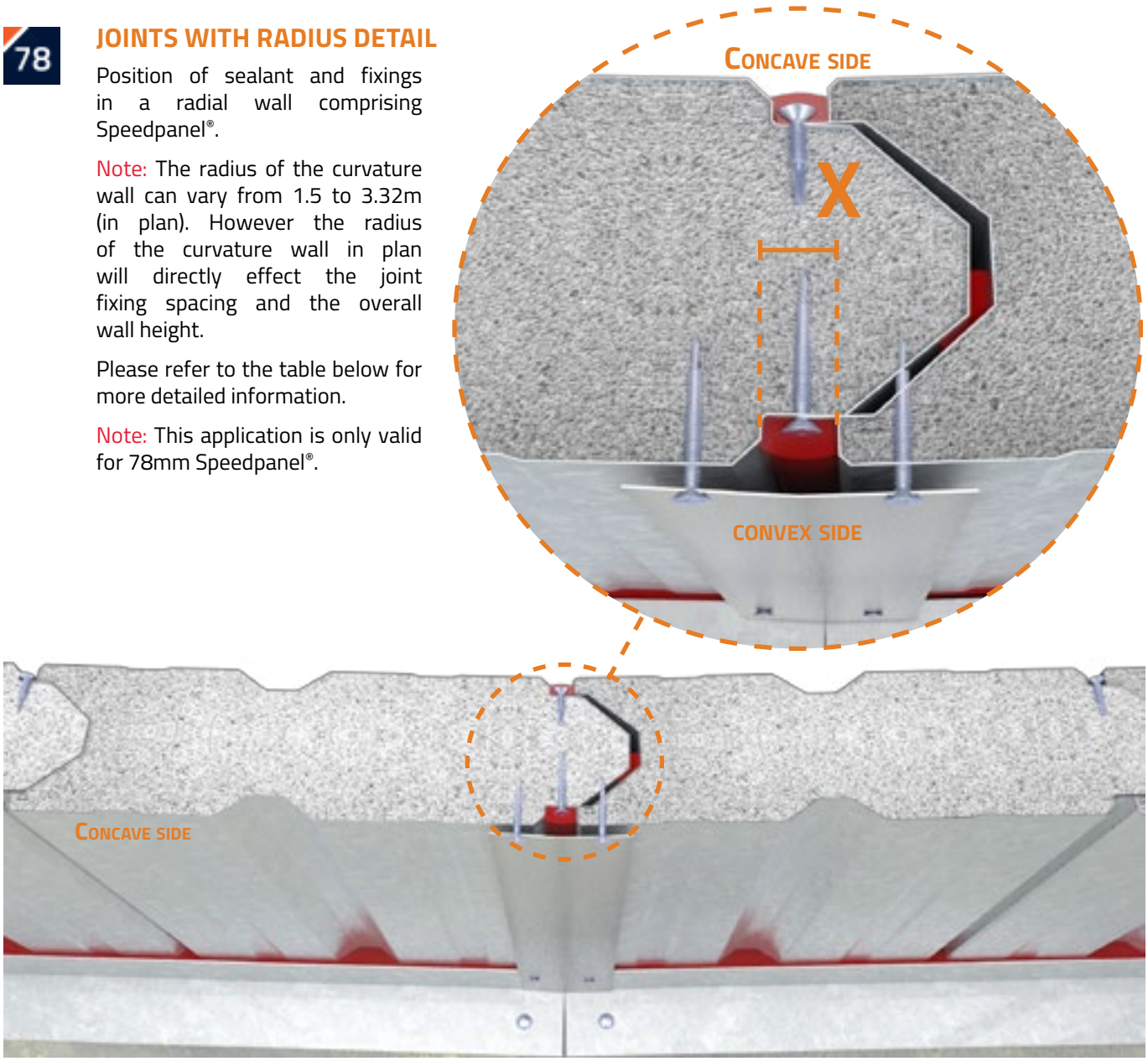


FIGURE 110 [4]

Radius of curvature in plan (m)	Max. wall height (m)	Increase in joint on concave side (mm)	Joint overlap on convex side X (mm)	Panel joint fixing spacing
3.32	6.0	0.6	14.4	The panels shall be fixed at 500mm centres
3.0		0.7	14.3	
2.5		1.0	14.0	
2.3		1.2	13.8	
2.0		1.6	13.4	
1.8		1.9	13.1	
1.5	4.9	2.8	12.2	The panels shall be fixed at 300mm centres

4. Exova Warringtonfire - Report No. 22551

T-Intersections

T-JUNCTIONS WITH VARIOUS VERTICAL AND HORIZONTAL PANELS

The illustrations below show how the position of the fixings and sealant change in T-junctions. Note that Speedpanel® Systems must intersect at adjacent panel joints as shown below.

A)

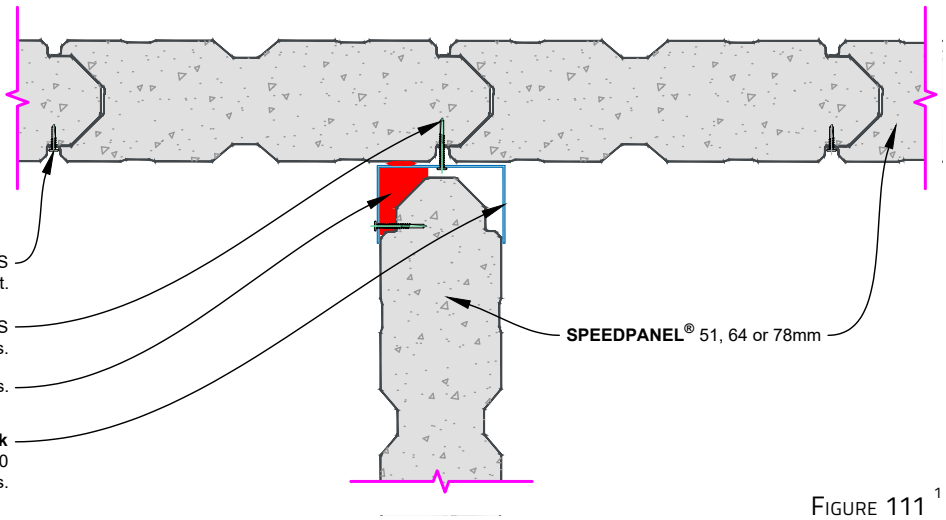


FIGURE 111 [1]

B)

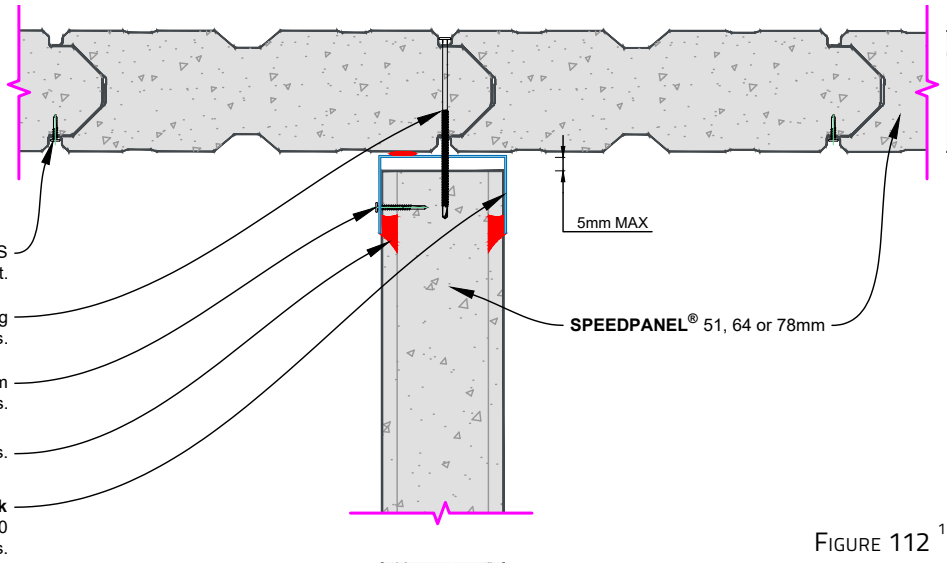


FIGURE 112 [1]

C)

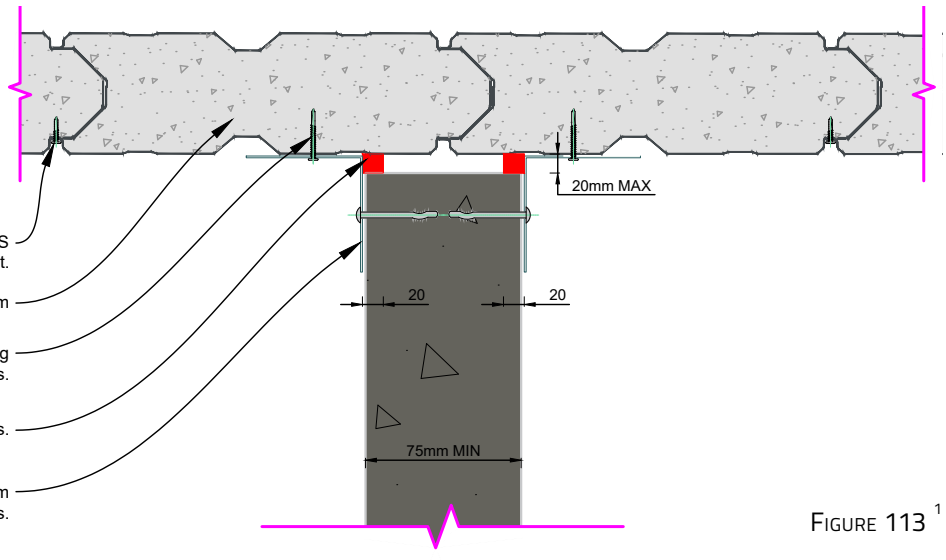


FIGURE 113 [1]

1. Exova Warringtonfire - Report No. 21622

Changing panel orientation

CHANGING PANEL CONFIGURATIONS (HORIZONTAL & VERTICAL ORIENTATION)

Where intersections occur within the wall and a back-to-back occurs, a flashing or 13mm fire-rated plasterboard must be fixed over the joint on one side of the wall.

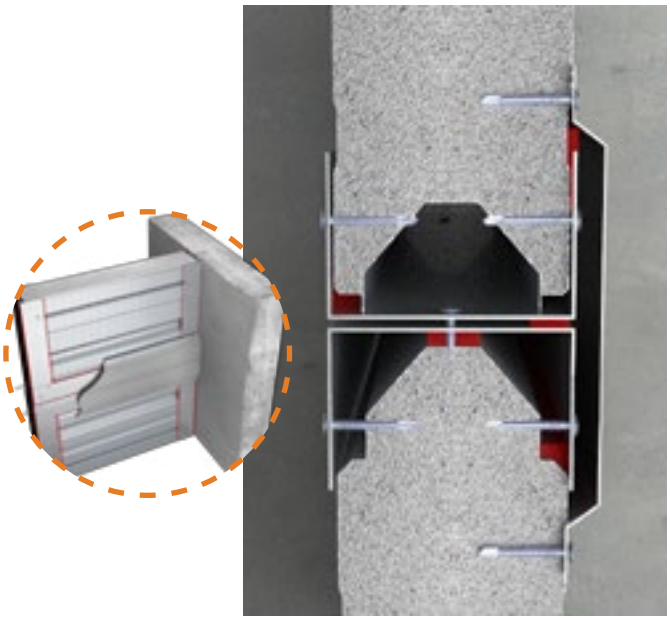


FIGURE 114

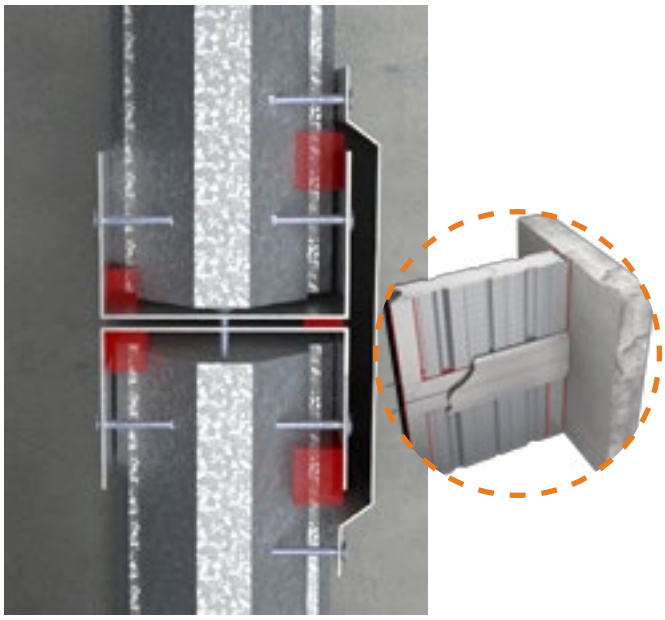


FIGURE 115 [5]

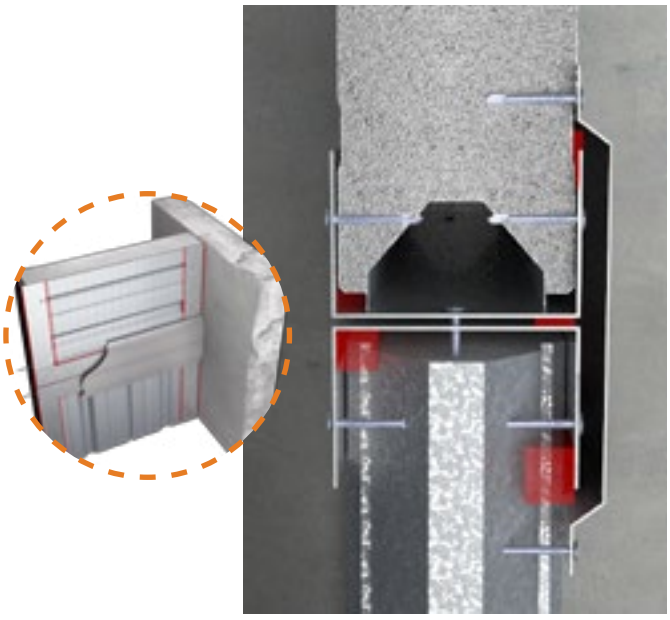


FIGURE 116

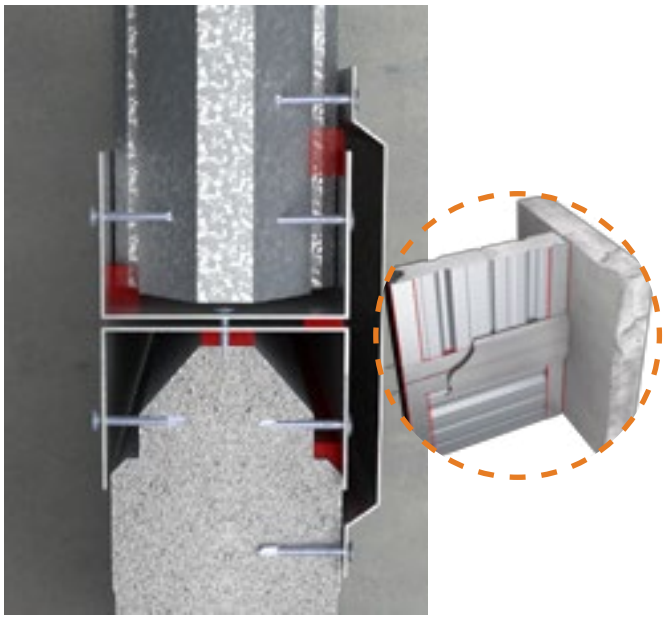


FIGURE 117

Note: In above details, flashing placement can be substituted with 120mm wide strip of 13mm fire-rated plasterboard.

5. Exova Warringtonfire - Report No. 31919000

Panel To Panel Application

78

MIX OF HORIZONTAL AND VERTICAL PANELS

Picture below illustrates the arrangement of the horizontal Speedpanel® Systems with vertical Speedpanel® Systems on top. In this application vertical panels are supported by the structural support beam above and the horizontal panels by the side structural supports.

Note: This application is only available for 78mm Speedpanel®.

Note: Steel protection is not shown for clarity purposes. Steel column protection system shall be as per AS4100-1998 clause 12.10.1. for fire-rated scenarios.

FIGURE 118 [1]

1. Exova Warringtonfire - Report No. 21622

Steel Connections

HEAD DETAIL CONNECTED TO STEEL STRUCTURE

Speedpanel® System connections to steel are very similar to concrete in terms of the sealant positions and fixing variations. However, given that structural steel requires fire treatment, we recommend to overlap the Promat Cavco® 300 vermiculite gypsum based wet mix spray down past the C-track, alleviating the need for the fire-rated plasterboard strip or metal flashing.

Spray over the steel structure, the flange of top track and the interface of the track and Speedpanel® with a minimum thickness of 25mm each side.

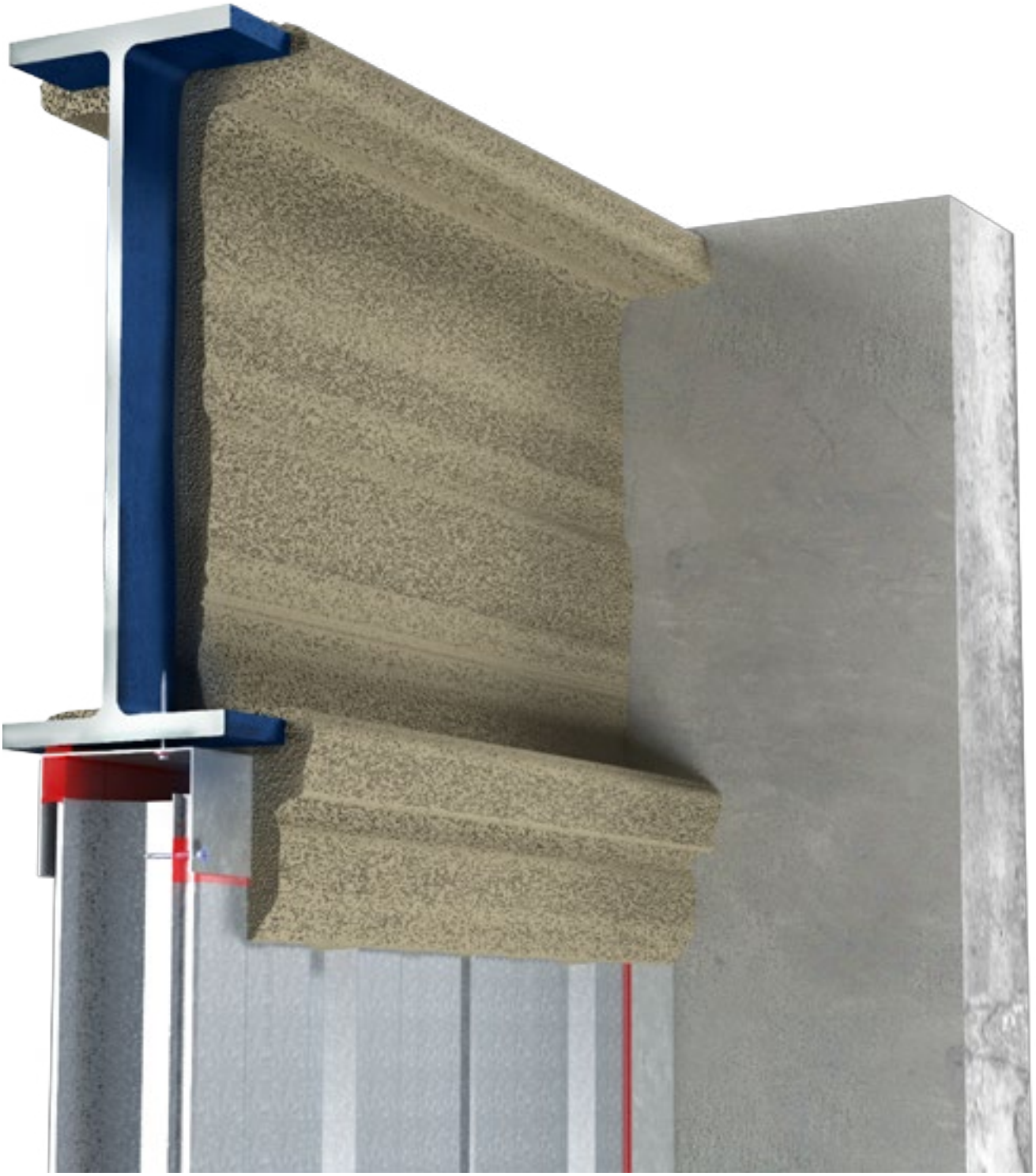


FIGURE 119 [4]

4. Exova Warringtonfire - Report No. 22551

SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

1 - REPORT 21622

2.6

GENERAL PENETRATIONS

2.6 GENERAL PENETRATIONS

C-TRACK

C-track is to be notched out as shown 55mm into each end of the C-track. Once all C-tracks are notched, the C-tracks can be placed into an aperture and fixed at each corner diagonally and at 500mm centres around the perimeter fixing to the Speedpanel®.

Note: C-tracks do not come pre-drilled or notched.

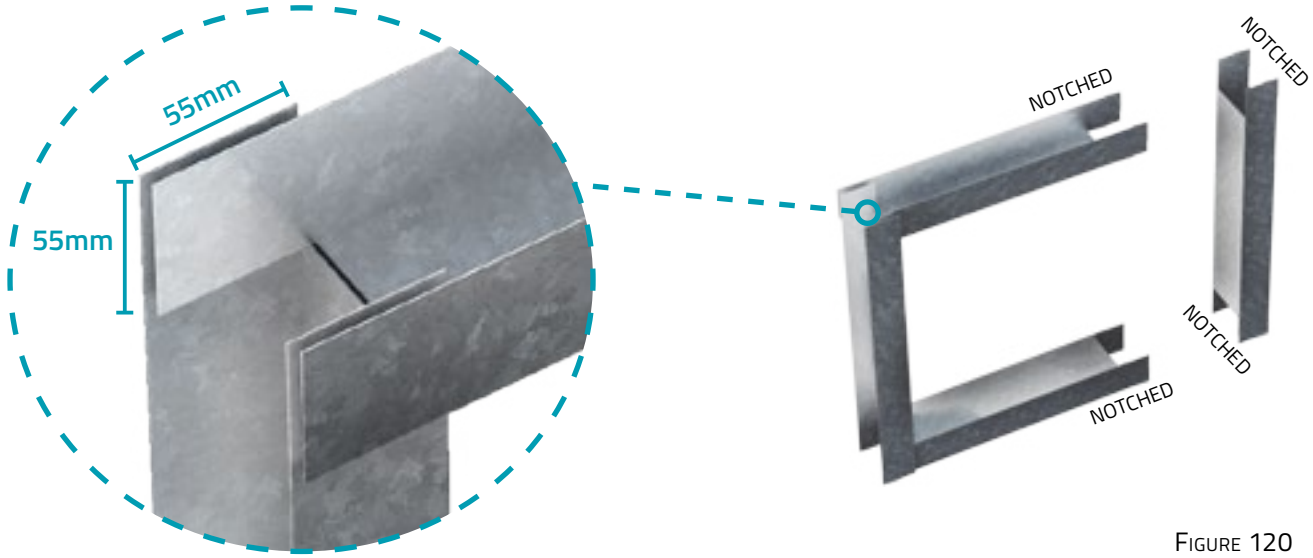


FIGURE 120

PENETRATION CORNER FIXING

Use 10 gauge self drilling screws and fix into the corners at 45° as shown.

FIGURE 121

DOORS IN SPEEDPANEL® SYSTEMS

Various doors can be fitted into Speedpanel® Systems (for details please refer to our website or contact our office).

Disclaimer: For illustration purposes only. Please refer to certification for doors, penetrations and services treatment available on our website or contact our office.

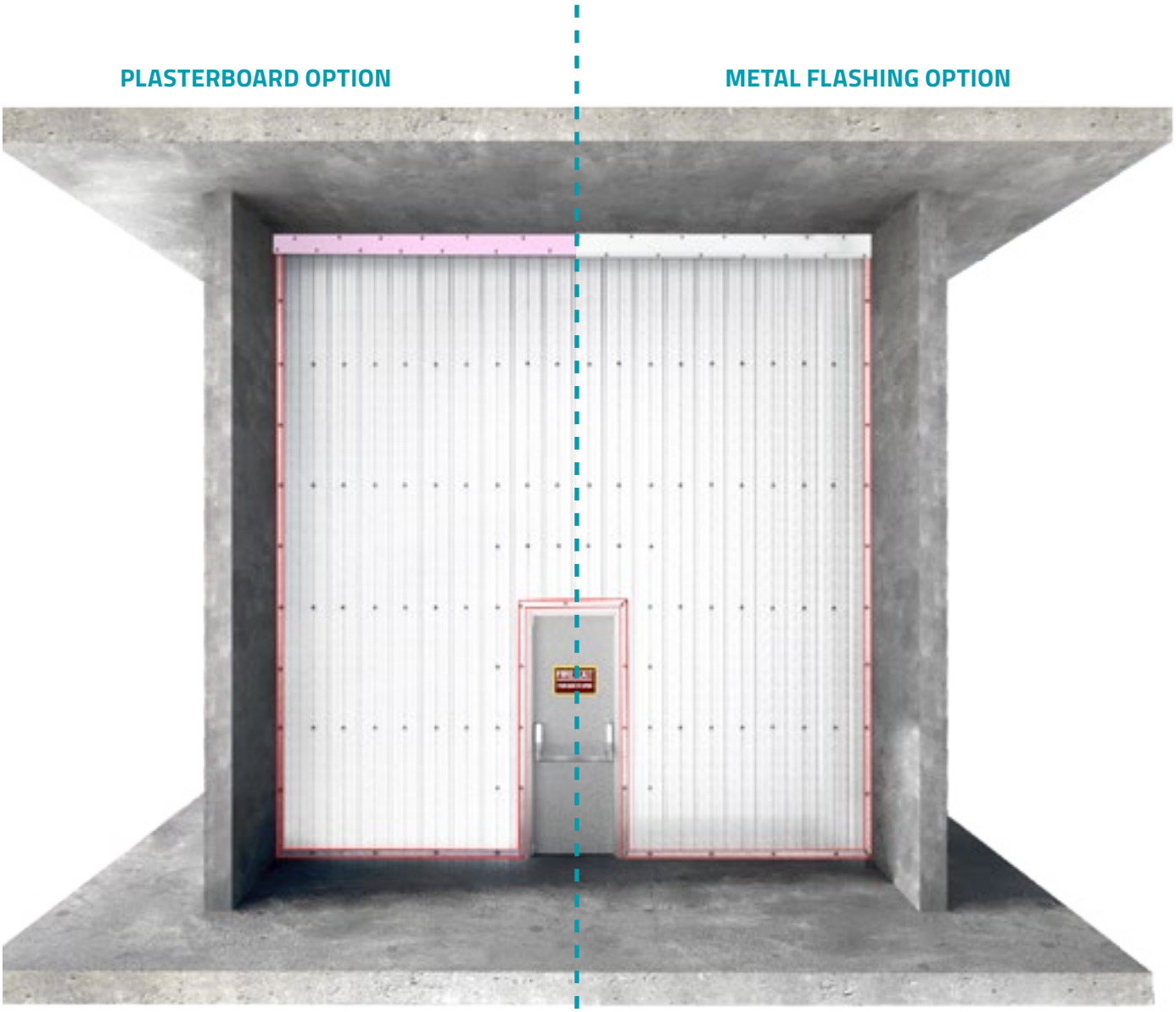


FIGURE 122 *

Disclaimer: For illustration purposes only. Please refer to:

- EWFA 28249900.1 - 51, 64 and 78mm Speedpanel® - (Pyropanel)
- CSIRO FCO - 2992 - 78mm Speedpanel® - (Firecore)
- CSIRO FCO - 2124 - 78mm Speedpanel® - (E+Core)

General Penetrations

VERTICAL SPEEDPANEL® SYSTEMS SINGLE PENETRATIONS

Vertical Speedpanel® systems can have rectangular or square penetrations up to 4m². Refer to table and illustration below for full details.

51 64 78

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Ymax (mm)	Head detail
Wall height (mm)						
3000	-	-	4m²	2000	35-1000	Fig. 33-41 & Fig. 64-66
-	5000	-	4m²	2200		
-	-	5000	4m²	2400		
5000	-	-	4m²	2400	>1000	Fig. 42-44
-	5000	-				
-	-	6000				

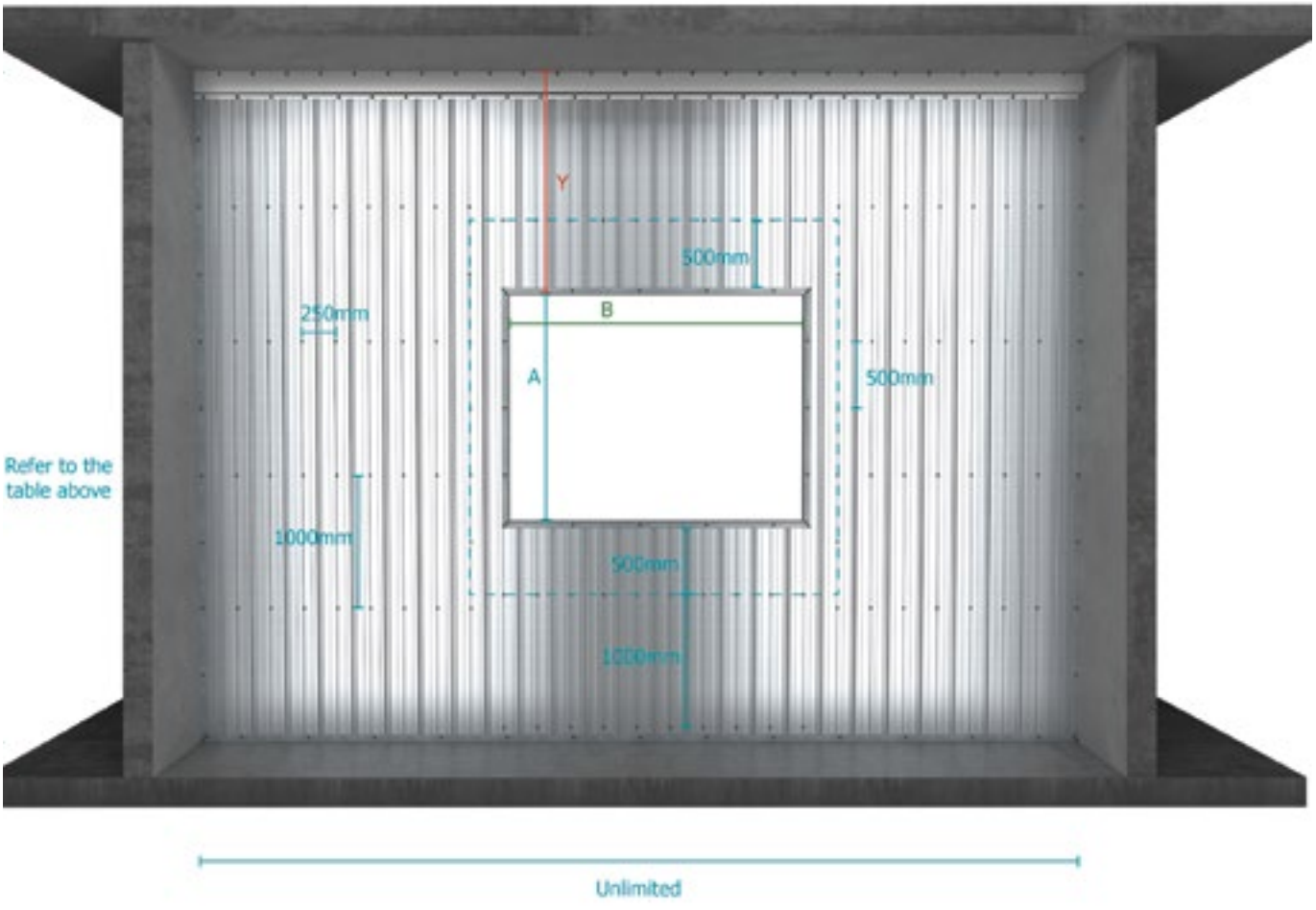


FIGURE 123 [1]

1. Exova Warringtonfire - Report No. 21622

VERTICAL SPEEDPANEL® SYSTEMS SERVICE PENETRATIONS

Various services can penetrate Speedpanel® walls including ducts, dampers, cable trays and existing pipes in the building. Where multiple small services run through a wall, these can be considered to be grouped into a rectangle with a total area not exceeding 4m². Refer to the table and illustration below for the full details.

51 64 78

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Ymax (mm)	Head detail
Wall height (mm)						
3000	-	-	4m²	2000	35-1000	Fig. 33-41 & Fig. 64-66
-	5000	-	4m²	2200		
-	-	5000	4m²	2400		
5000	-	-	4m²	2400	>1000	Fig. 42-44
-	5000	-				
-	-	6000				

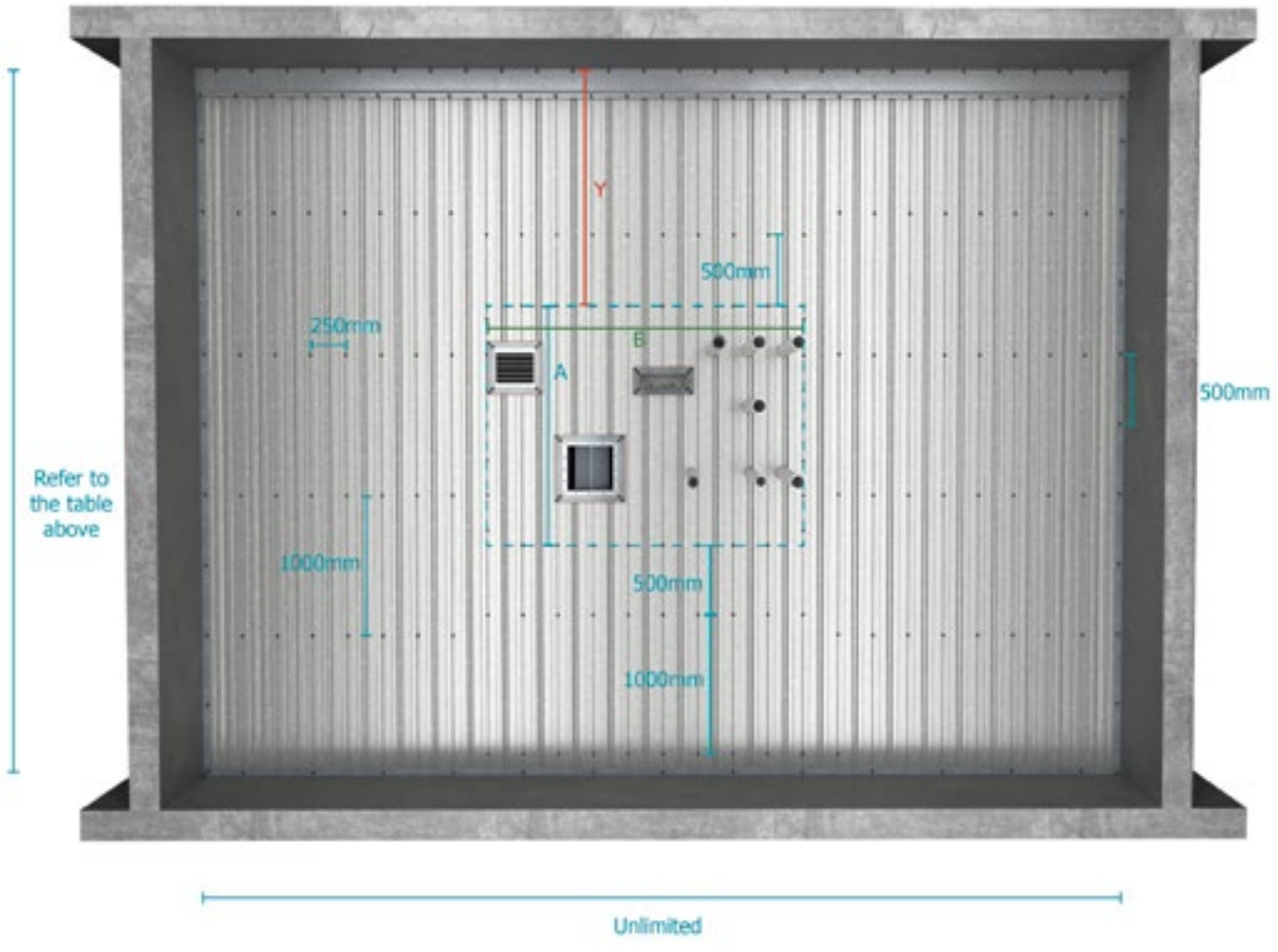


FIGURE 124 [1]

1. Exova Warringtonfire - Report No. 21622

General Penetrations

VERTICAL SPEEDPANEL® SYSTEMS MULTIPLE PENETRATIONS

Vertical Speedpanel® systems can have multiple apertures. Refer to the table and illustration below for the full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Ymax (mm)	Zmin (mm)	Head detail
Wall height (mm)							
3000	-	-	4m²	2000	35-1000	200	Fig. 33-41 & Fig. 64-66
-	5000	-	4m²	2200			
-	-	5000	4m²	2400			
5000	-	-	4m²	2400	>1000	200	Fig. 42-44
-	5000	-					
-	-	6000					

FIGURE 125 [1]

1. Exova Warringtonfire - Report No. 21622

VERTICAL AND HORIZONTAL SPEEDPANEL® SYSTEMS COMBINATION PENETRATIONS

Vertical and horizontal Speedpanel® orientation can be adopted so that the wall application can have multiple apertures. Refer to the table and illustration below for the full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Amax & Bmax (mm)	Ymax (mm)	Head detail
Wall height (mm)						
3000	-	-	4m²	2000	35-1000	Fig. 33-41 & Fig. 64-66
-	5000	-	4m²	2200		
-	-	5000	4m²	2400		
5000	-	-	4m²	2400	>1000	Fig. 42-44
-	5000	-				
-	-	6000				

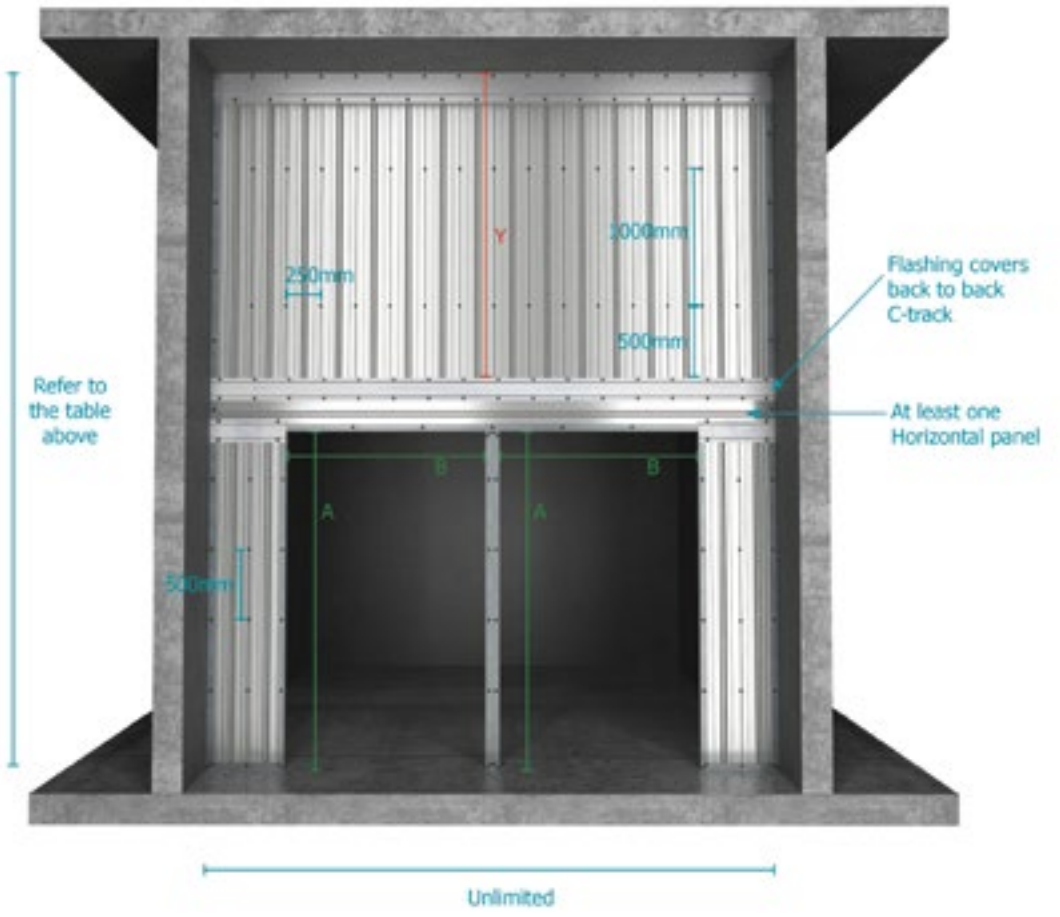


FIGURE 126 [1]

1. Exova Warringtonfire - Report No. 21622

General Penetrations

HORIZONTAL SPEEDPANEL® SYSTEMS SINGLE PENETRATIONS

Horizontal Speedpanel® systems can handle penetrations up to 4m². Refer to table and illustration below for full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Head detail
Wall height (mm)					
3000	-	-	4m²	2444	Fig. 79-84 & Fig. 98-100
-	5000	-			
-	-	5000			
5000	-	-			
-	5000	-			
-	-	6000			

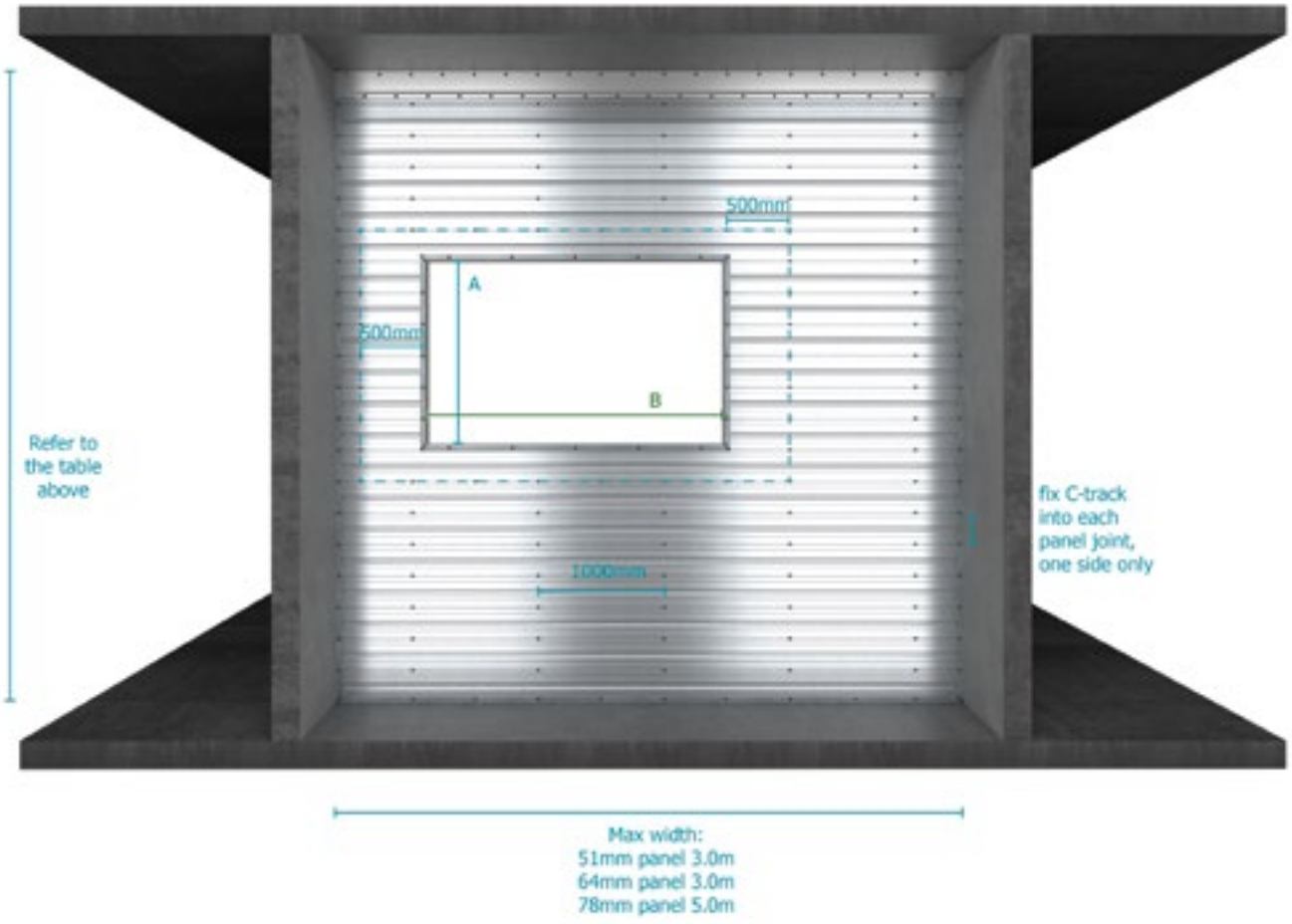


FIGURE 127 [1]

1. Exova Warringtonfire - Report No. 21622

HORIZONTAL SPEEDPANEL® SYSTEMS SERVICE PENETRATIONS

Various services can penetrate Speedpanel® walls including ducts, dampers, cable trays and existing pipes in the building. Where multiple small services run through a wall, these can be considered to be grouped into a square or rectangle with a total area up to 4m^2. Refer to the table and illustration below for the full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Head detail
Wall height (mm)					
3000	-	-	4m^2	2444	Fig. 79-84 & Fig. 98-100
-	5000	-			
-	-	5000			
5000	-	-			
-	5000	-			
-	-	6000			

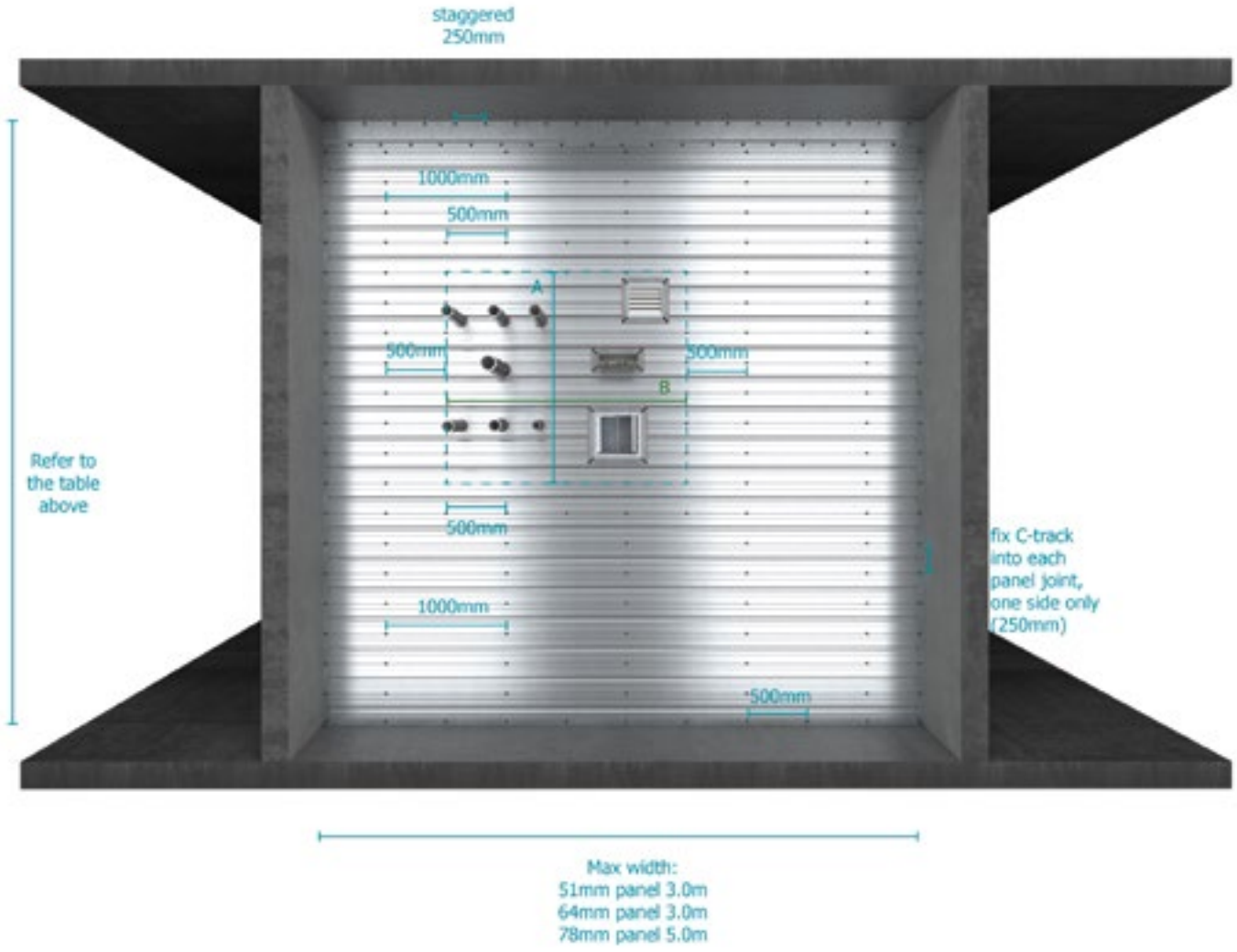


FIGURE 128

1. Exova Warringtonfire - Report No. 21622

General Penetrations

HORIZONTAL SPEEDPANEL® SYSTEMS MULTIPLE PENETRATIONS

Horizontal Speedpanel® systems can handle multiple apertures. Please refer to the table and illustration below for the full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Bmax (mm)	Zmin (mm)	Head detail
Wall height (mm)						
3000	-	-	4m²	2444	200	Fig. 79-84 & Fig. 98-100
-	5000	-				
-	-	5000				
5000	-	-				
-	5000	-				
-	-	6000				

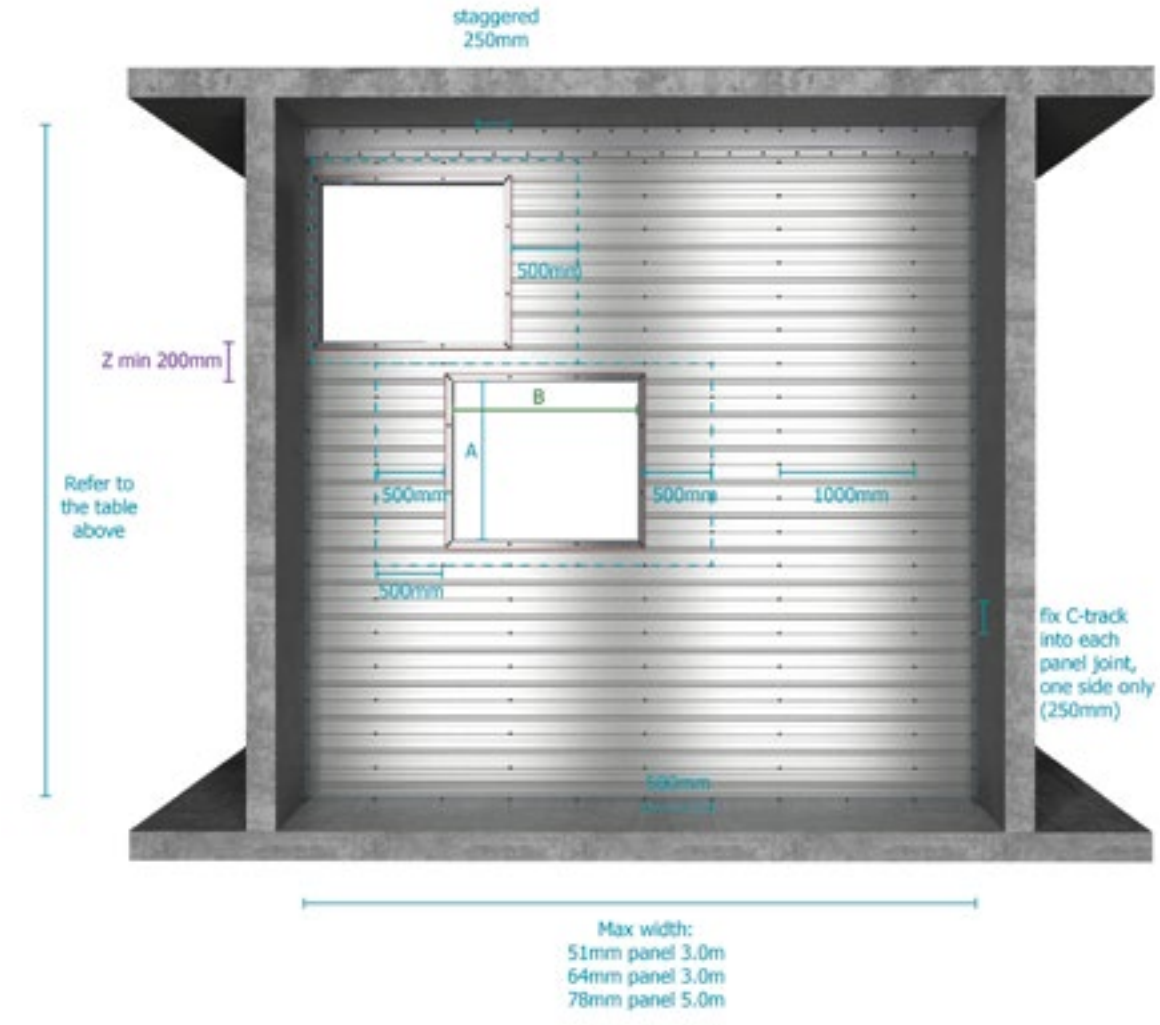


FIGURE 129 [1]

1. Exova Warringtonfire - Report No. 21622

VERTICAL AND HORIZONTAL SPEEDPANEL® SYSTEMS COMBINATION PENETRATIONS

A combination of vertical and horizontal Speedpanel® Systems can be adopted so that the wall can handle multiple apertures. Please refer to the table and illustration below for the full details.

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Amax & Bmax (mm)	Head detail
Wall height (mm)					
3000	-	-	4m²	2444	Fig. 79-84 & Fig. 98-100
-	5000	-			
-	-	5000			
5000	-	-			
-	5000	-			
-	-	6000			

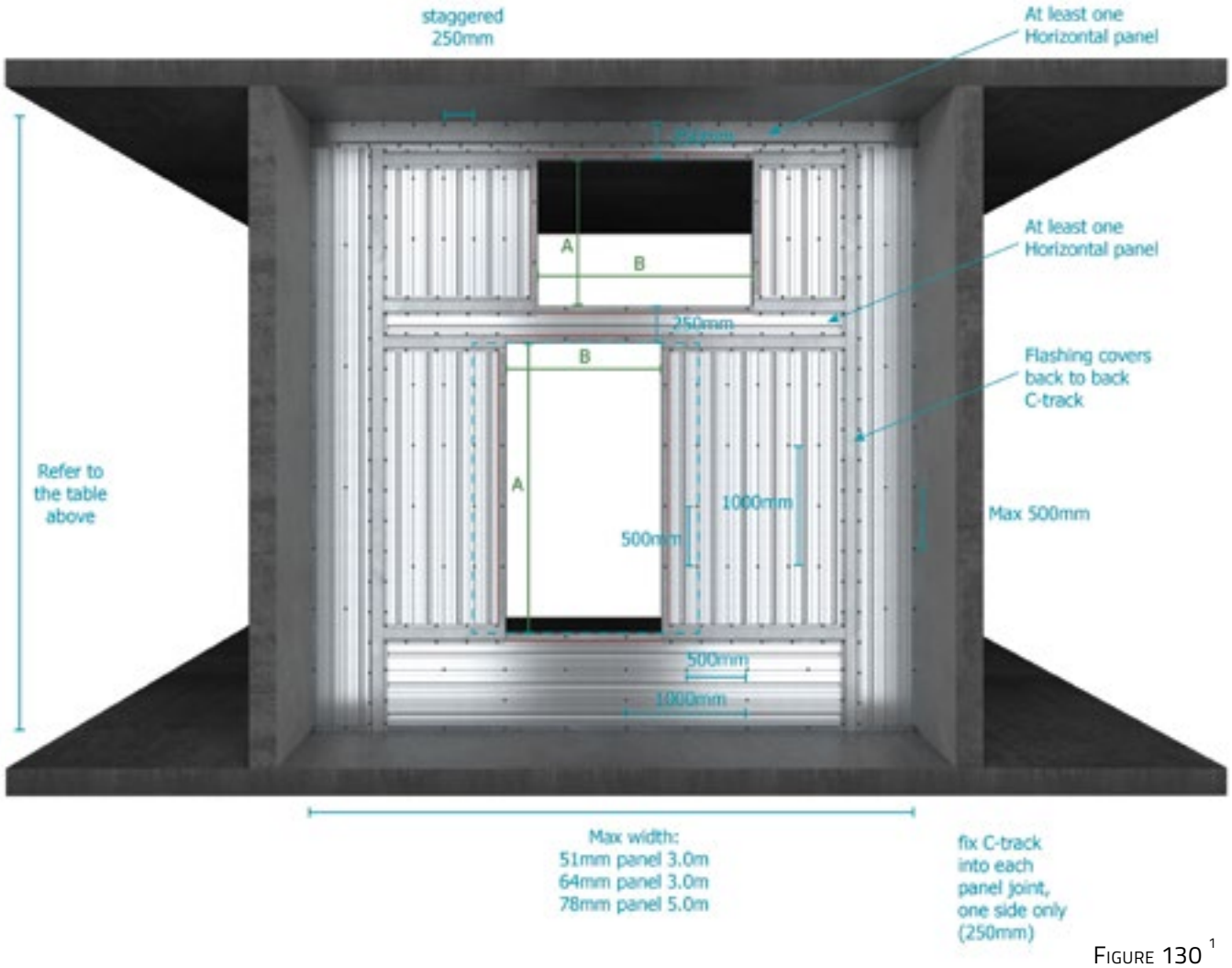
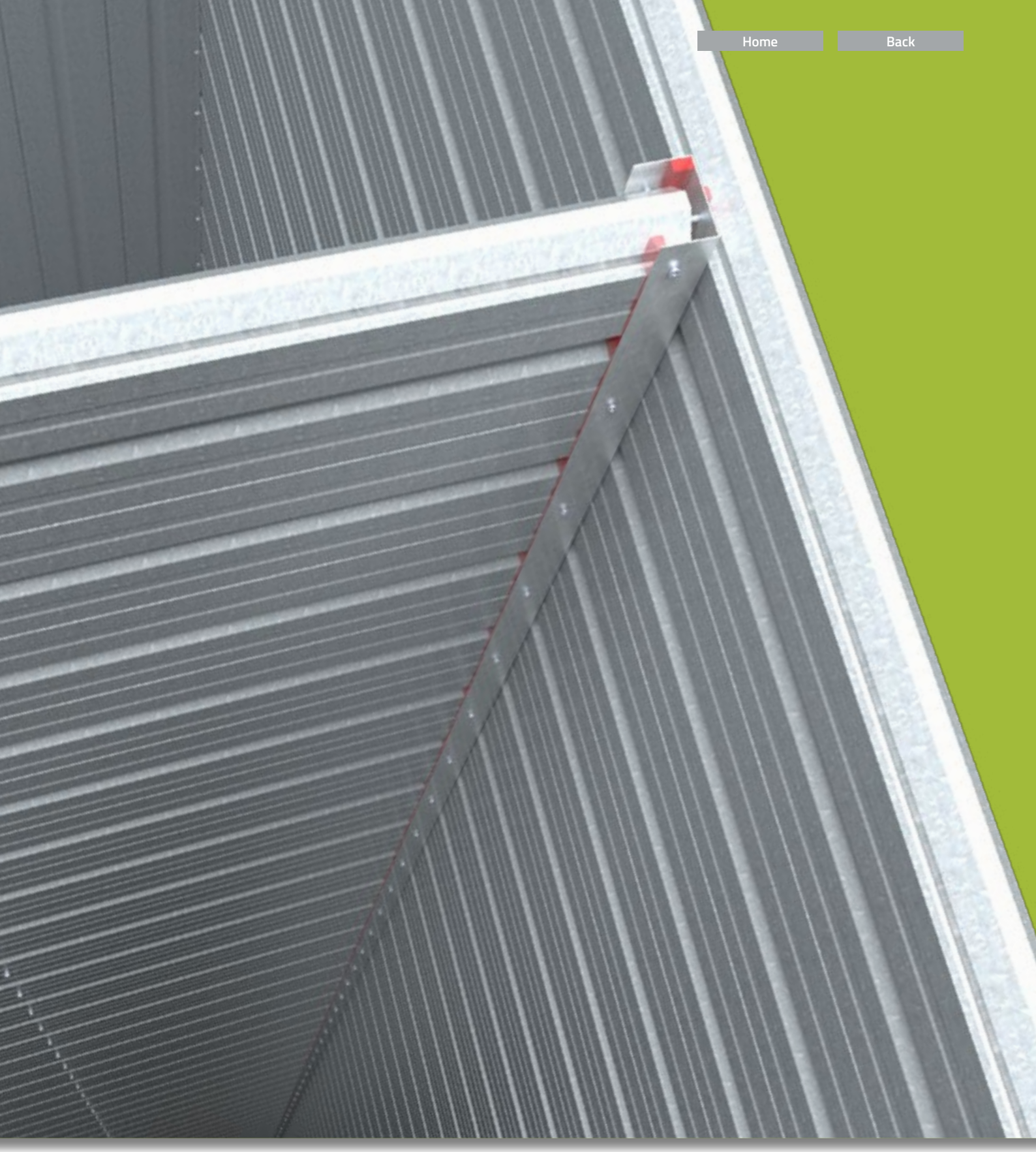


FIGURE 130 [1]

1. Exova Warringtonfire - Report No. 21622



SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

6 - REPORT 3580

7 - REPORT 3584

8 - REPORT 3789

9 - REPORT 3895

IMPORTANT!

78

Speedpanel® Systems used in Shafts & Risers have been certified for a fire rating of -/120/120 with the 78mm panels.

Please ensure design complies with project wind loads. System structurally tested in normal internal circumstances only.

2.7

STEP BY STEP

SHAFT WALLS

2.7 SHAFT WALLS

SHAFTS & RISERS

One of the most common applications for Speedpanel® Systems is for building shafts and risers. The key advantage here is that the horizontal panels can be installed without any height limit using 78mm panels only.

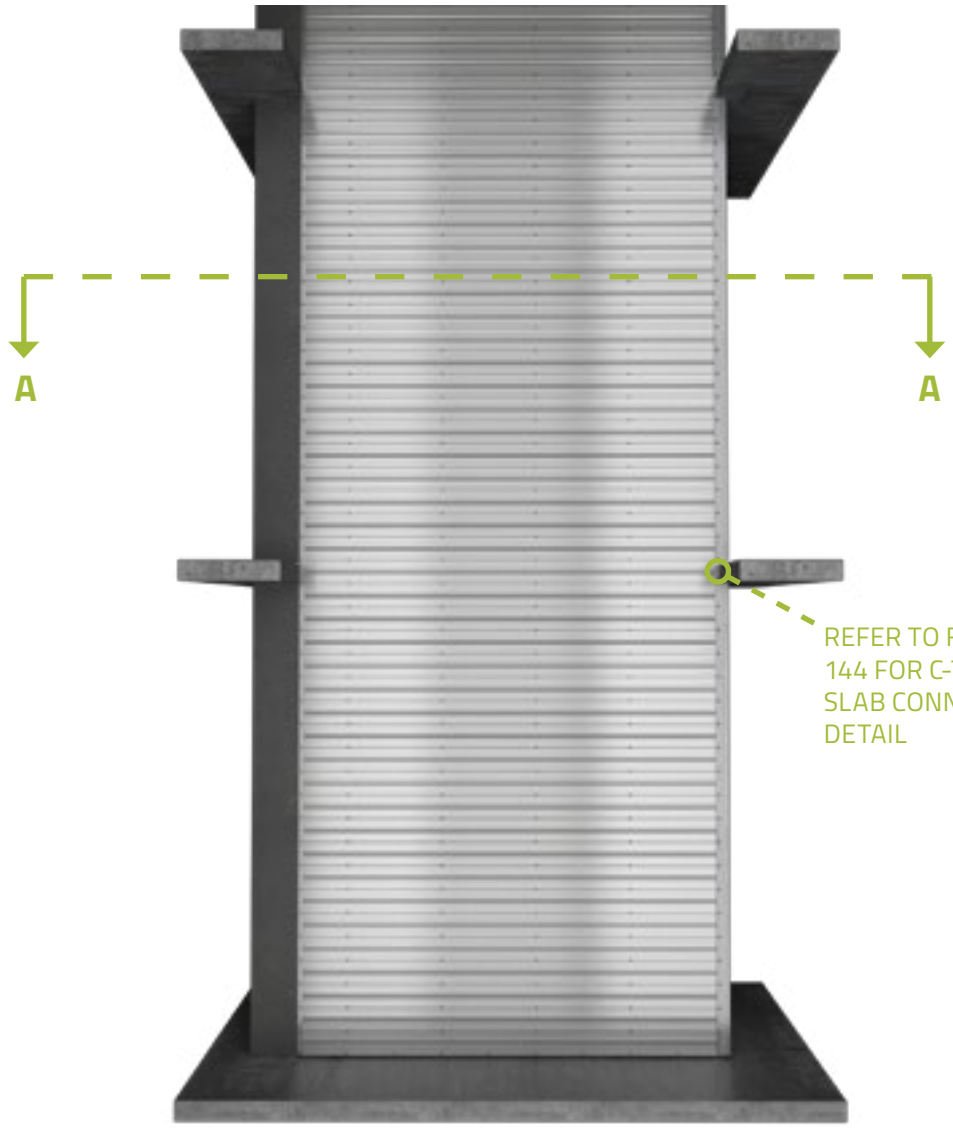
FIGURE 131 [6]

6. Branz - FAR No. 3580

78

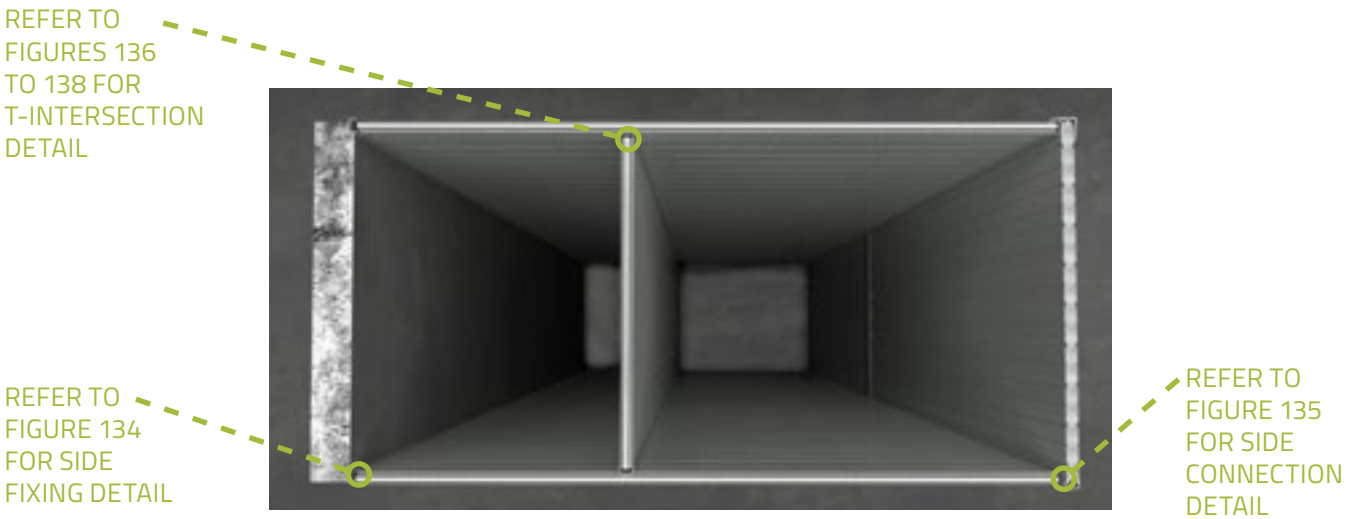
UNLIMITED HEIGHT HORIZONTAL INSTALLATION

Horizontal Speedpanel® walls can reach unlimited heights with maximum spans of 4.5m as long as there is a support on both sides (this could be a vertical Speedpanel® wall, concrete or any other load bearing wall).



SPEEDPANEL® SYSTEMS UNLIMITED HEIGHT INSTALLATION DETAIL

FIGURE 132 [7]



SECTION A-A PLAN VIEW

FIGURE 133 [7]

7. Branz - FAR No. 3584

Shaft Details

78

HORIZONTAL SPEEDPANEL® SYSTEMS FIXING FOR WALLS OVER 5.0m IN HEIGHT

Any horizontal Speedpanel® wall that is over 5.0m high needs to have fixings on both sides of the side C-tracks at 250mm centres into every panel joint. Figure below illustrates this detail:

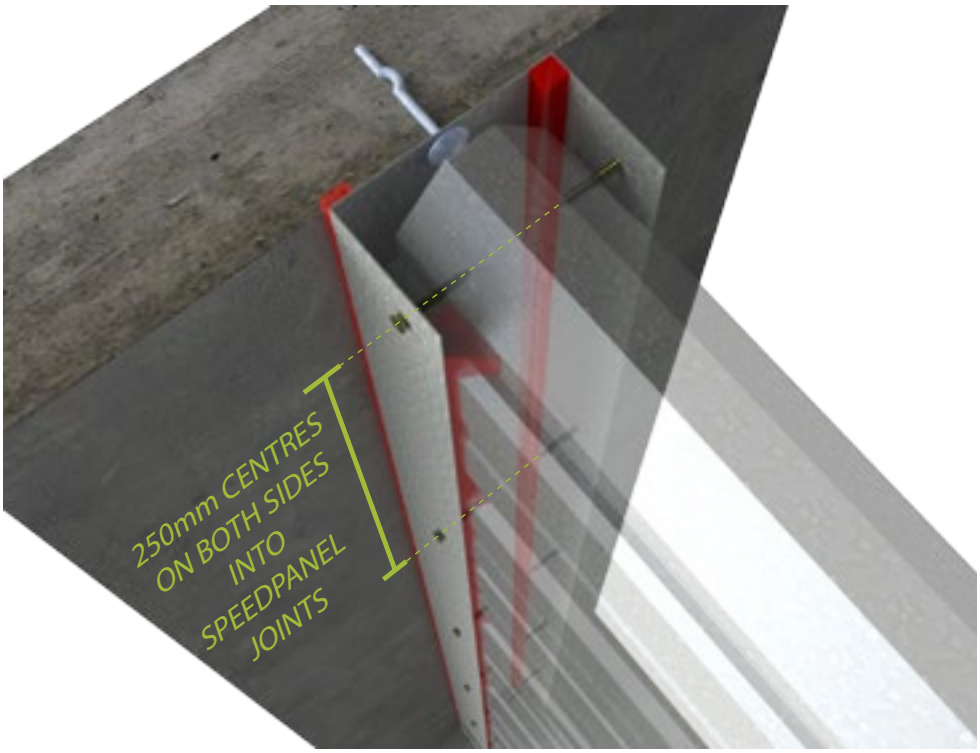


FIGURE 134 [6]

78

CORNER HORIZONTAL PANEL TO VERTICAL PANEL DETAIL

The C-tracks are to be secured together at 250mm centres through both sides and the skin of the next panel with a pair of 10 gauge x 16mm long SDS screws. On the inside of the junction a mild steel angle nominally 50mm x 50mm x 1.2mm thick will be secured at 250mm centres to each panel.

The approved fire-rated sealant must be applied between panels, under the angle section and between the end of the panels and C-tracks, as well as between C-tracks, as shown below.

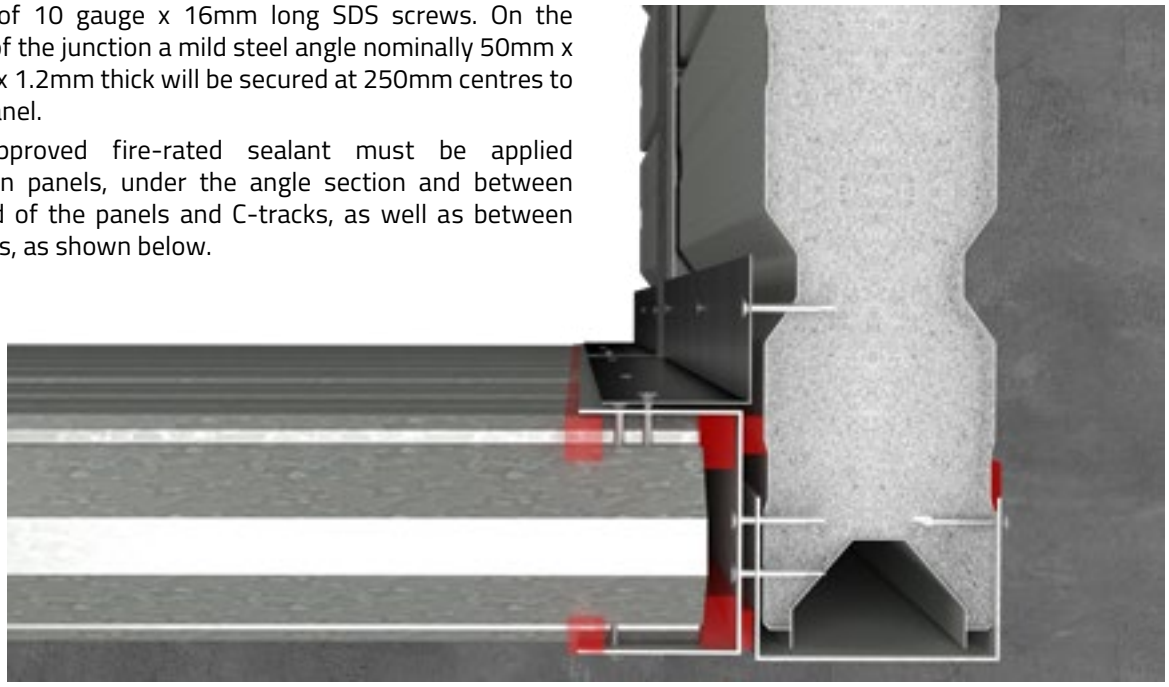


FIGURE 135 [9]

6. Branz - FAR No. 3580
9. Branz - FAR No. 3895

78

T-INTERSECTION DETAILS

Figures below illustrate the details of the T-intersection on shafts and risers or walls over 5.0m high.

A) Use C-track and 35mm SDS screws for this option. Note that fixings need to be on both sides of the C-track at 250mm centres into every panel joint.

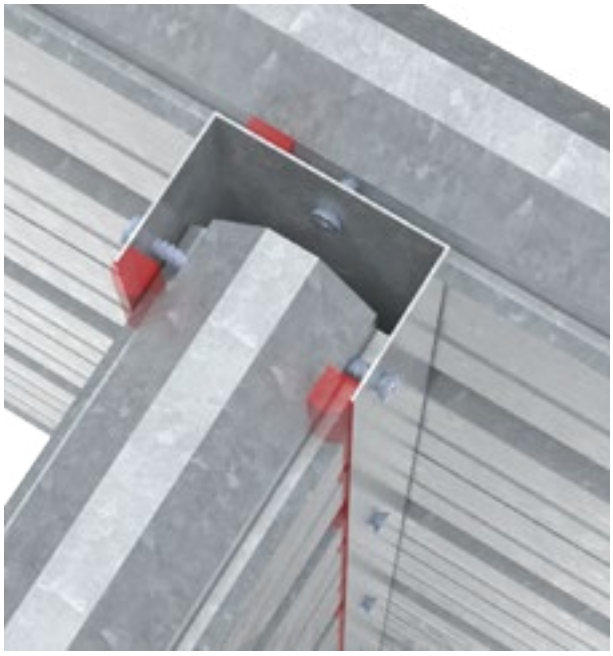


FIGURE 136 [7]

B) Use 50 x 50 x 1.2mm angle and 35mm SDS screws for this option. Note that fixings need to be on both sides of the C-track at 250mm centres into every panel joint..

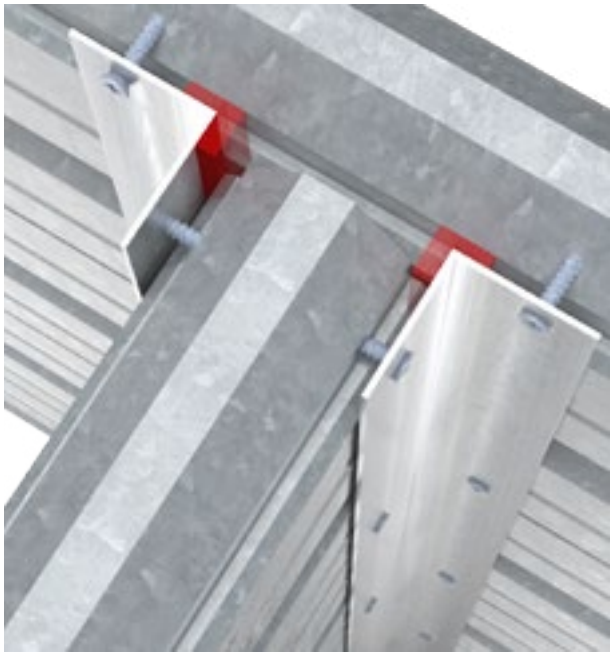


FIGURE 137 [7]

C) In some scenarios you may need to install one wall after the other. In this case you need to fix panels with a SDS 14 Gauge 20tpi x 115mm and 50 x 3mm steel washer at every 250mm centres. See picture below for sealant positions.

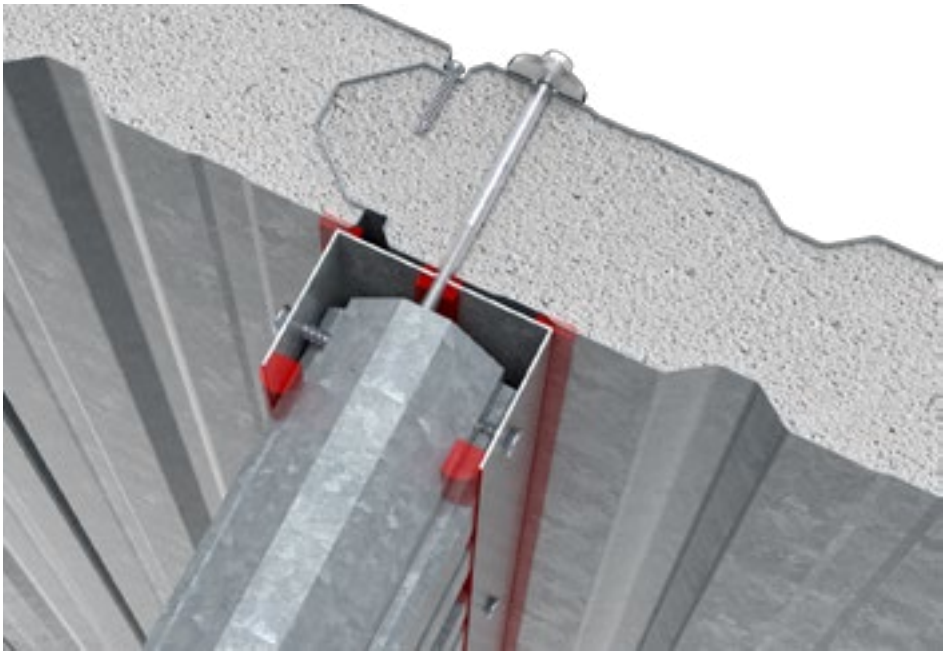


FIGURE 138 [8]

7. Branz - FAR No. 3584
8. Branz - FAR No. 3789

Shafts & Risers Installation

STEP 1 - MAXIMUM SPAN AND HEIGHT

Lay out C-track in wall configuration and fix using standard installation methods mentioned in previous chapters.

The combined load of walls "X" and "Z" on vertical "Y" walls faced between floor slabs should not exceed 180kg per l/m (figure 139). Variation to this will require project specific structural analysis.

> Remember: Maximum spans of horizontal and vertical installation applies. Where multiple horizontal walls are supported off one another, spans may be reduced. Refer to Branz assessments related to this chapter for more information.

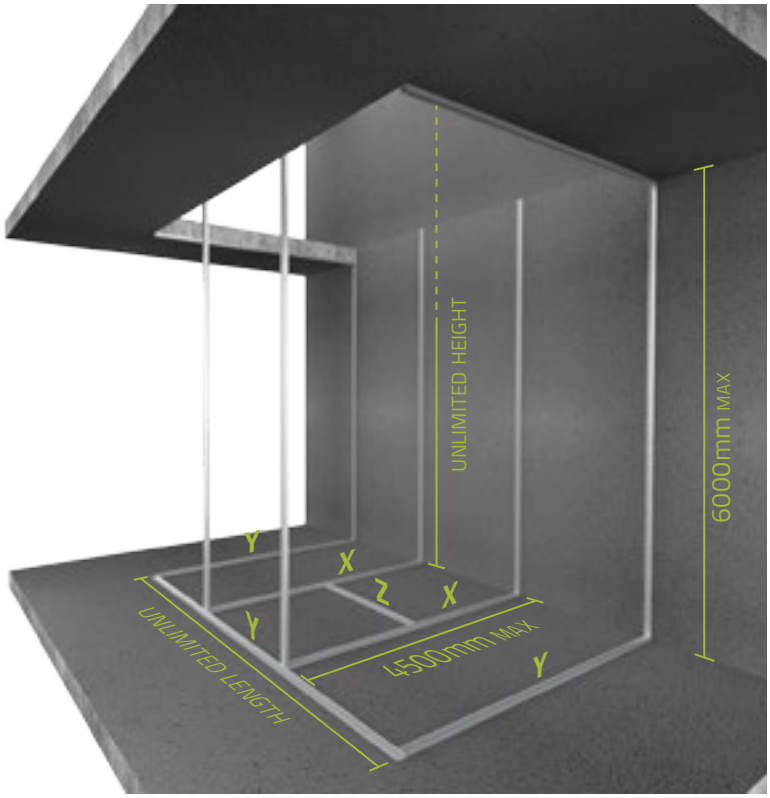


FIGURE 139 [6]

STEP 2 - PLACING HORIZONTAL PANELS

Begin installing horizontal Speedpanel® to divide compartments.

Refer to Figure 144 for C-track to slab edge connection detail between floors..

> Remember: Ensure you plan the sequence of wall construction, fixing and sealing each wall during panel installation process to avoid losing access to the required work area.

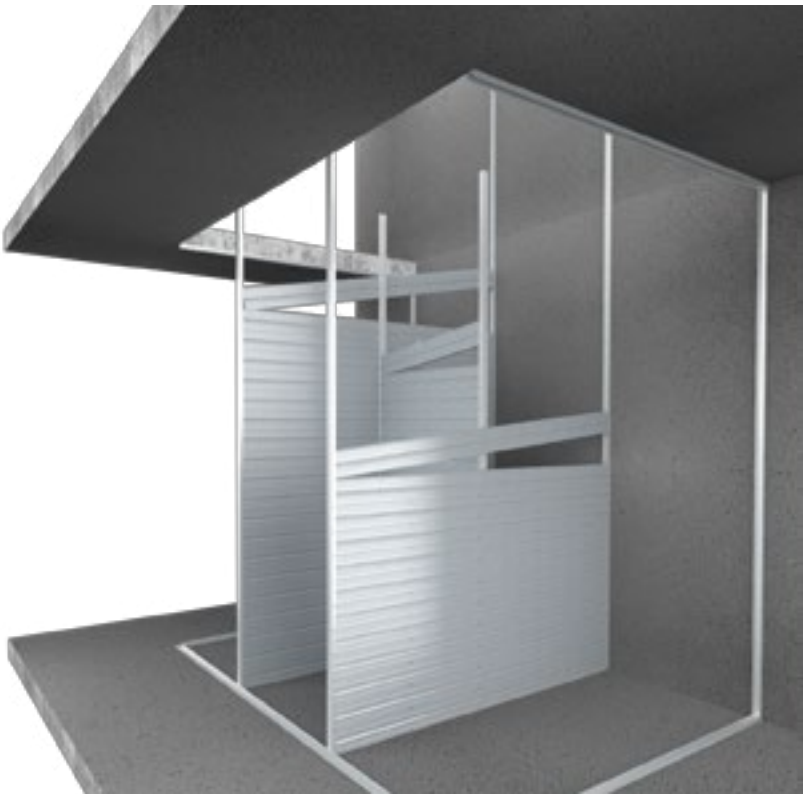


FIGURE 140 [7]

6. Branz - FAR No. 3580
7. Branz - FAR No. 3584

STEP 3 - PLACING VERTICAL PANELS

After horizontal walls are installed, close out the shaft or risers by utilising standard vertical Speedpanel® installation outlined in Chapter 2.3A 'Vertical Installation'.

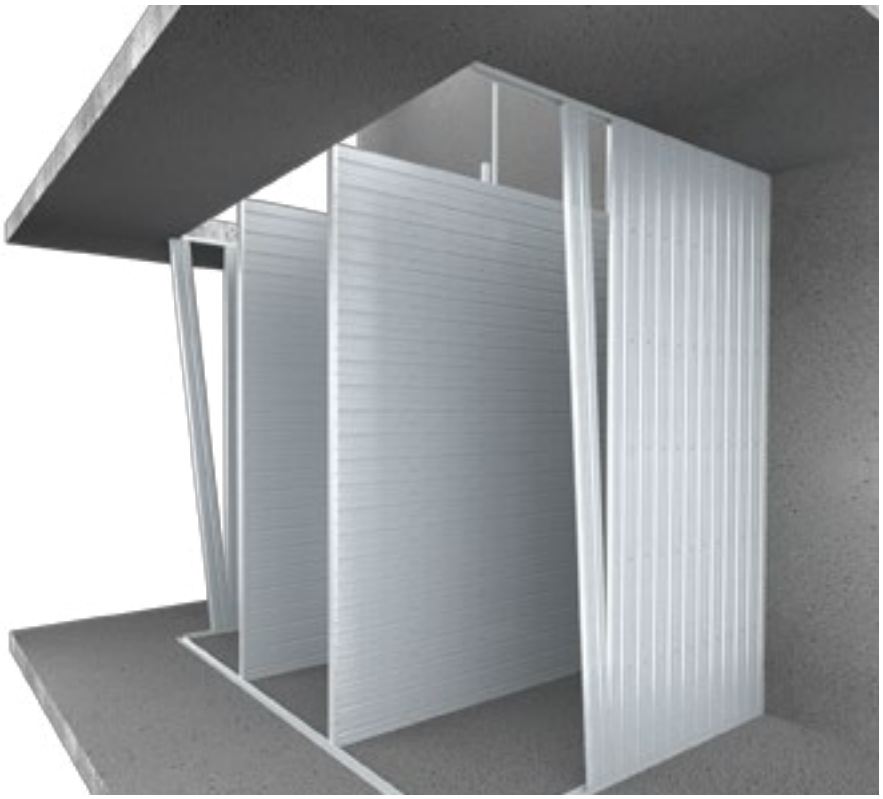


FIGURE 141 [7]

STEP 4 - CLOSING OFF THE FIRST COMPARTMENT

Below illustrations demonstrate final vertical panels closing off the shafts and risers.

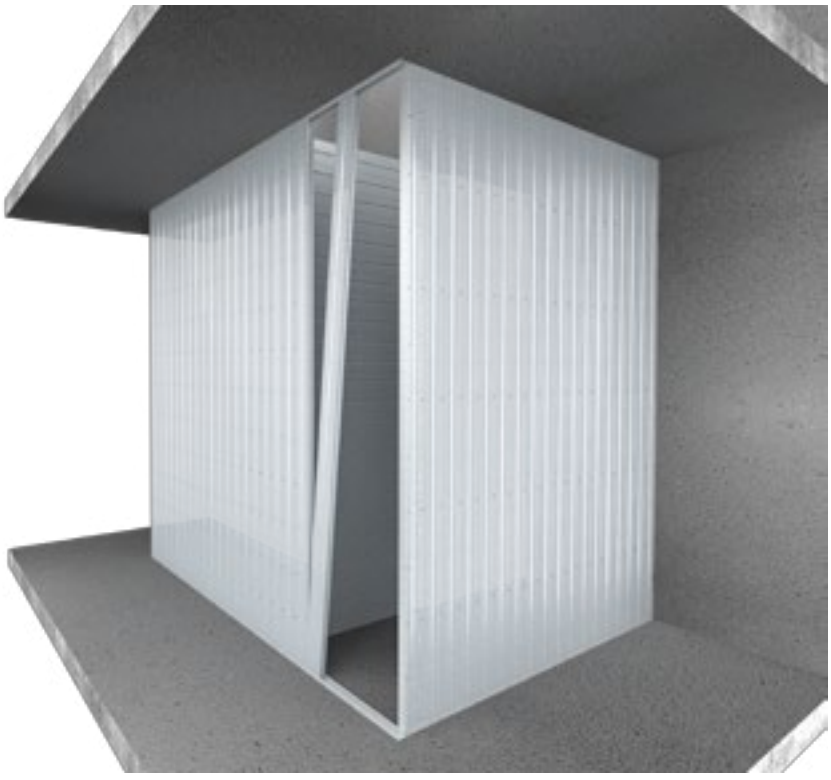


FIGURE 142 [7]

7. Branz - FAR No. 3584

Shafts & Risers Installation

78

STEP 5 - PREPARING TO INSTALL THE NEXT LEVEL

Below illustrations demonstrate final vertical panels closing off the shafts and risers.

FIXING SPEEDPANEL® THROUGH A SPEEDPANEL® WALL

In addition to the standard vertical and horizontal fixings outlined in previous chapters, where vertical and horizontal junctions meet and fixing access is limited, a 115mm SDS 14 Gauge x 20tpi screw can be fixed through the Speedpanel® into C-track fixing of horizontal wall and can be applied from the vertical side with 50 x 3mm steel washer at 450mm.

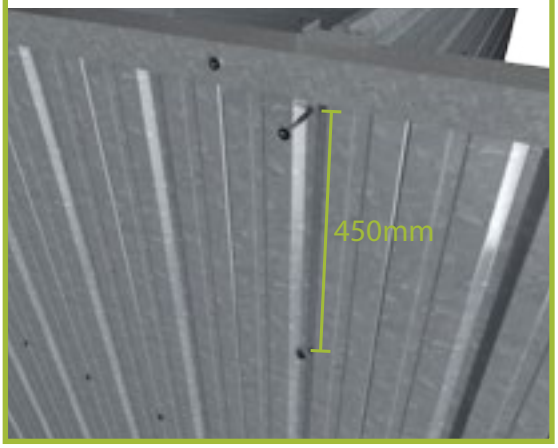


FIGURE 143

PREPARING NEXT LEVEL C-TRACKS

C-track fixings to structure on continuous horizontal walls are to be fixed at slab edges using two Dynabolt M8 steel bolts (minimum).

FIGURE 144

78

STEP 6 - REPEATING THE SAME PROCESS

This process can be repeated on each floor as the building is constructed with no limit to the height of the continuous horizontal 78mm Speedpanel®.

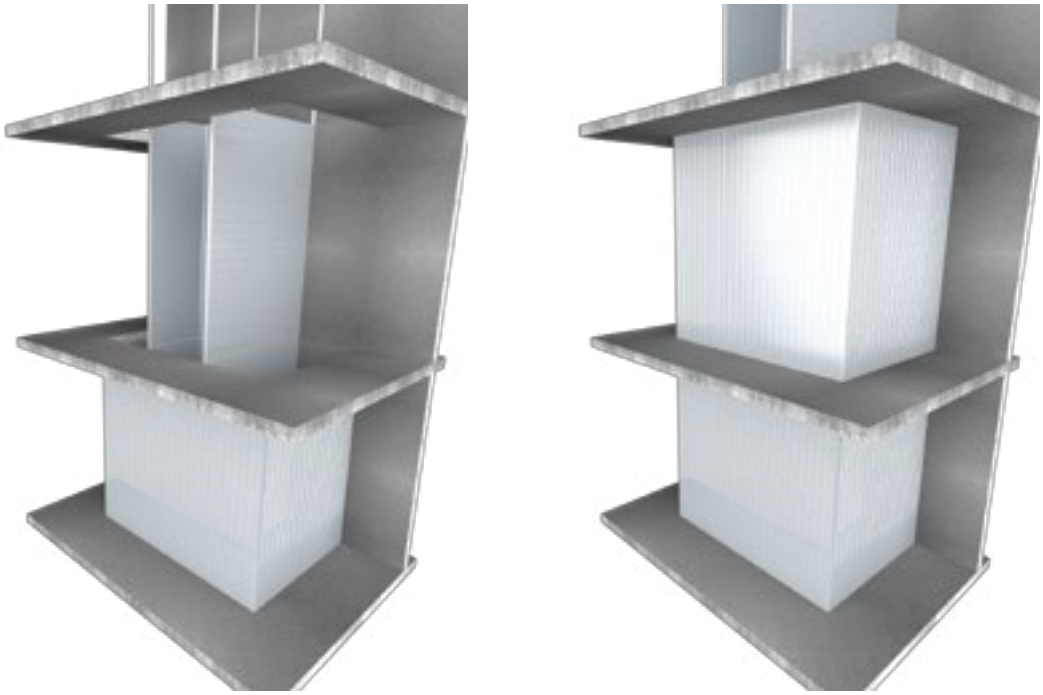


FIGURE 145

Pressurised Shafts

78

PRESSURISED SHAFTS

Enclosures comprising Speedpanel® walls can be pressurised by applying fire-rated sealants. Firstly, run a bead of sealant around the wall perimeter on the inside and outside of the C-tracks. Secondly, apply sealant along each Speedpanel® joint. This is additional to standard sealing requirements. (Please contact our office for data regarding leakage rates).

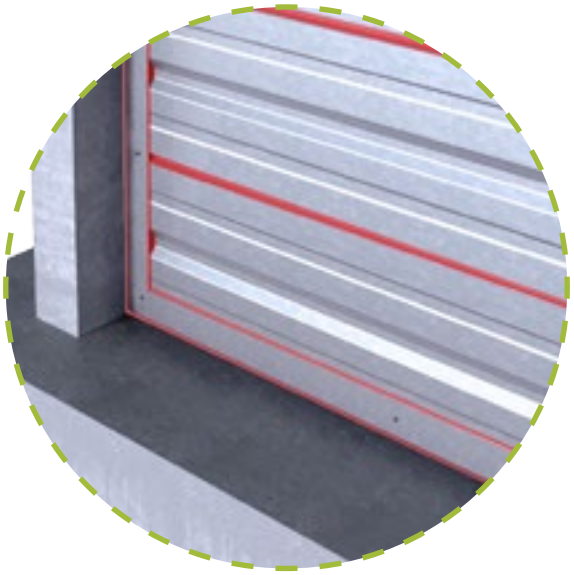


Figure 146 *

Figure 147 *

78

EXTRA SEALING FOR PRESSURISED SHAFTS

- In addition to sealing the Speedpanel® joints, an extra bead can be applied at the panel C-track junction shown in figures 146 & 147.
- It is important to seal the inside of the C-track at the wall intersections to ensure each shaft or riser is pressurised independently as shown below in figure 148.

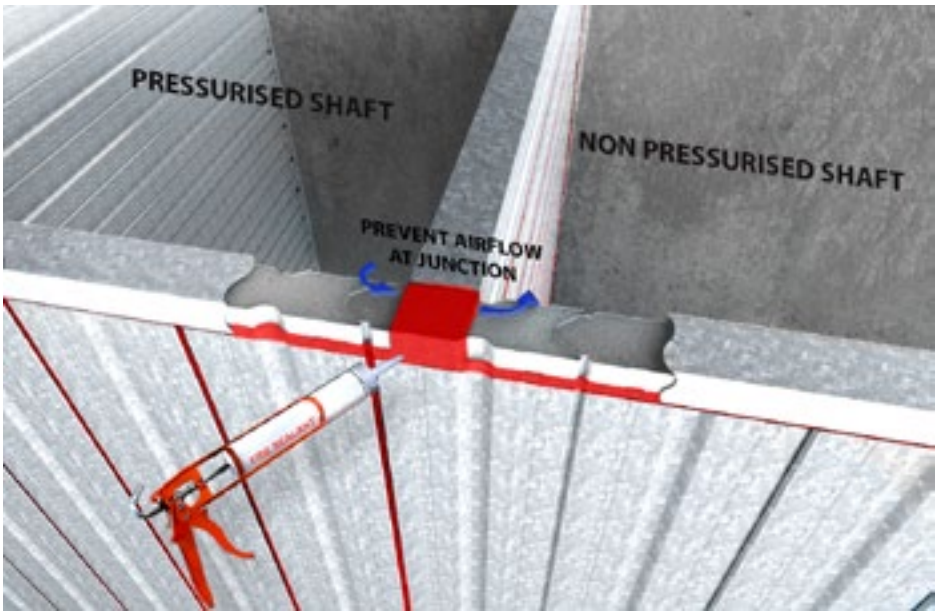
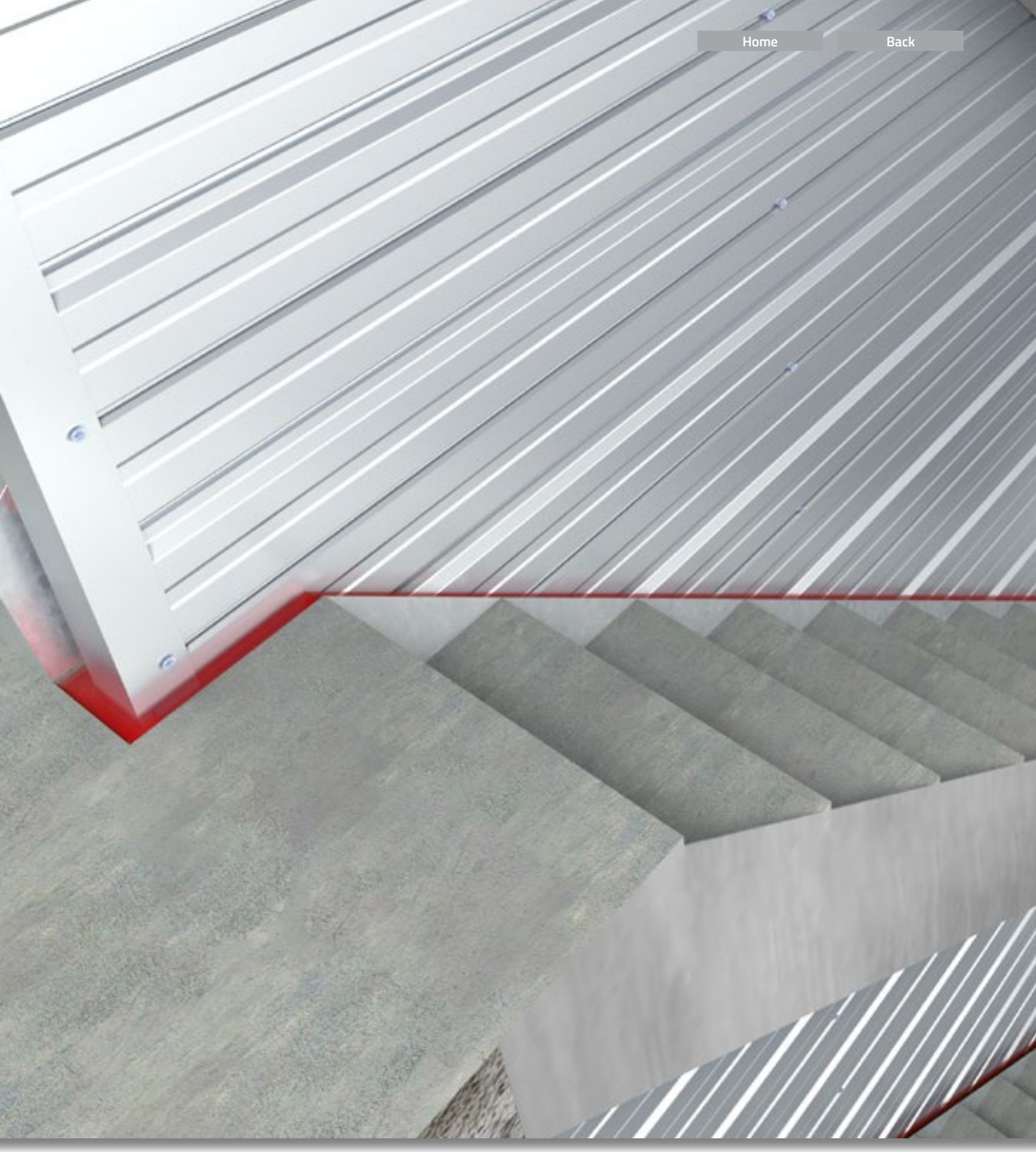


Figure 148 *

* Ian Bennie and Associates Test Report No. 2011-082-S1



SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

6 - REPORT 3580

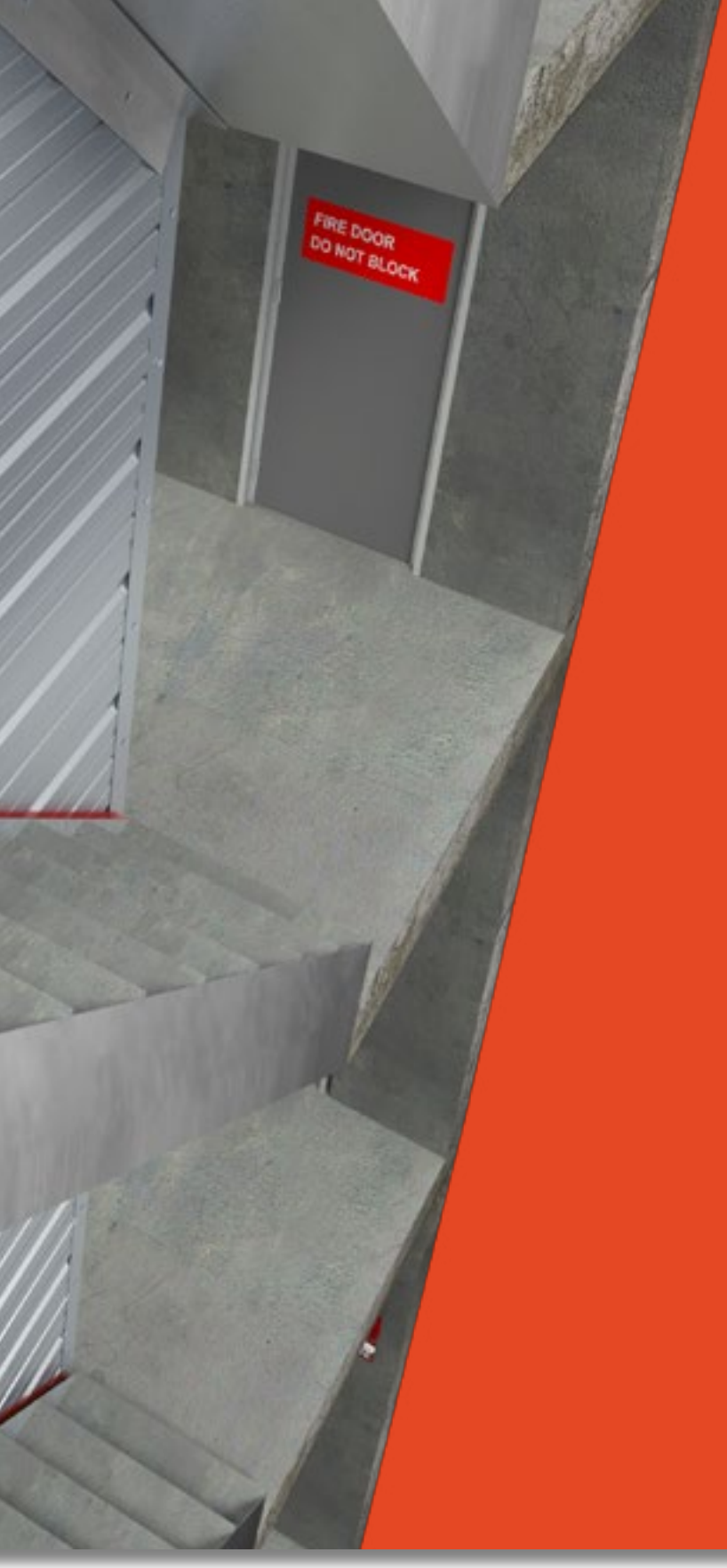
10 - REPORT 35875300

78

IMPORTANT!

Speedpanel® Systems used in Stair Walls have been certified for a fire rating of -/120/120 with the 78mm panels.

Remember: Handrails have been removed from drawings for clarity purposes. Stair handrails should not be fixed to Speedpanel® wall.



2.8

STAIR WALLS

2.8 STAIR WALLS

SCISSOR STAIRS - HORIZONTAL ORIENTATION

Figure below illustrates the configuration of the horizontal scissor stairs during the assembly.

This figure emphasises the usage of the polyethylene foam backing rod (shown in green) and the fire-rated sealant (shown in red) which should be used all the way around Speedpanel® wall. Refer to figures 151 to 154 for detailed information.

Note: Speedpanel® Systems sealant locations not shown for clarity purposes. Standard horizontal fixings and sealant apply to Speedpanel® Systems installation as per Chapter 2.4 'Horizontal Installation'.

78

IMPORTANT!

Speedpanel® Systems used in Stair Walls have been certified for a fire rating of -/120/120 with the 78mm panels.

Remember: Handrails have been removed from drawings for clarity purposes. Stair handrails should not be fixed to Speedpanel® wall.

FIGURE 149 [10]

10. Exova Warringtonfire - Report No. 35875300

78

FIXINGS AND DIMENSIONS - HORIZONTAL ORIENTATION

Figure below illustrates the standard fixings on scissor stair applications.

- The wall shall be fixed to the stair tread stringer on both sides of the wall with a steel angle with options for 0-10mm, 0-20mm, 0-35mm and 0-95mm gaps
- The height of Speedpanel® wall is unlimited
- The length of Speedpanel® wall is limited to 5.0m maximum

Note: Normal Speedpanel® Systems sealant locations not shown for clarity purposes. Standard horizontal fixings and sealant apply to Speedpanel® installation.

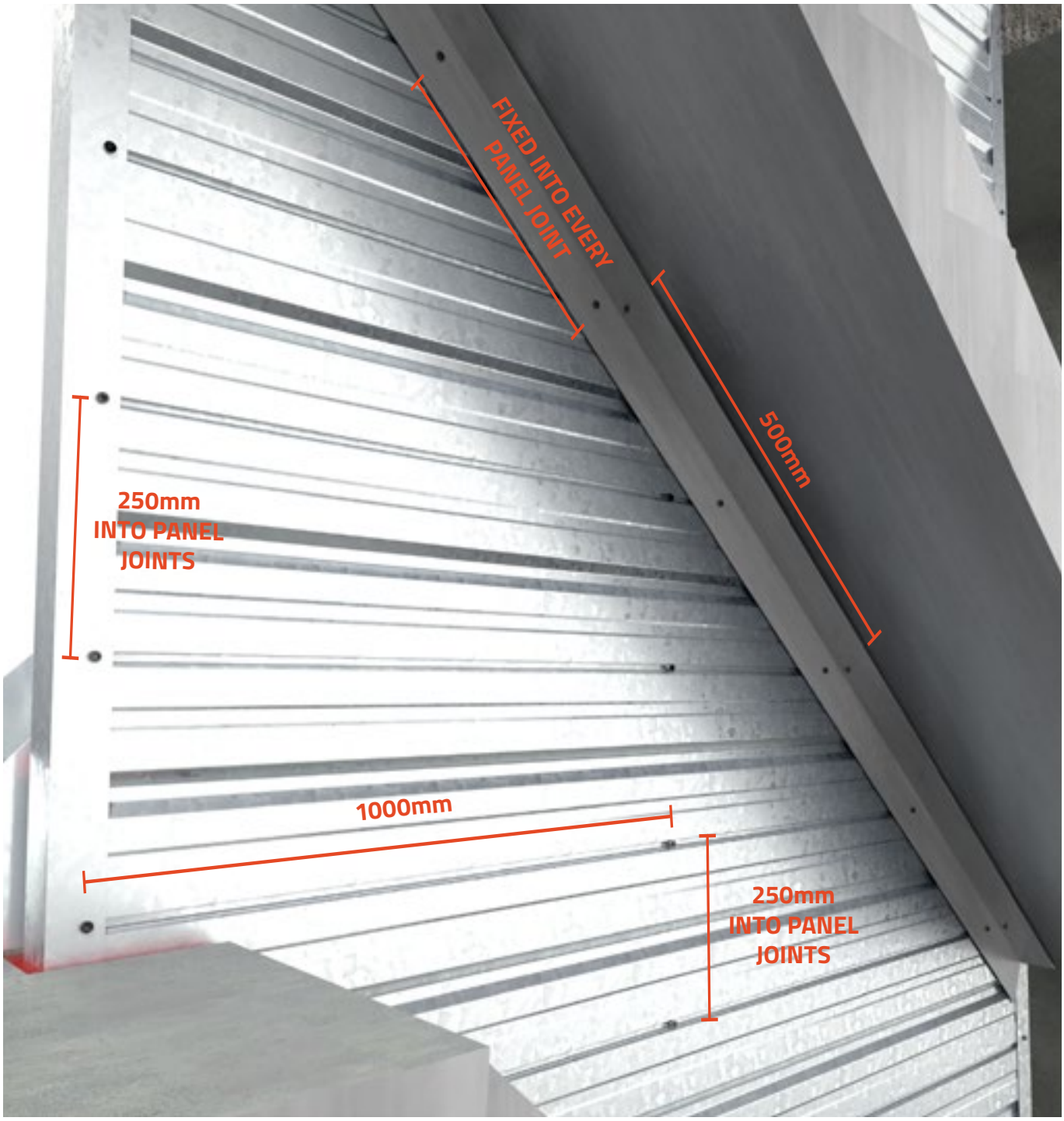


FIGURE 150 [10]

10. Exova Warringtonfire - Report No. 35875300

Stair Walls

78

WALL TO STAIR JOINT DETAILS

Select the appropriate detail according to the gap between the Speedpanel® wall and the stair edge.

Note: The HILTI CP606 sealant (shown in red) shall be minimum 20mm deep on all details below.

All four details provided below are applicable to both Horizontal and Vertical Speedpanel® Stair applications.

DETAIL A

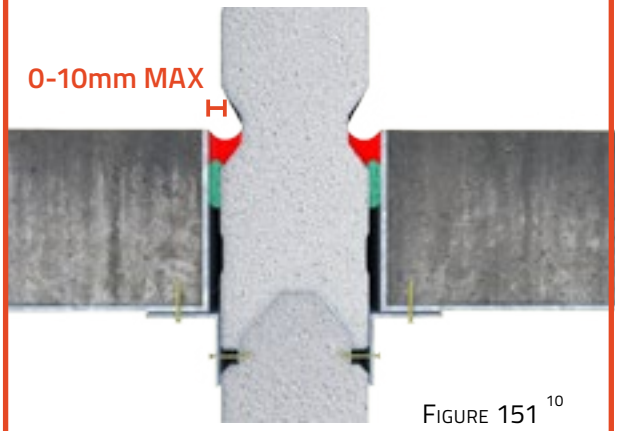


FIGURE 151 [10]

This detail will be used in a scenario where the gap between the stair and Speedpanel® wall is 0-10mm. The steel angle on this detail shall be 50 x 50 x 2mm.

Use the Ø10mm polyethylene foam backing rod for the 0-8mm max joint width and if the joint width is 8-10mm use a Ø15mm polyethylene foam backing rod.

DETAIL B

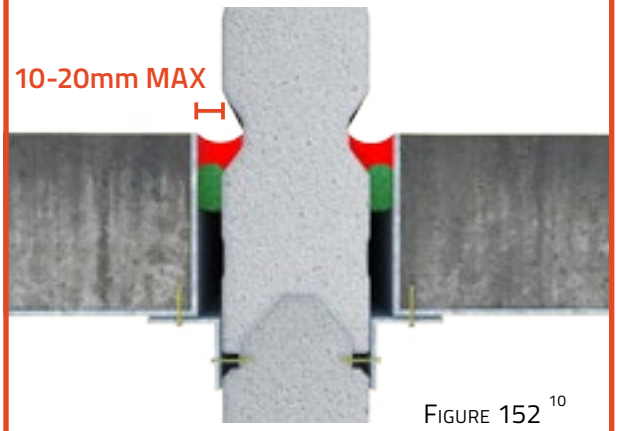


FIGURE 152 [10]

This detail will be used in a scenario where the gap between the stair and Speedpanel® wall is 10-20mm. The steel angle on this detail shall be 50 x 50 x 4mm.

Use the Ø15mm polyethylene foam backing rod for the 10-16mm max joint width and if the joint width is 16-20mm use a Ø25mm polyethylene foam backing rod.

DETAIL C

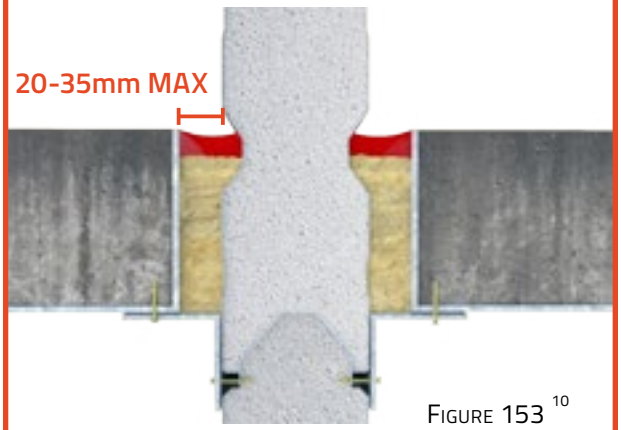


FIGURE 153 [10]

This detail will be used in a scenario where the gap between the stair and Speedpanel® wall is 20-35mm. The steel angle on this detail shall be 75 x 75 x 5mm.

Use rock-wool insulation with a minimum density of 140kg/m³ as a backfilling material.

DETAIL D

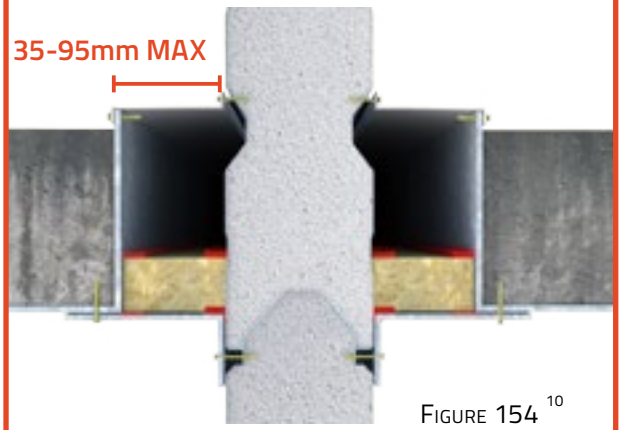


FIGURE 154 [10]

This detail will be used in a scenario where the gap between the stair and Speedpanel® wall is 35-95mm. The steel angle on this detail shall be 50 x 150 x 5mm. Also, a 0.55bmt flashing is used for aesthetics.

Use rock-wool insulation with a minimum density of 140kg/m³ as a backfilling material.

10. Exova Warringtonfire - Report No. 35875300

78

C-TRACK FIXING

C-tracks must be fixed to each concrete slab using Dynabolt M8 (minimum) steel bolt or equivalent. Fixing position relative to slab edge to comply with fixing manufacturers requirements.

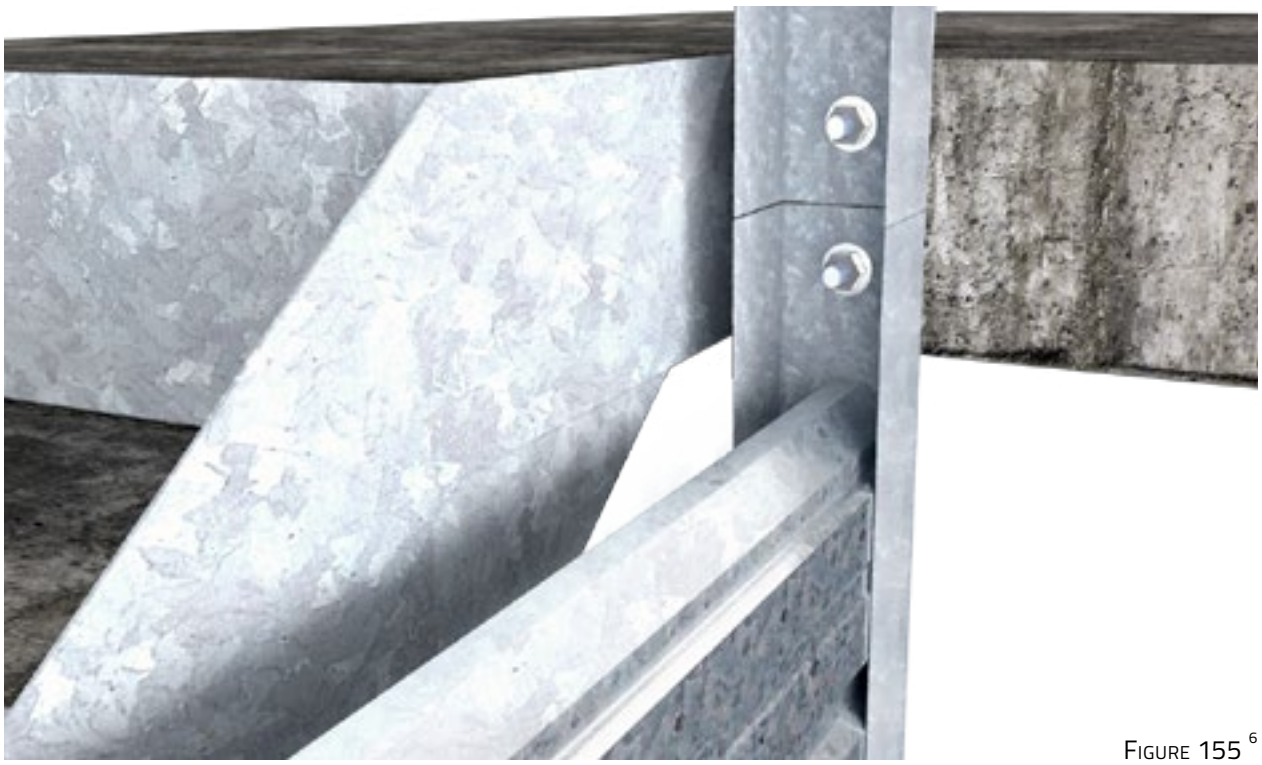


FIGURE 155 [6]

78

FIRE SEPARATION PART AND BRACING

Figure below illustrates the bracing (highlighted in red) and fire separation part of the wall (highlighted in yellow).

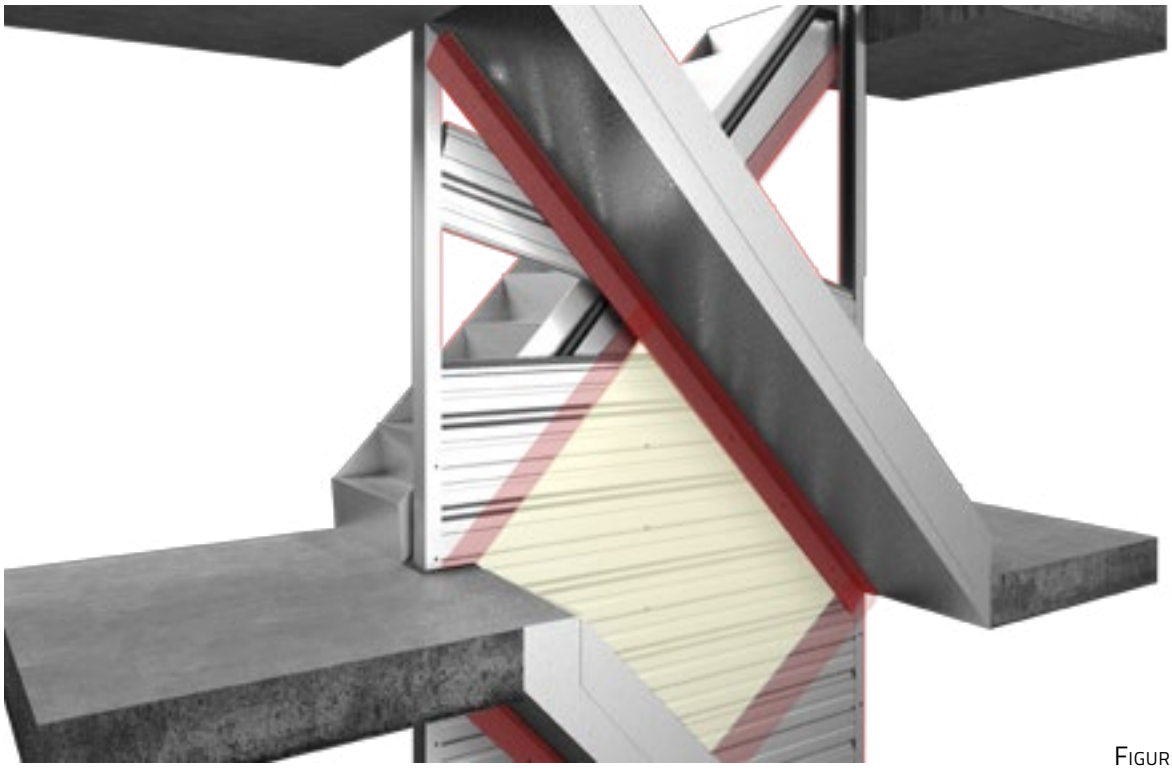


FIGURE 156 [10]

6. Branz - FAR No. 3580
10. Exova Warringtonfire - Report No. 35875300

Stair Walls

78

SCISSOR STAIRS (VERTICAL ORIENTATION)

As per standard installation of the Speedpanel® Vertical System, scissor stairs can be installed by using vertically orientated 78mm Speedpanel®. Below are some of the key factors of this application:

- The wall shall be fixed to the stair tread stringer on both sides of the wall with a steel angle with options for 0-10mm, 0-20mm, 0-35mm and 0-95mm gaps. (See page 122).
- The height of Speedpanel® wall is unlimited, however the maximum Speedpanel® panel vertical span between concrete landings (floor to floor) is 3.0m high.
- The length of the Speedpanel® wall is unlimited.
- The back to back C-tracks shall be protected with a 0.7mm thick steel flashing on one side only.

Note: Speedpanel® Systems sealant locations not shown for clarity purposes. Standard vertical fixings and sealant apply to Speedpanel® installation as per Chapter 2.3 'Vertical Installation'.

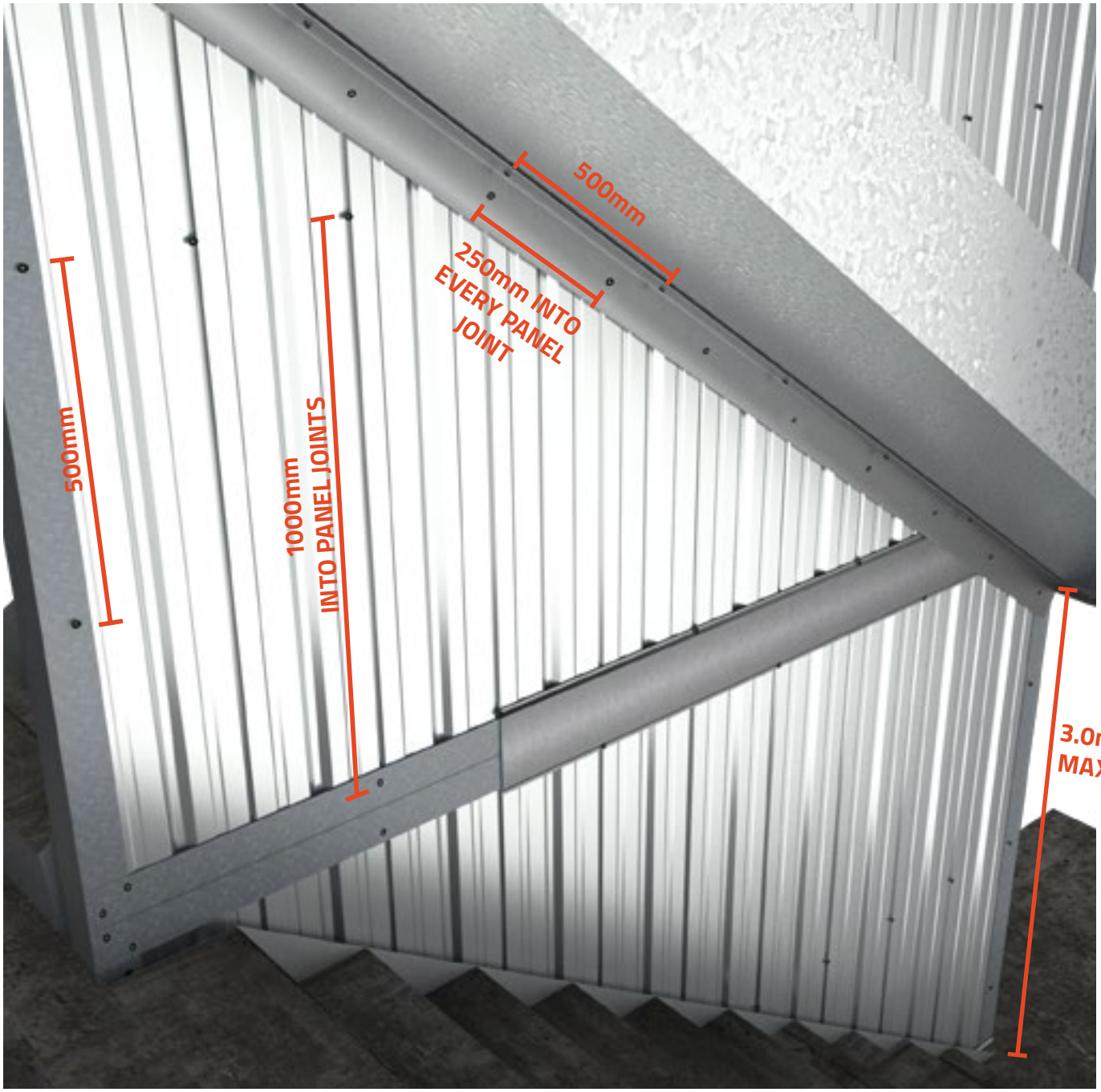


FIGURE 157 [10]

10. Exova Warringtonfire - Report No. 35875300

78

SPEEDPANEL® STAIR SHAFT

A shaft can be created centrally within a stairwell by using horizontal Speedpanel® Systems. Please contact our office on +61 3 9724 6888 for more information regarding this application.

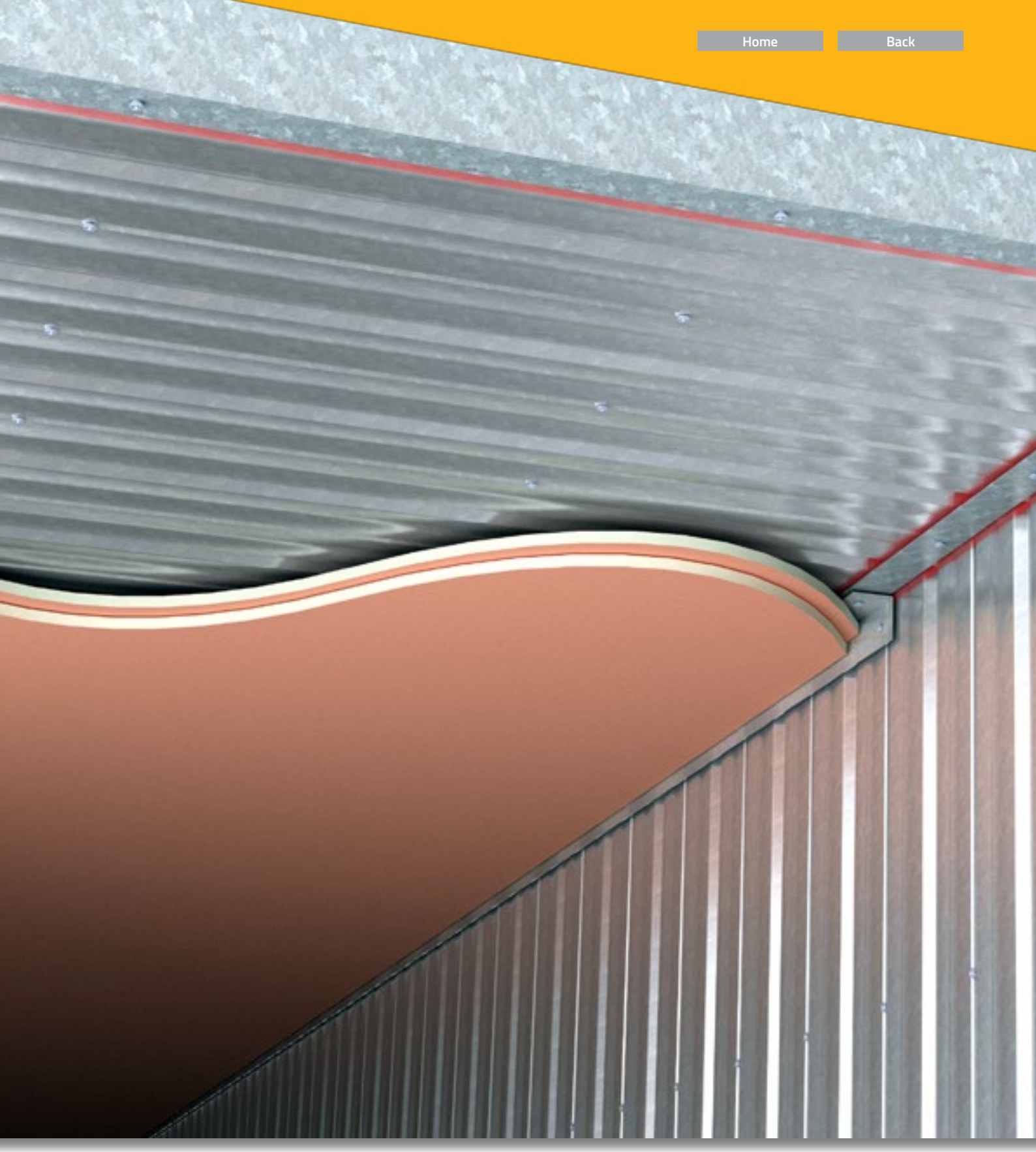
FIGURE 158

78

OTHER SPEEDPANEL® STAIR APPLICATIONS

Where larger spans occur or multiple landings are required, Speedpanel® has various configuration available. Please contact our office on +61 3 9724 6888 for more information regarding this application.

FIGURE 159



SCAN THE QR-CODE BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

11 - REPORT 34352100

IMPORTANT!

78

Speedpanel® ceilings and Speedpanel® fire-rated bulkheads have been certified for a fire rating of -/120/120 with the 78mm panels.

Please ensure design complies with the general requirements of AS/NZ 1170 structural design actions or other standards deemed to satisfy bca.

2.9

CEILINGS & BULKHEADS

2.9 CEILINGS & BULKHEADS

PART B (EQUAL STEEL ANGLE)

78

SPEEDPANEL® CEILING COMPOSITION

78mm Speedpanel® can be used in a ceiling or lid application when supported via concrete walls, fire-rated structural steel, or other 78mm Speedpanel® walls. The ceiling composition can be constructed using two methods:

A) 78mm Speedpanel® combined with 2x layers of 16mm fire-rated plasterboard fixed underneath the 78mm Speedpanel® and a 50mm x 50mm x 1.15mm BMT equal angle fixed at each end of the Speedpanel® by 12 gauge x 30mm SDS screws at 500mm centres.

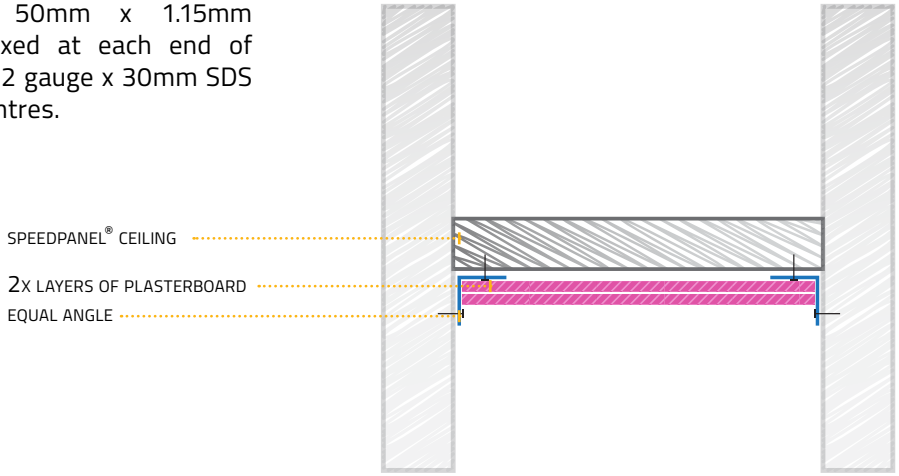


FIGURE 160 [11]

B) 78mm Speedpanel® combined with a top mounted 0.55mm BMT (min) corrugated roof sheet by 10 gauge x 16mm SDS screws at 250mm centres, and underlying end connection requirement of 2 x 120mm strips of 16mm fire-rated plasterboard fixed to Speedpanel® by 12 gauge x 45mm SDS screws at 250mm centres in two rows.

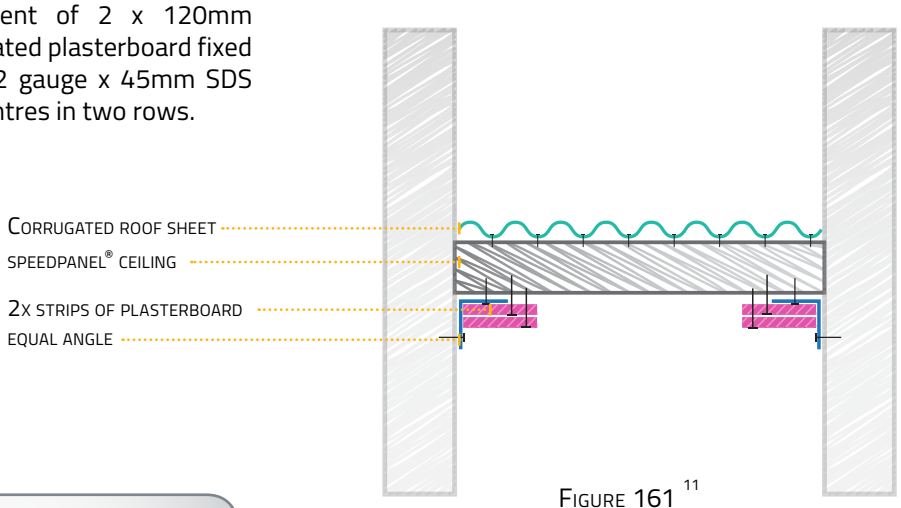


FIGURE 161 [11]

Various compositions are highlighted in further detail as demonstrated on pages 130 through 149. These illustrations highlight maximum spans and sealant requirements.

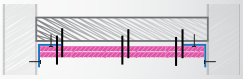
11. Exova Warringtonfire - Report No. 34352100

78

STANDARD CEILING FIXING

Speedpanel® ceiling fixing spacing is illustrated on figure 162.

Plasterboard fixings are to be as per plasterboard manufacturers specification or as specified in Exova Warringtonfire report 34352100, whichever utilises the greater amount of fixings.



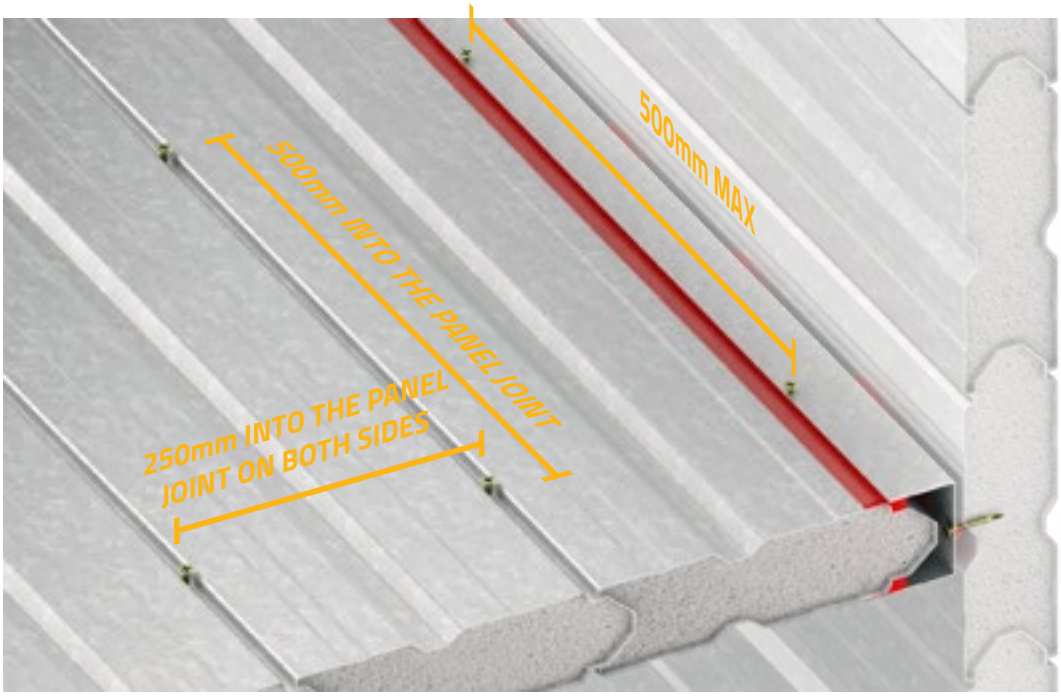
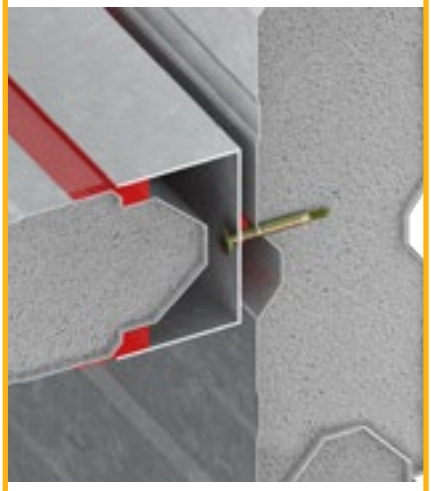


FIGURE 162 [11]

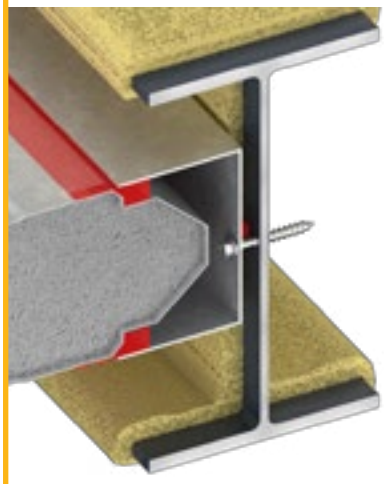
FIXING INTO SPEEDPANEL® WALL



Fixed to the Speedpanel® wall using 10 gauge x 30mm SDS screws at 250mm centres.

FIGURE 163 [11]

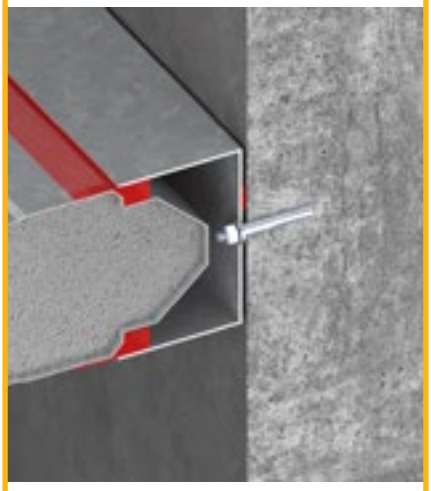
FIXING INTO STEEL



Fixed to the structural steel using mechanical all steel fixing to engineer specifications at 400mm centres.

FIGURE 164 [11]

FIXING INTO CONCRETE



Fixed to the concrete structure using 5mm Dynabolt with at least 40mm embedment at 400mm centres. Additional fixing may be required according to engineer specifications.

FIGURE 165 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 1

Fire-rated Speedpanel® ceiling between vertical Speedpanel® walls.

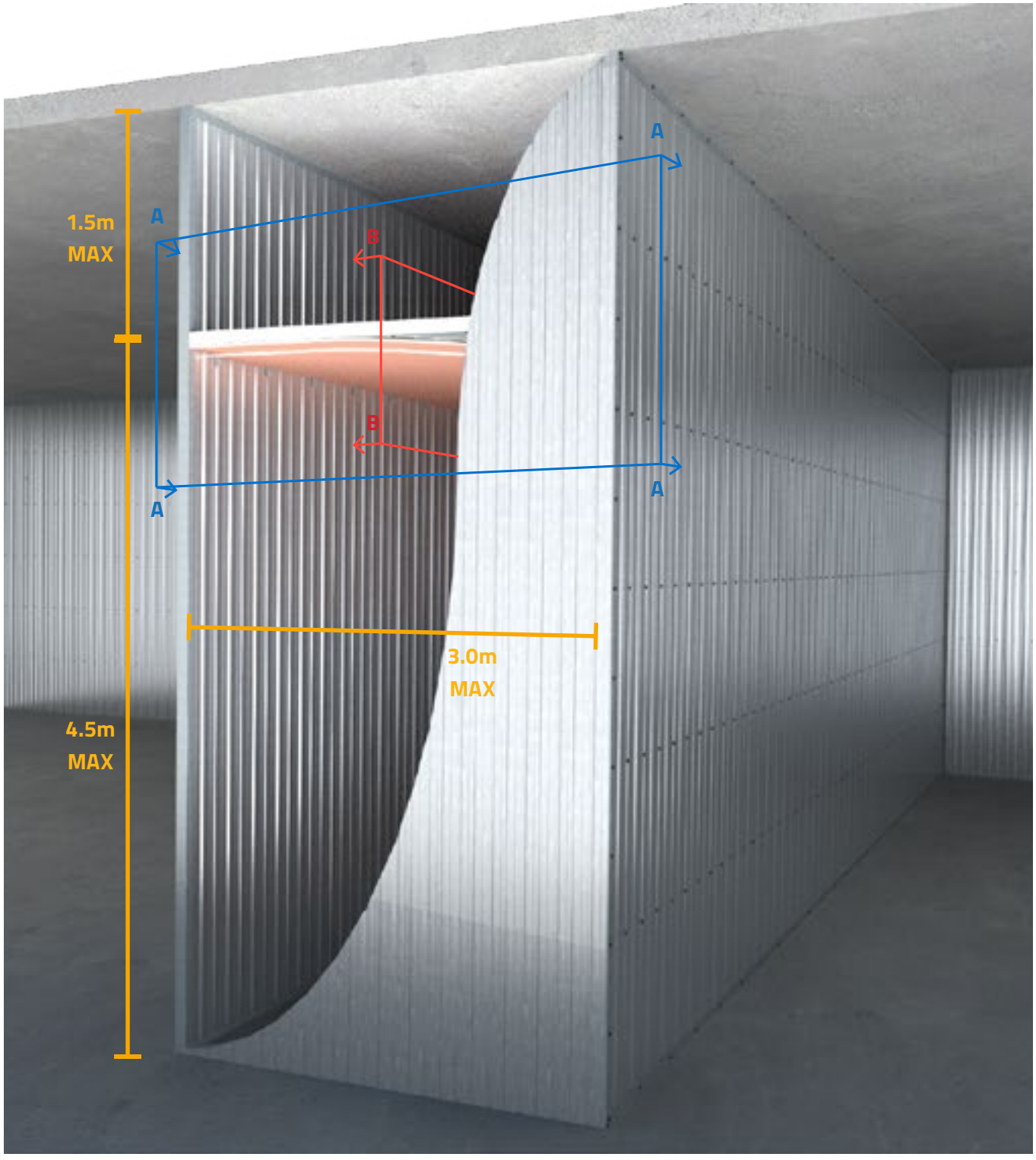


FIGURE 166 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 1 SPECIFICATIONS	
Ceiling type	Option A (Figure 160)
Maximum span	3.0m max. (Figure 166)
Connection and sealant	Figures 166 - 167
Fixings	Figures 167 - 168

SECTION A-A

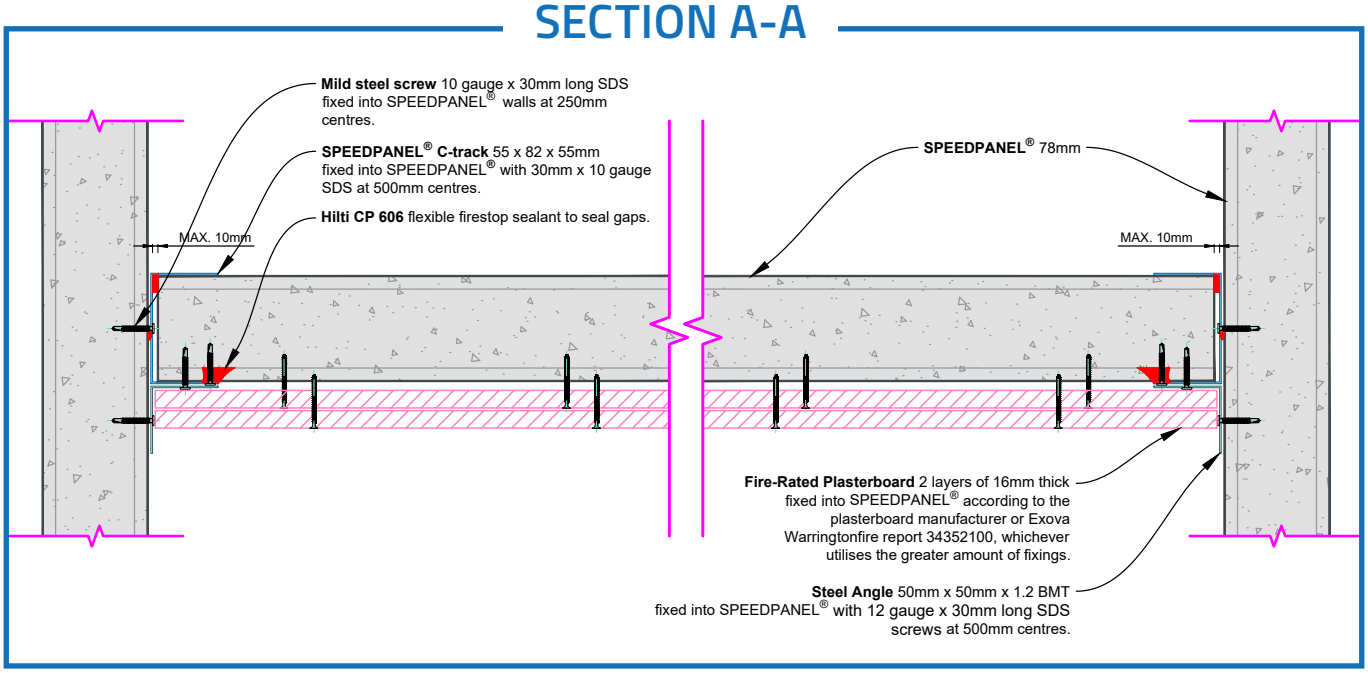


FIGURE 167 [11]

SECTION B-B

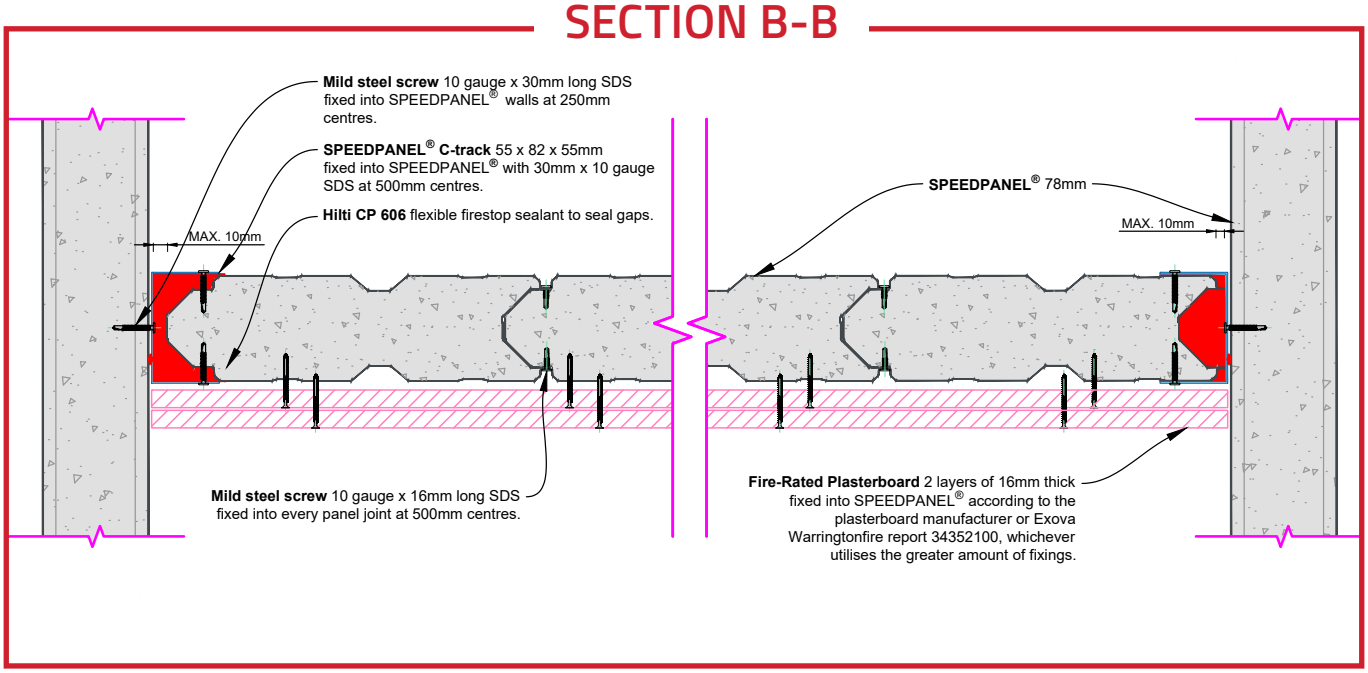


FIGURE 168 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 2

Fire-rated Speedpanel® ceiling between vertical Speedpanel® walls.

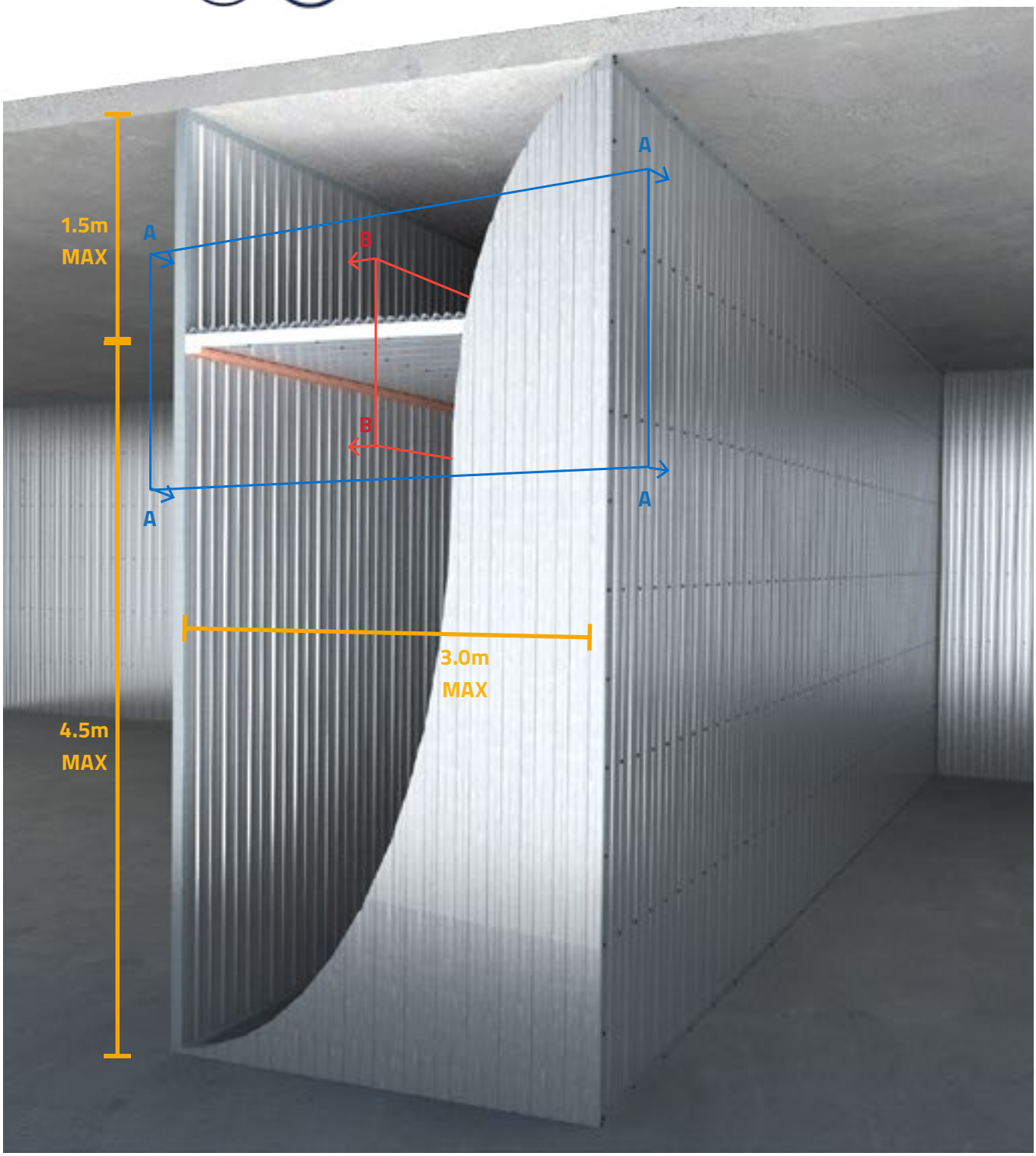


FIGURE 169 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 2 SPECIFICATIONS	
Ceiling type	Option B (Figure 161)
Maximum span	3.0m max. (Figure 169)
Connection and sealant	Figures 170 - 171
Fixings	Figures 162 - 165

SECTION A-A

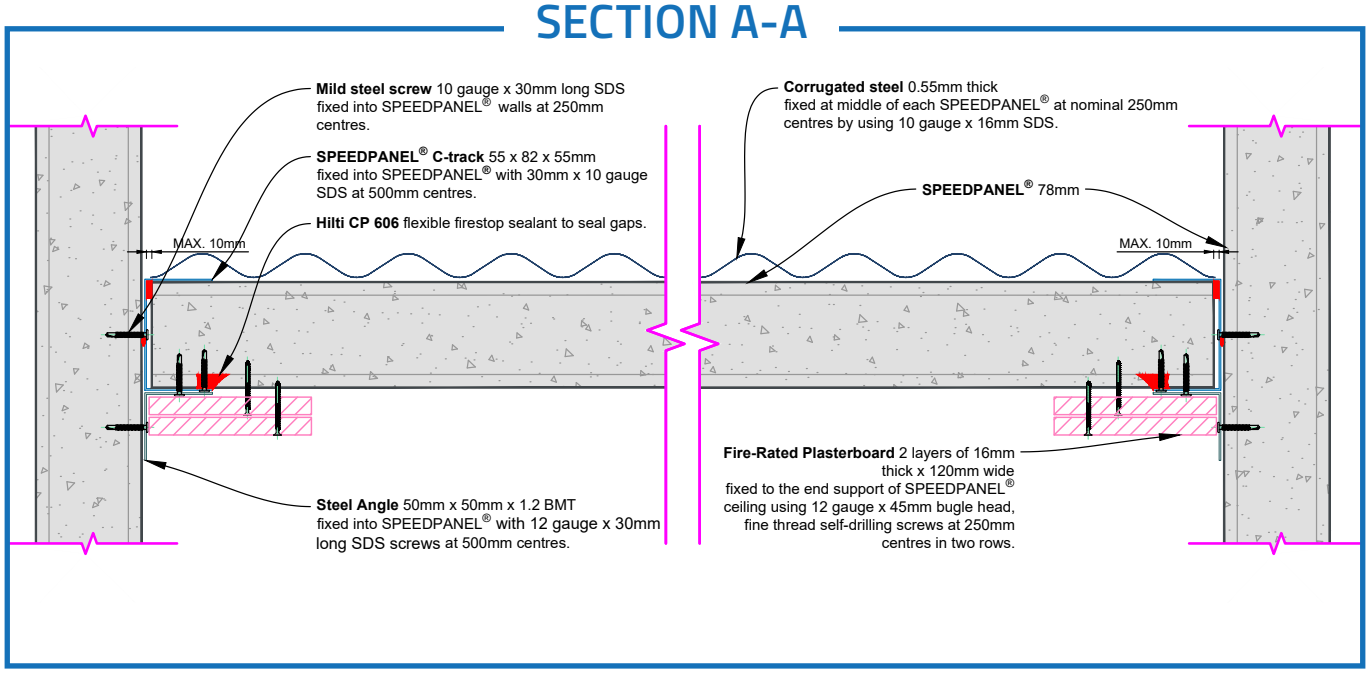


FIGURE 170 [11]

SECTION B-B

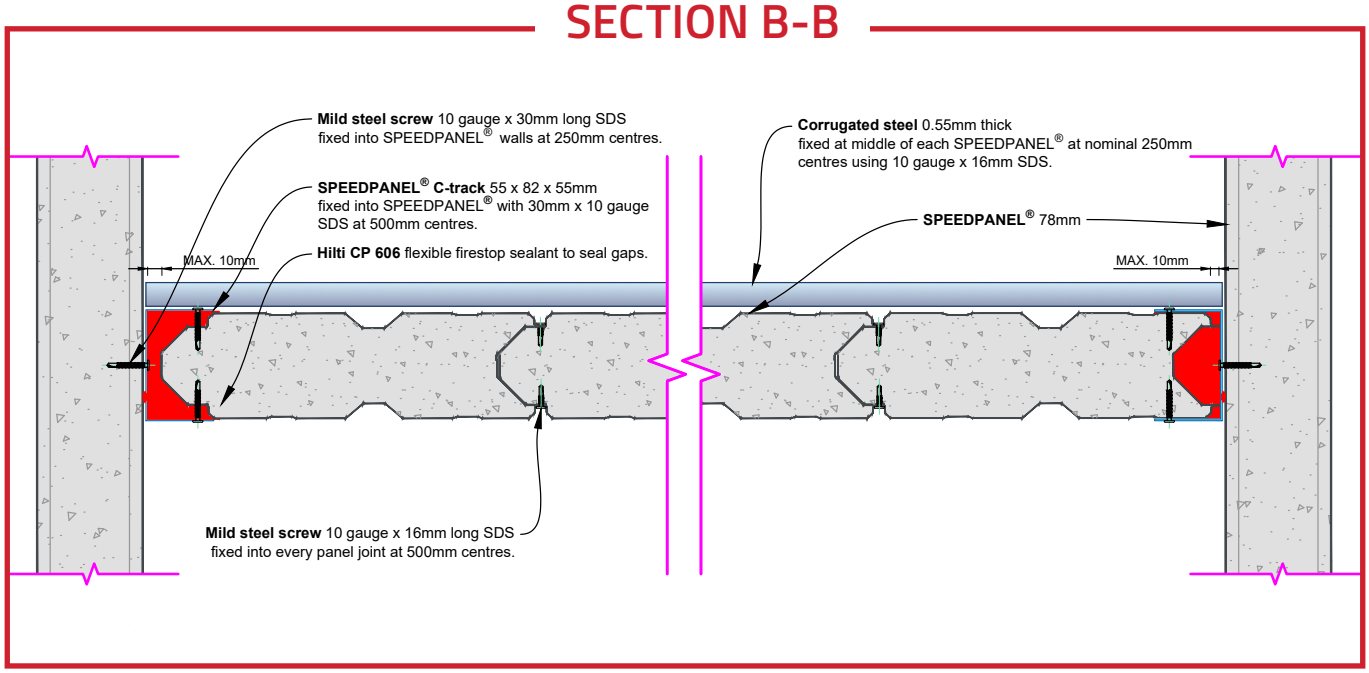


FIGURE 171 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 3

Fire-rated Speedpanel® ceiling between vertical Speedpanel® wall and concrete wall or slab.

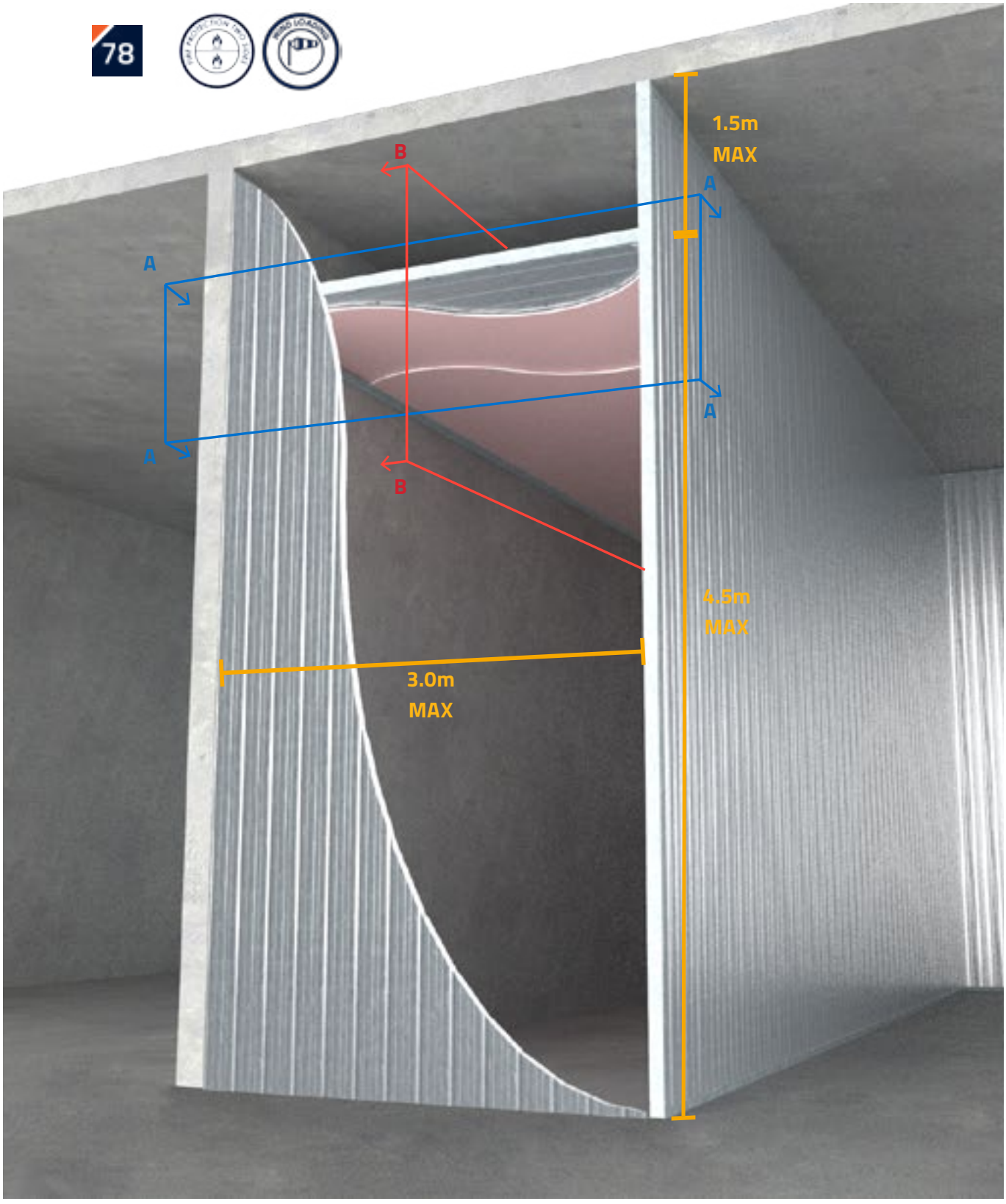


FIGURE 172 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 3 SPECIFICATIONS	
Ceiling type	Option A (Figure 160)
Maximum span	3.0m max. (Figure 172)
Connection and sealant	Figures 173 - 174
Fixings	Figures 162 - 165

SECTION A-A

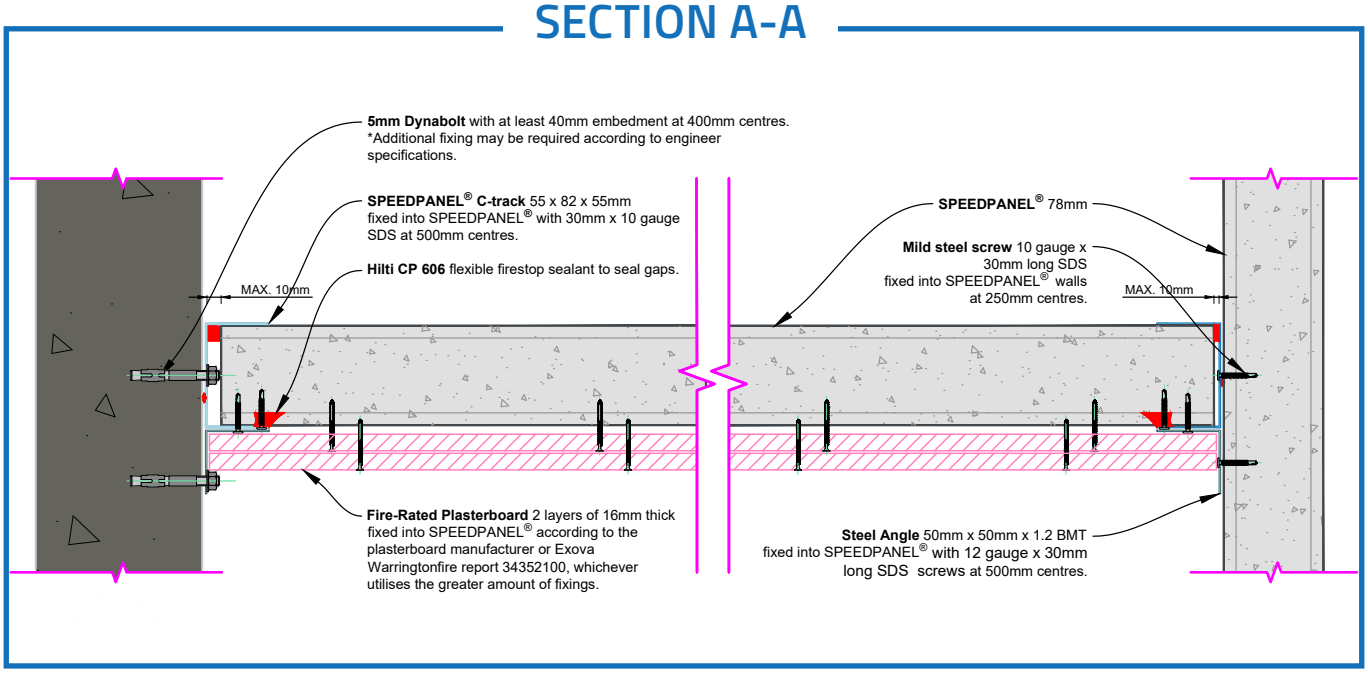


FIGURE 173 [11]

SECTION B-B

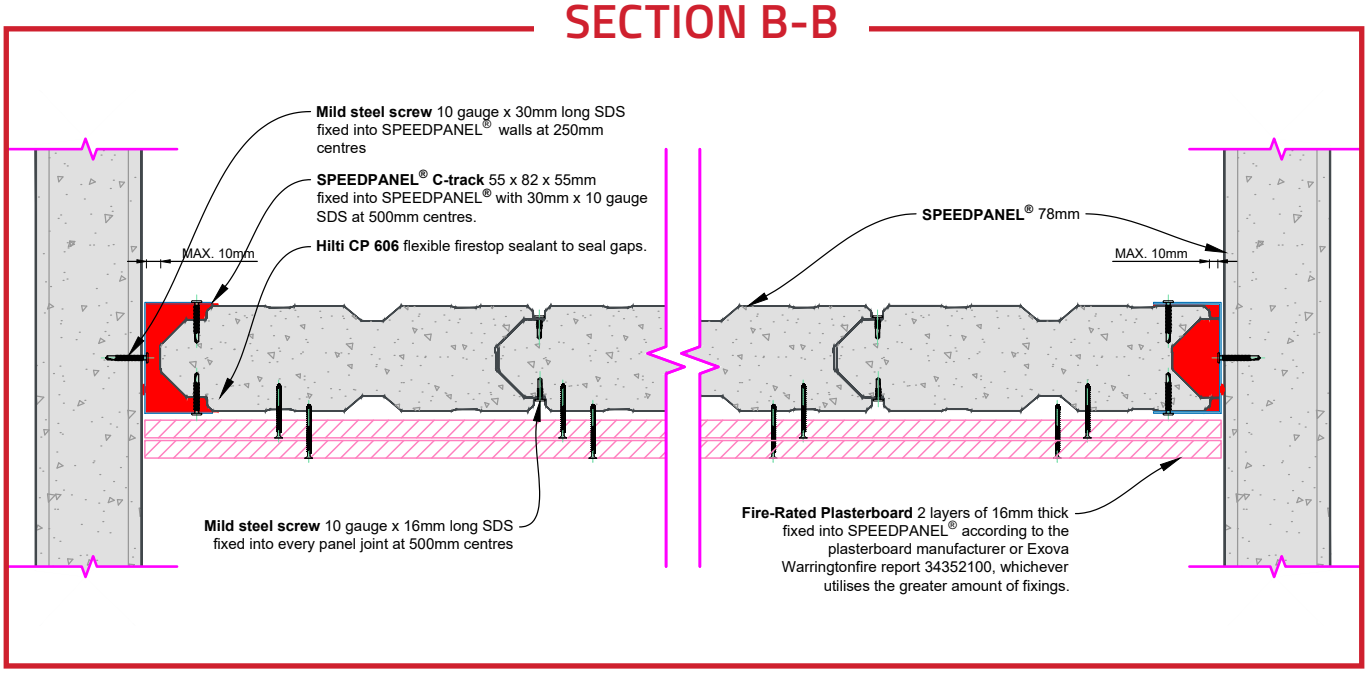


FIGURE 174 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 4

Fire-rated Speedpanel® ceiling between vertical Speedpanel® wall and fire-rated structural steel.

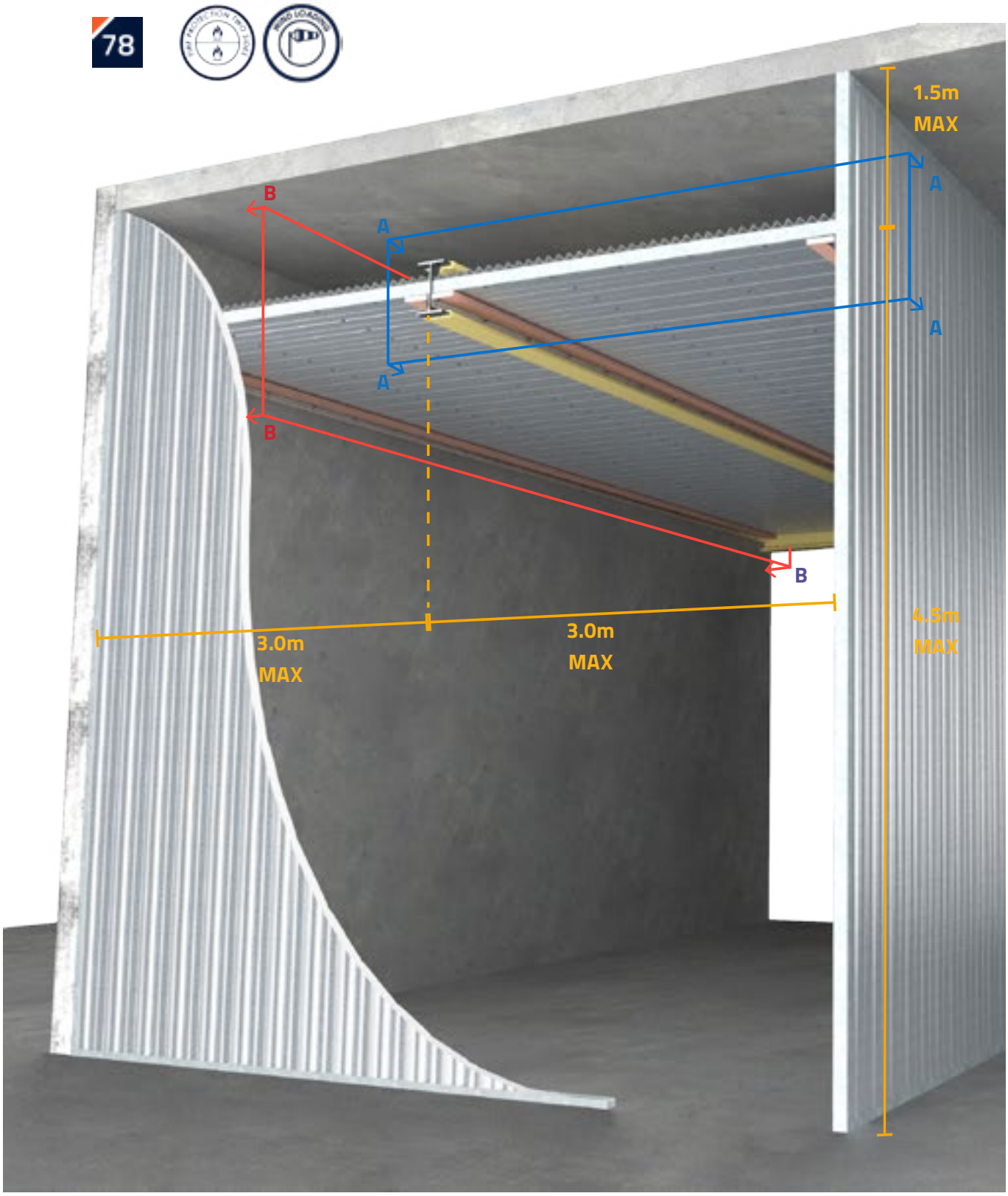


FIGURE 175 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 4 SPECIFICATIONS	
Ceiling type	Option B (Figure 161)
Maximum span	3.0m max. (Figure 175)
Connection and sealant	Figures 176 - 177
Fixings	Figures 162 - 165

SECTION A-A

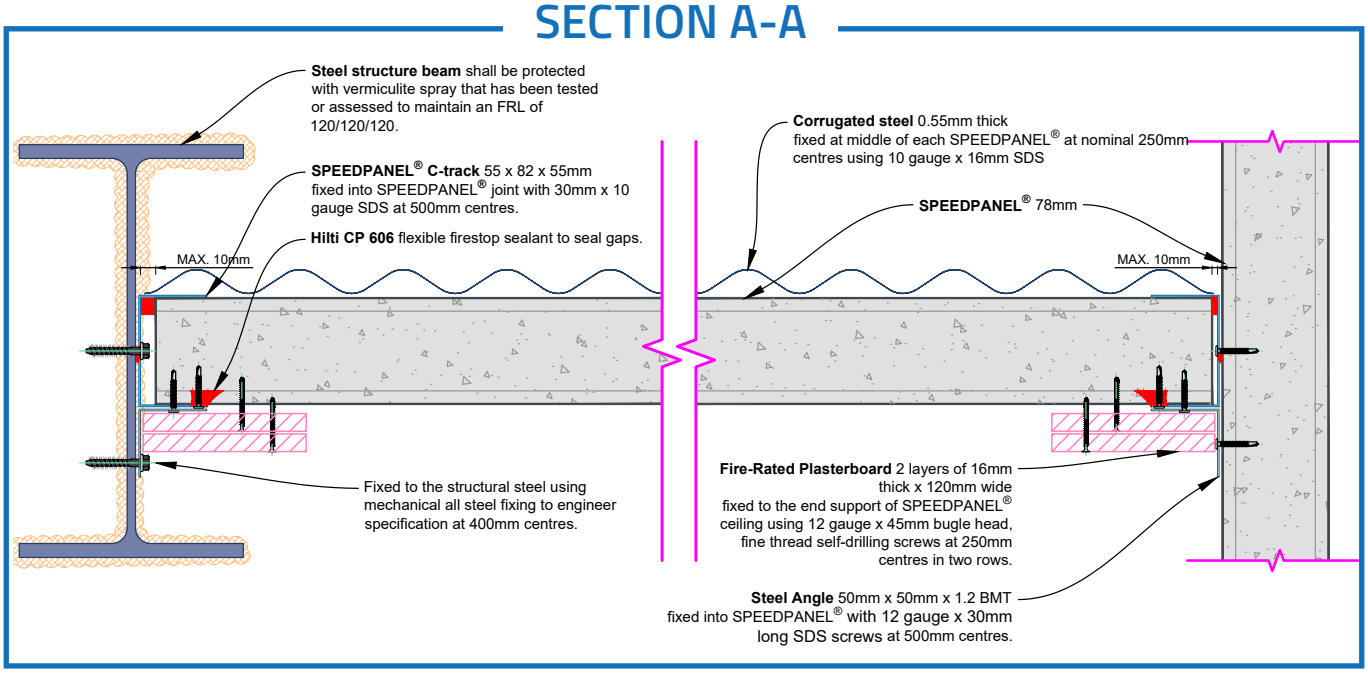


FIGURE 176 [11]

SECTION B-B

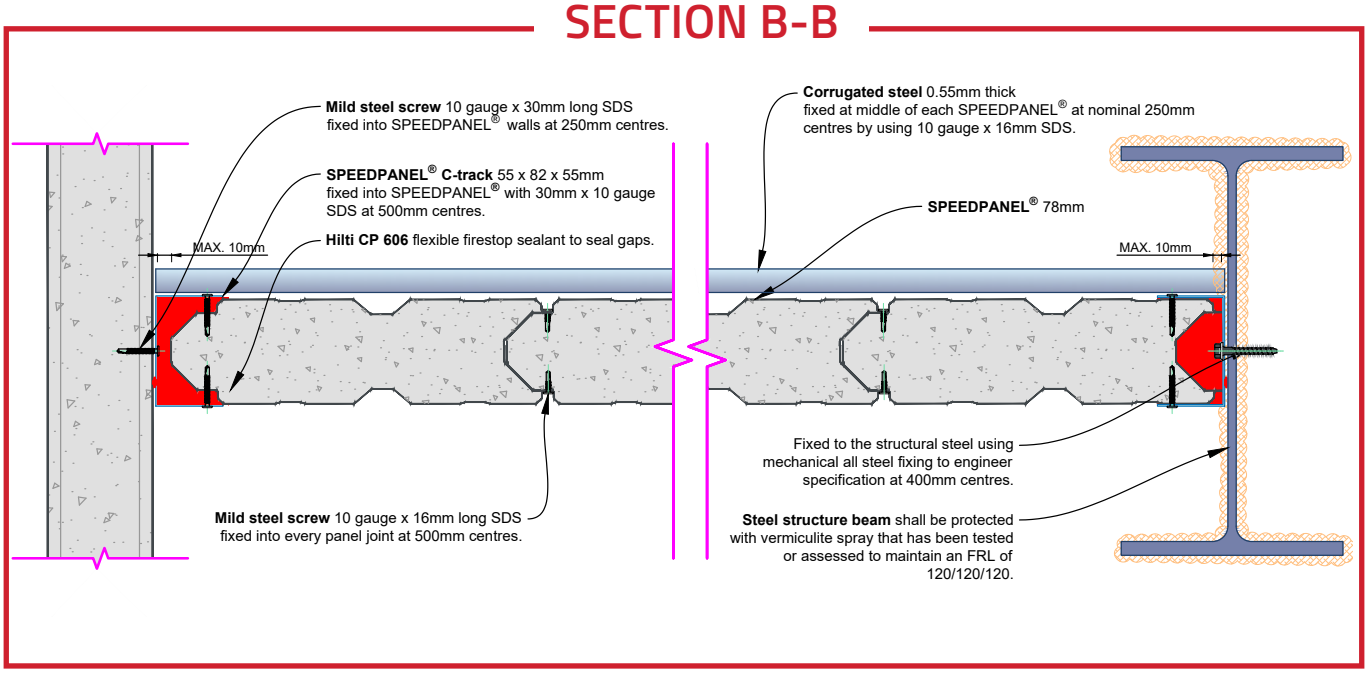


FIGURE 177 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 5

Fire-rated Speedpanel® ceiling connected to vertical Speedpanel® walls.

78

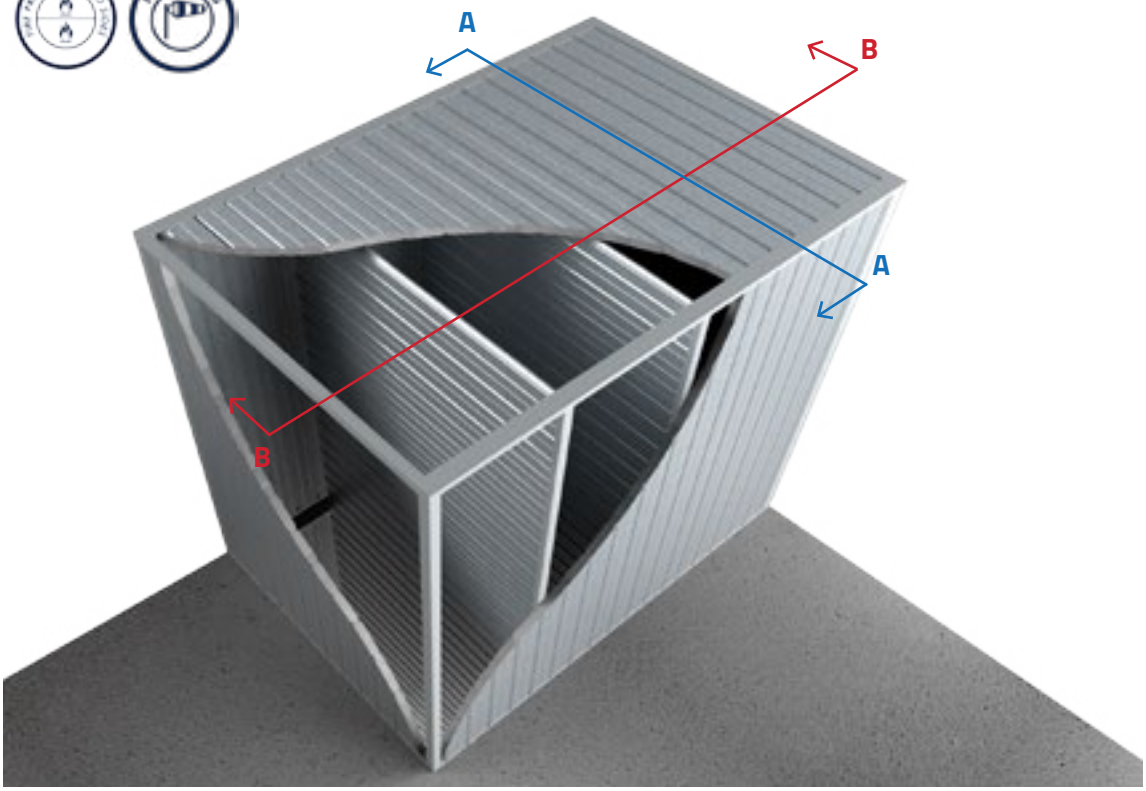


FIGURE 178 [11]

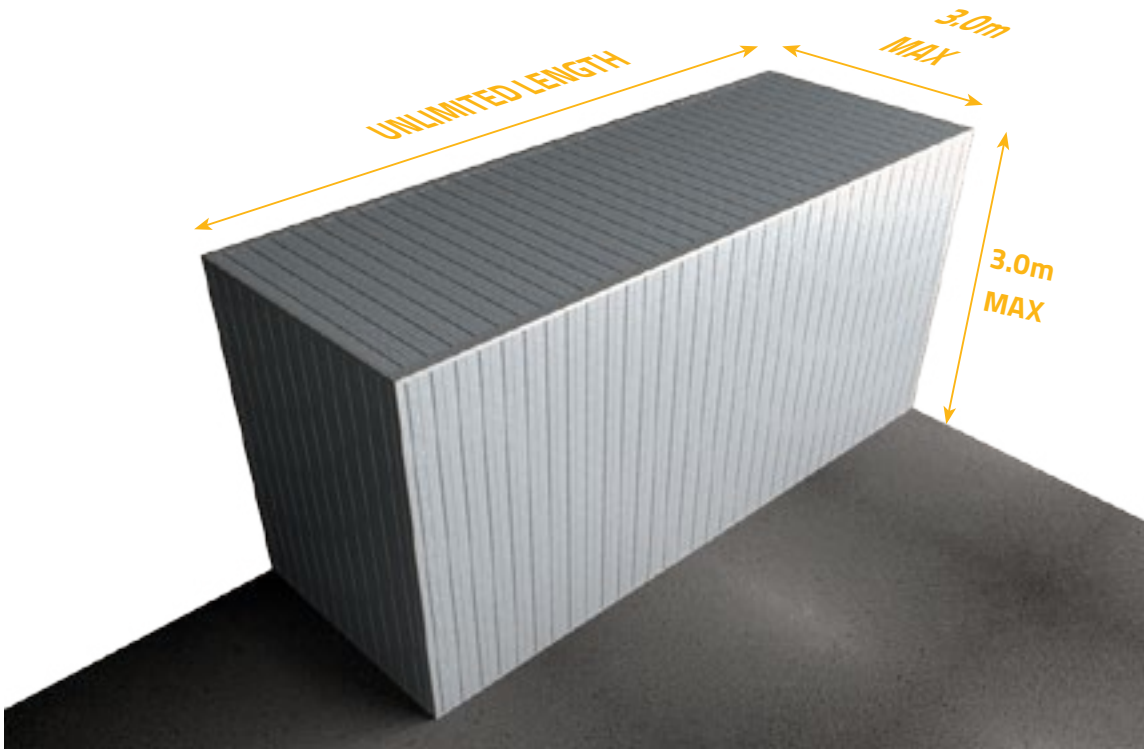


FIGURE 179 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 5 SPECIFICATIONS	
Ceiling type	No plaster protection required
Maximum span	3.0m max. (Figure 179)
Connection and sealant	Figures 180 and 181
Fixings	Figures 162 - 165

SECTION A-A

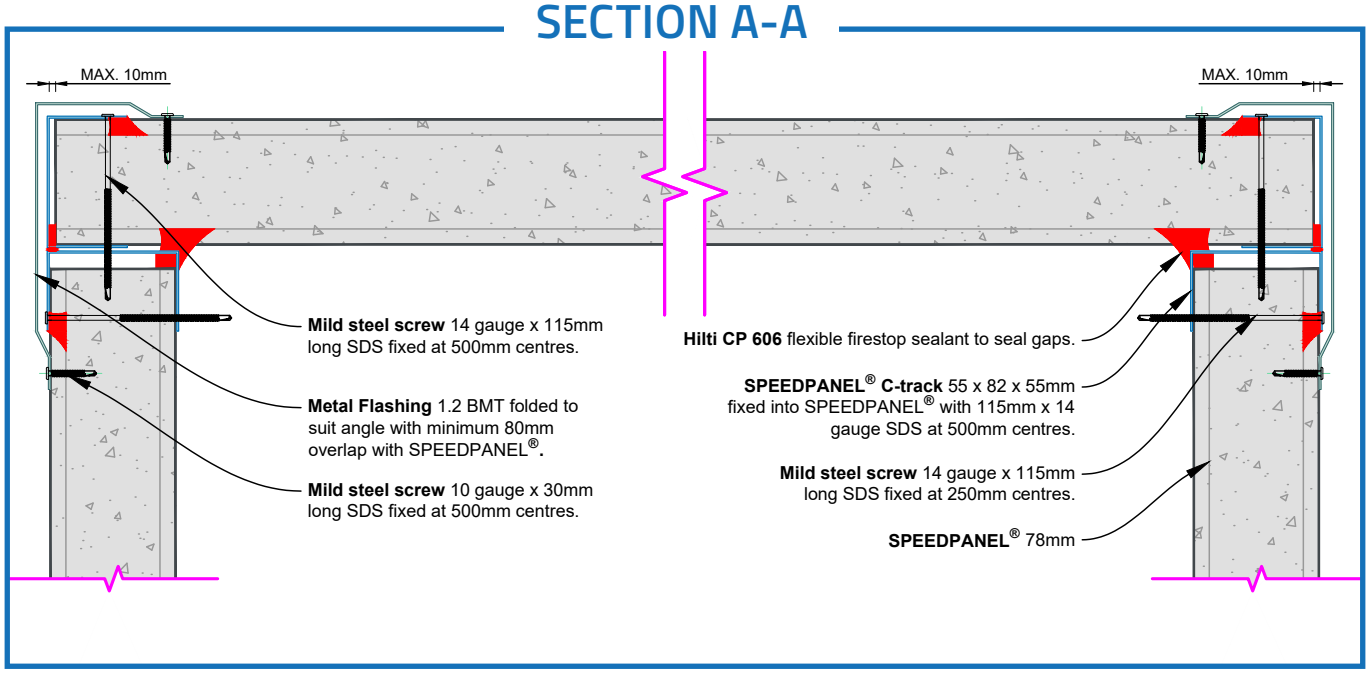


FIGURE 180 [11]

SECTION B-B

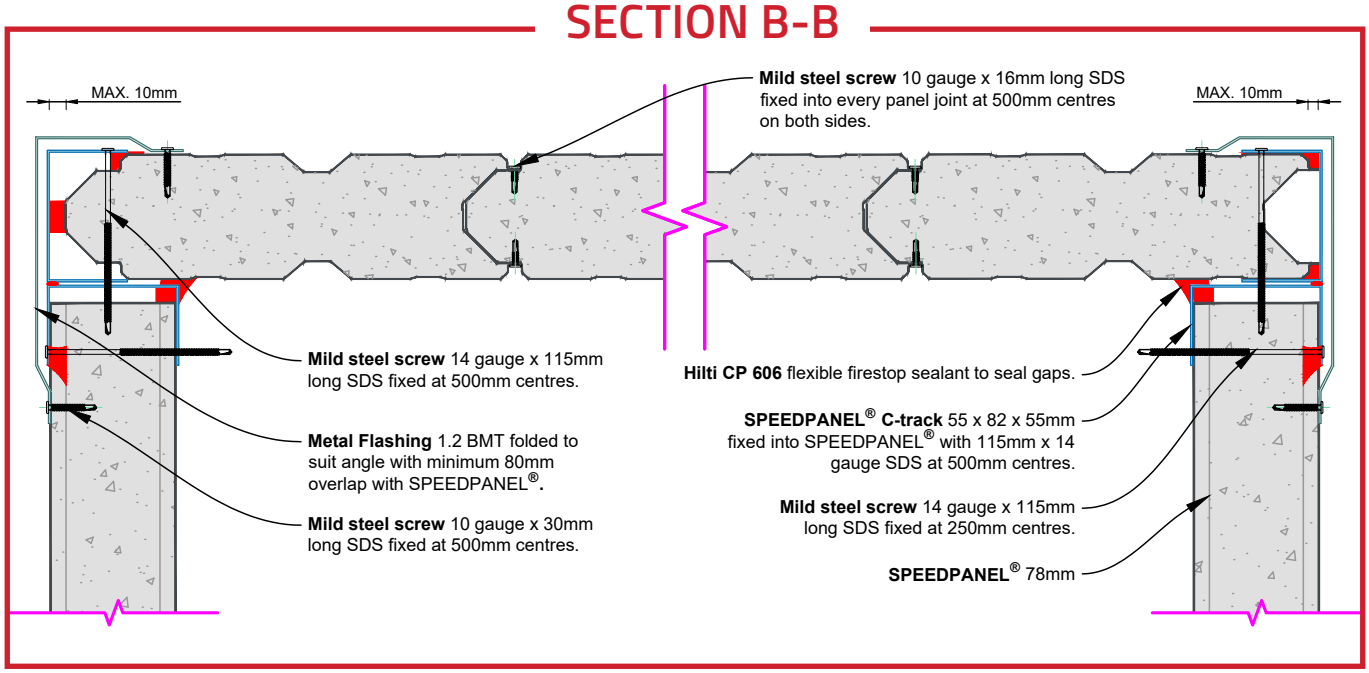


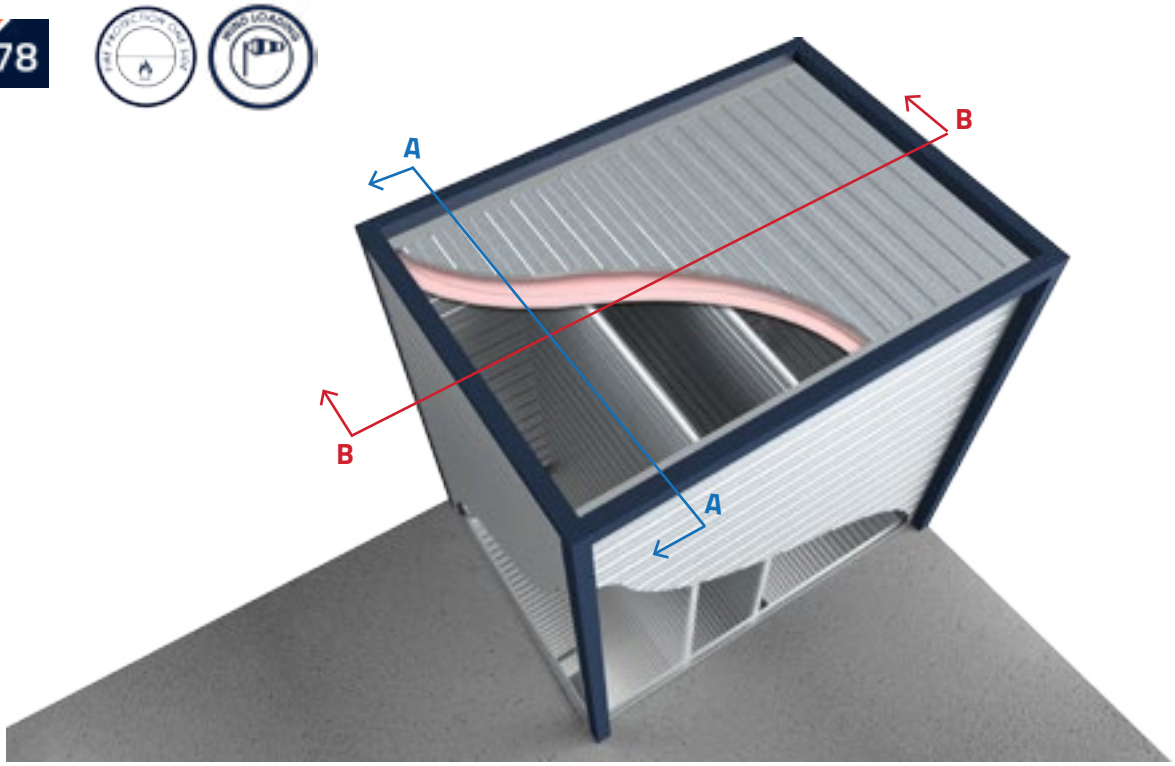
FIGURE 181 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

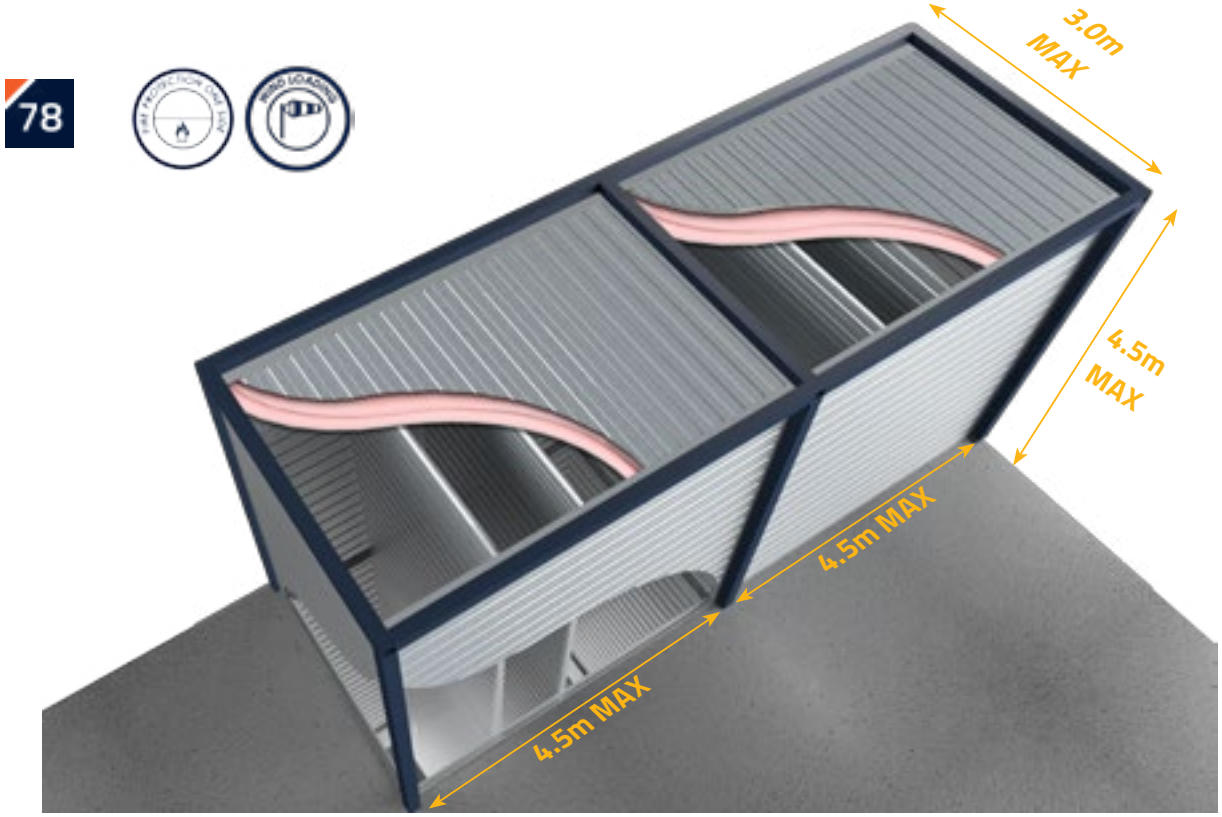
SCENARIO 6

Fire-rated Speedpanel® ceiling connected to horizontally stacked Speedpanel® walls which are connected to a structural steel frame. Fire-rated for fire direction from inside to outside.



SINGLE SPAN BOX - ALL STEEL STRUCTURE PROTECTED FROM FIRE WITHIN BY 78MM SPEEDPANEL®

FIGURE 182 [11]



CONTINUOUS SPAN BOX - ALL STEEL STRUCTURE PROTECTED FROM FIRE WITHIN BY 78MM SPEEDPANEL®

FIGURE 183 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 6 SPECIFICATIONS	
Ceiling type	Option A (Figure 160)
Maximum span	3.0m max. (Figure 183)
Connection and sealant	Figures 184 and 185
Fixings	Figures 162 - 165

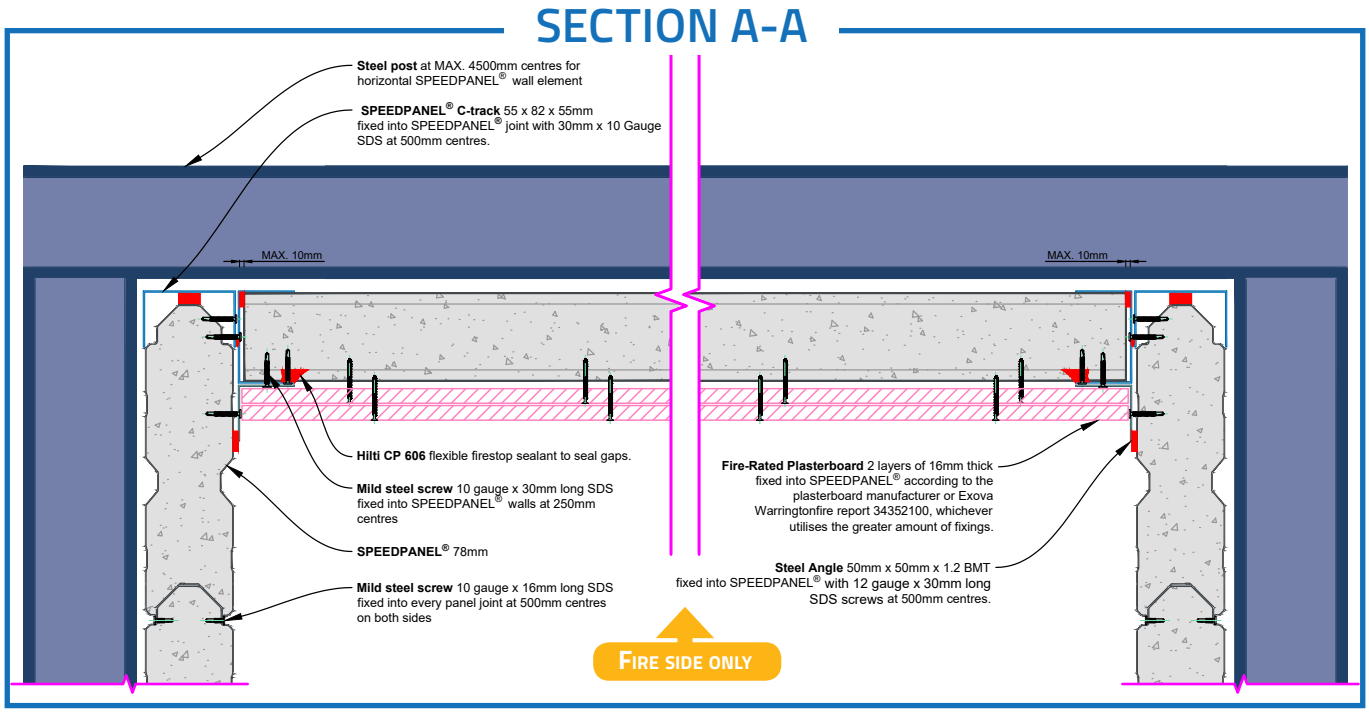


FIGURE 184 [11]

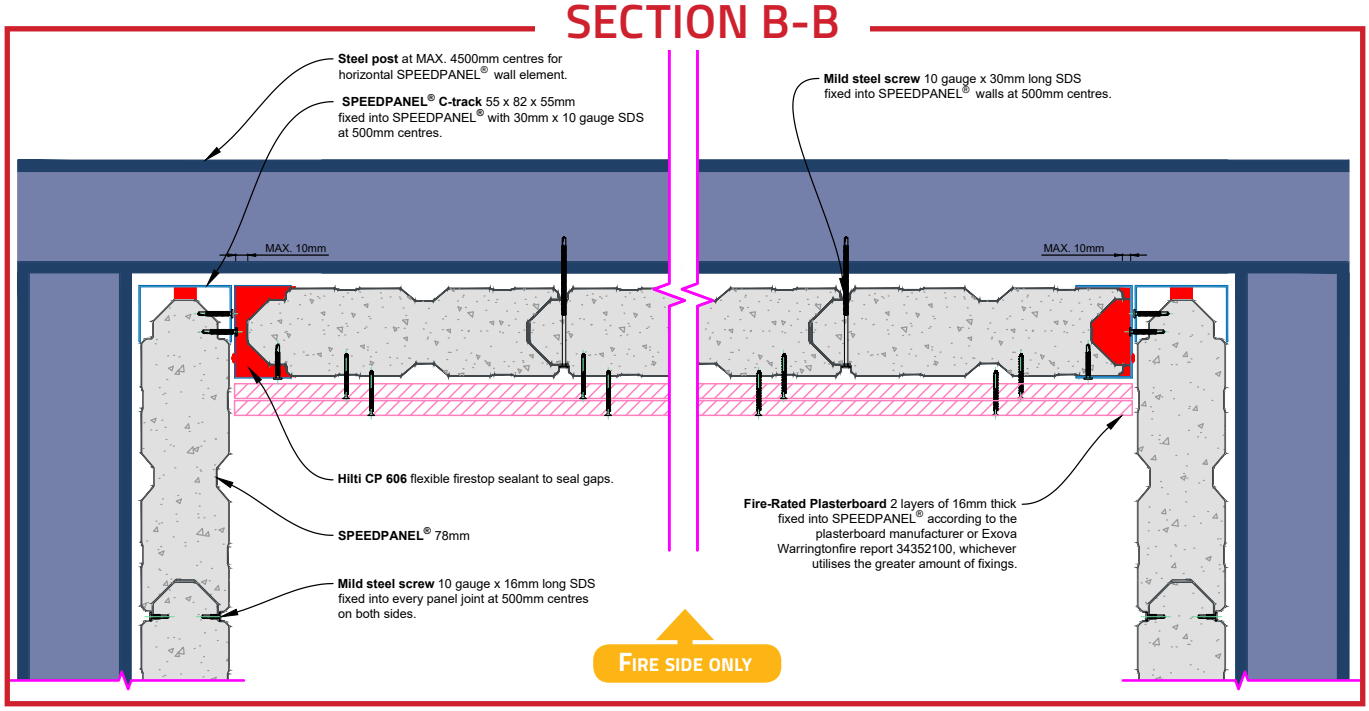


FIGURE 185 [11]

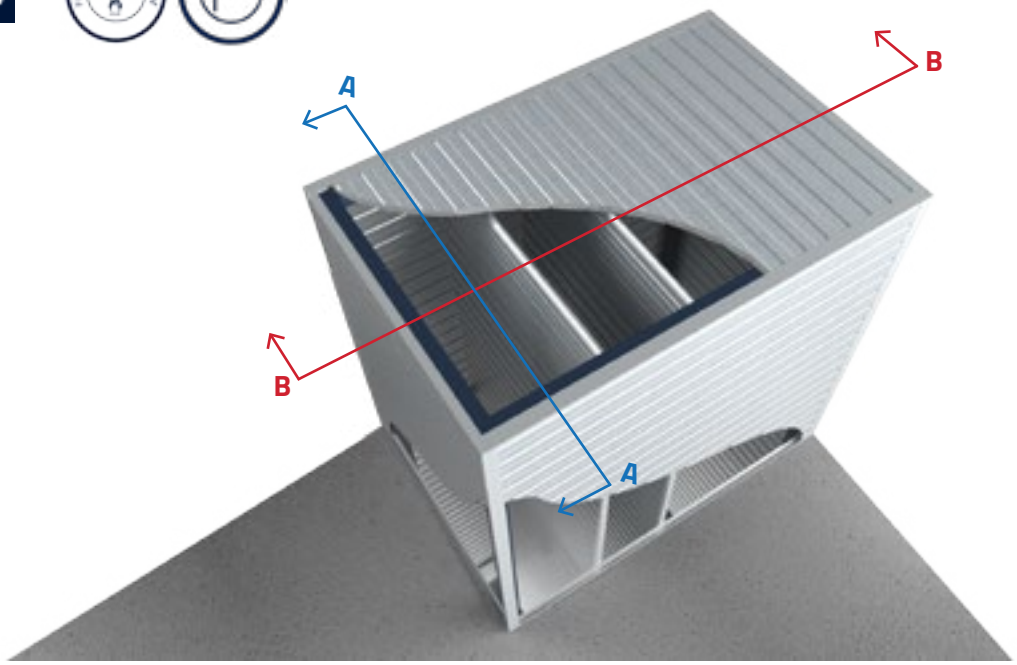
11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 7

Fire-rated Speedpanel® ceiling connected to horizontally stacked Speedpanel® walls which are connected to a structural steel frame. Fire-rated for fire direction from outside to inside.

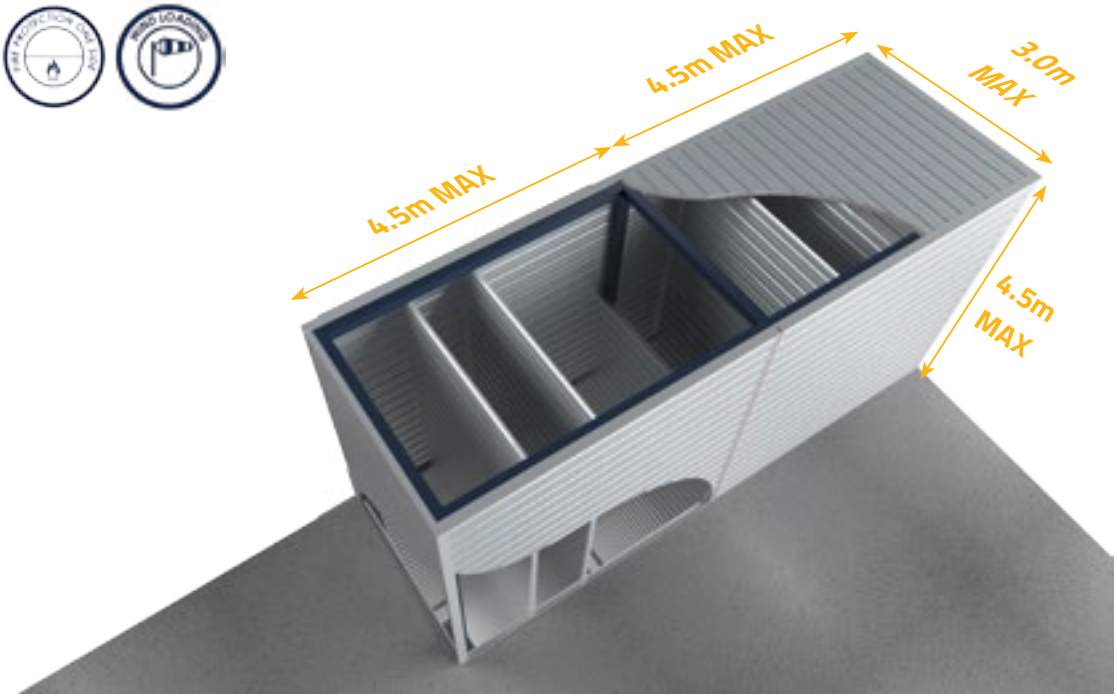
78



Internally supported single span boxed compartment. Horizontal risers added for illustrative purposes only.

FIGURE 186 [11]

78



Internally supported continuous span boxed compartment. Horizontal risers added for illustrative purposes only.

FIGURE 187 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 7 SPECIFICATIONS	
Ceiling type	No plaster protection required
Maximum span	3.0m max. (Figure 187)
Connection and sealant	Figures 188 and 189
Fixings	Figures 162 - 165

SECTION A-A

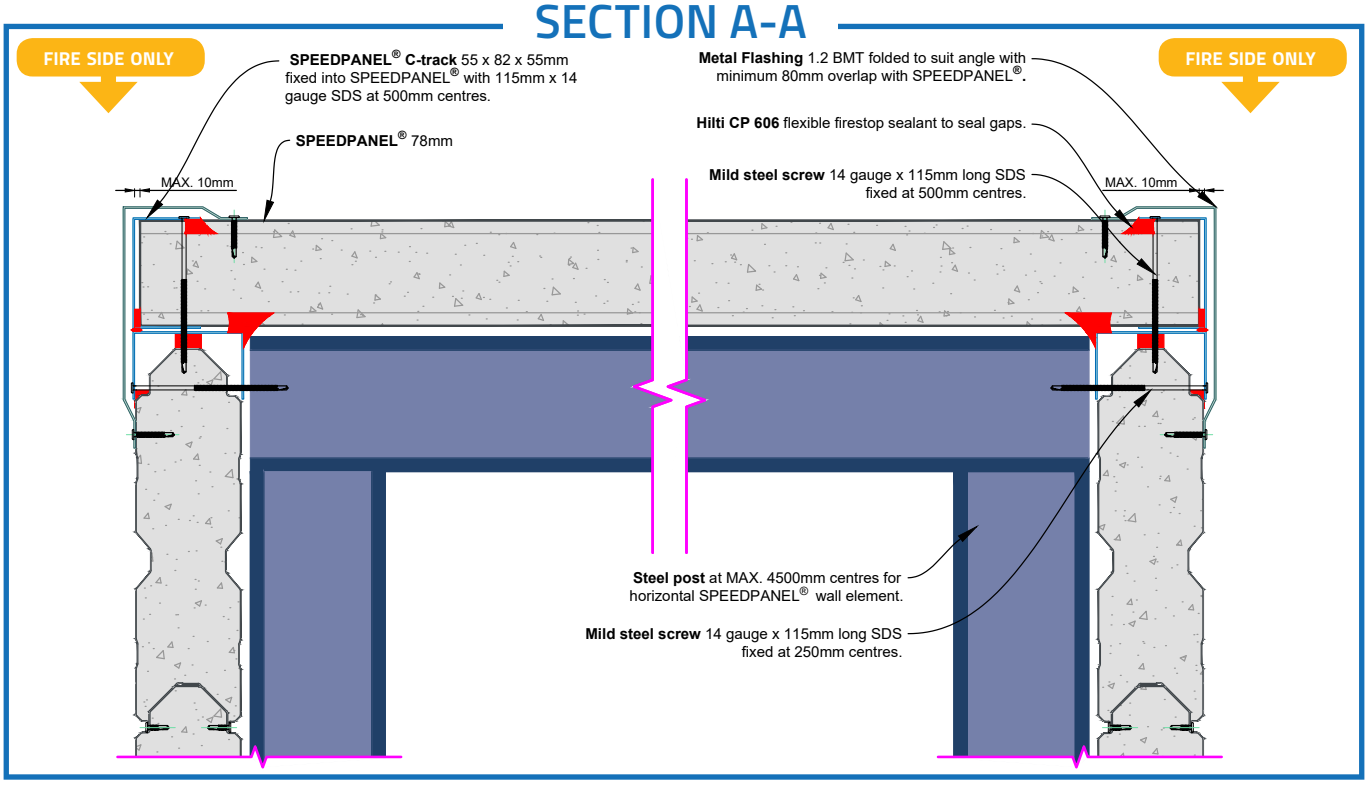


FIGURE 188 [11]

SECTION B-B

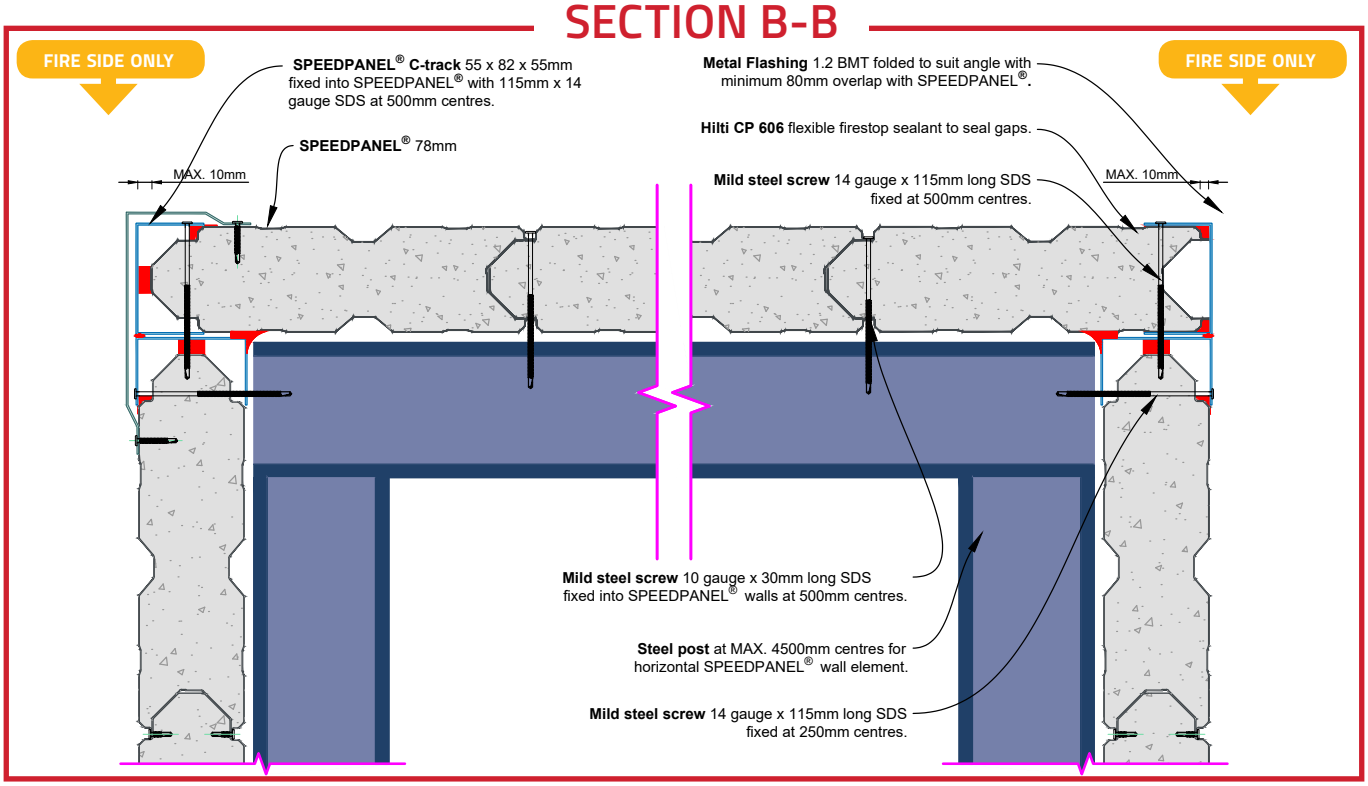


FIGURE 189 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

CONNECTION DETAILS OF HORIZONTAL 78MM SPEEDPANEL® TO STRUCTURAL STEEL POSTS

These connection details are relative to scenario 6 and 7 on pages 140 and 142. Each detail outlines the fire-rated direction. Where a fire rating is required for either side, the structural steel must be protected to the equivalent FRL of the desired compartment that is constructed using the wall and ceiling configuration.

EXTERNAL STEEL POST 90° CORNER CONNECTION DETAIL WITH J-TRACK.

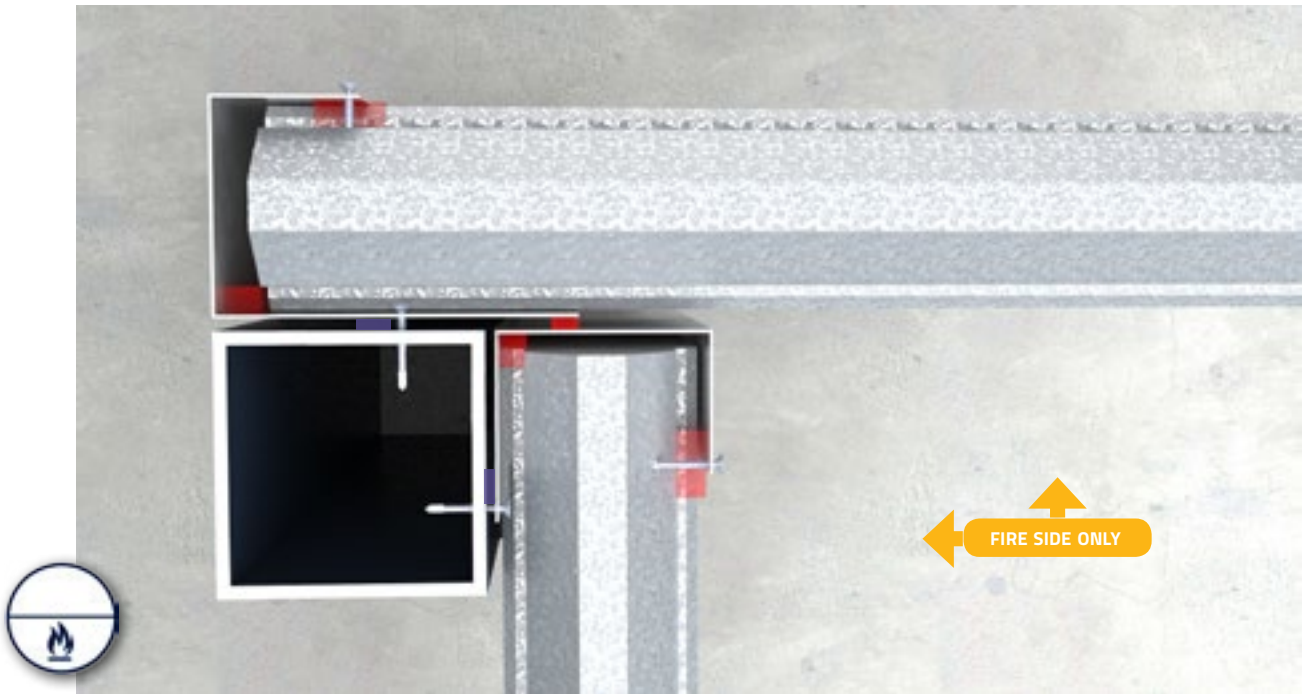


FIGURE 190

INTERNAL STEEL POST 90° CORNER CONNECTION DETAIL.

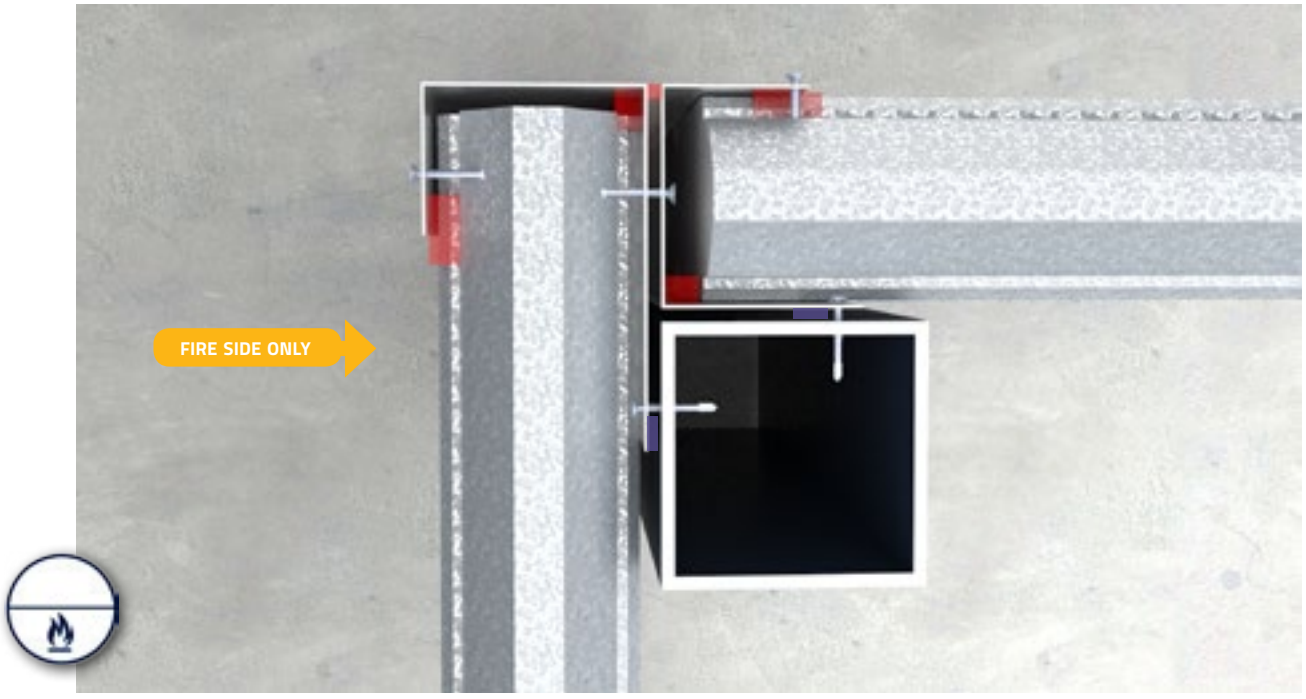


FIGURE 191

EXTERNAL STEEL POST 90° CORNER CONNECTION DETAIL.

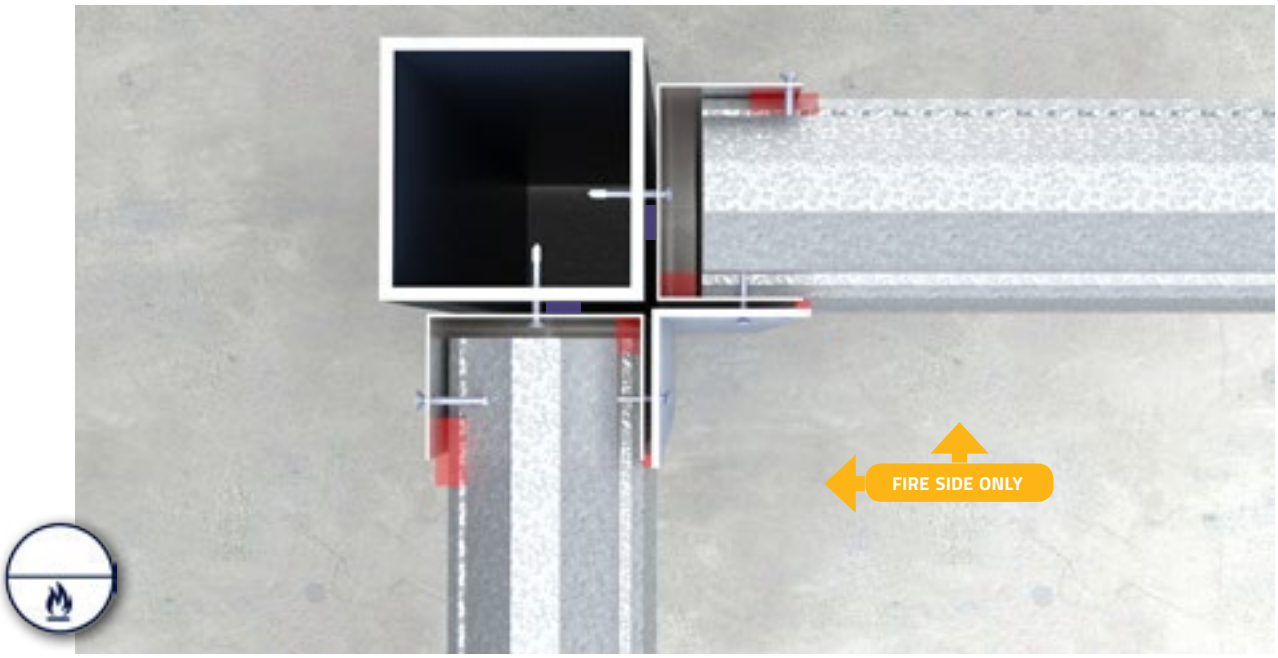


FIGURE 192

STEEL POST TO IN-LINE HORIZONTAL SPEEDPANEL® CONNECTION DETAIL.

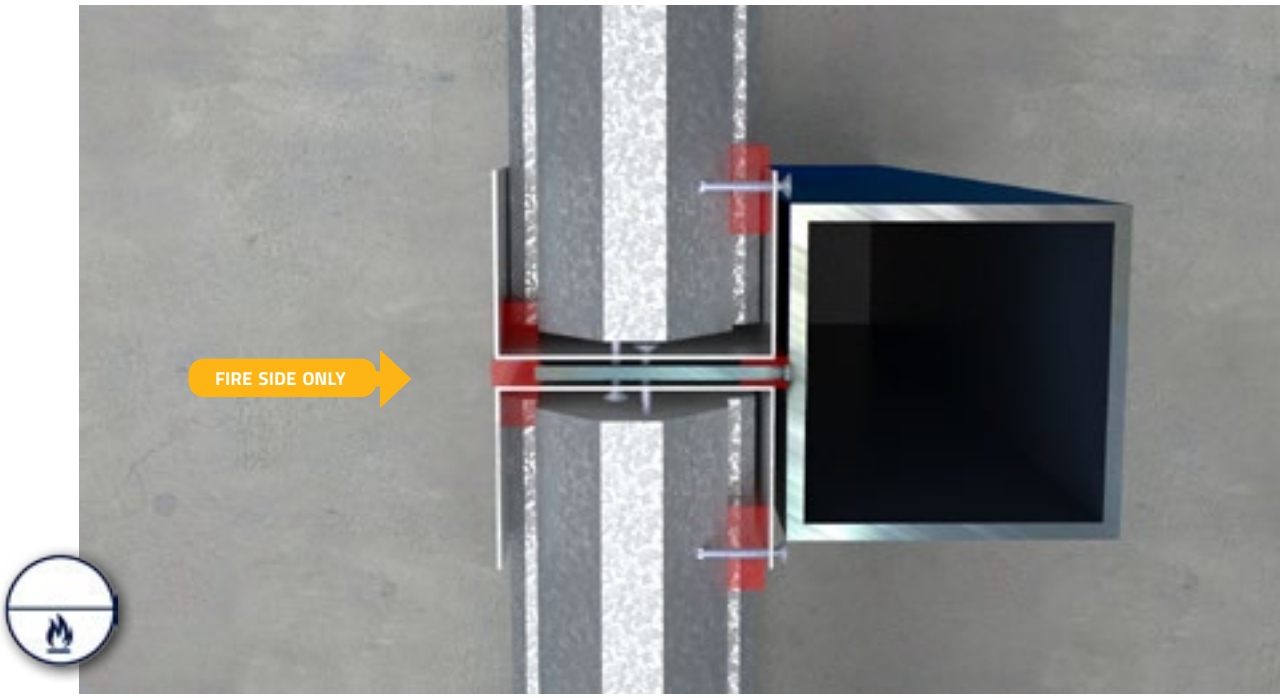


FIGURE 193 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 8

78mm Speedpanel® fire-rated bulkhead connected to concrete walls and concrete soffit using horizontally stacked 78mm Speedpanel®.

78

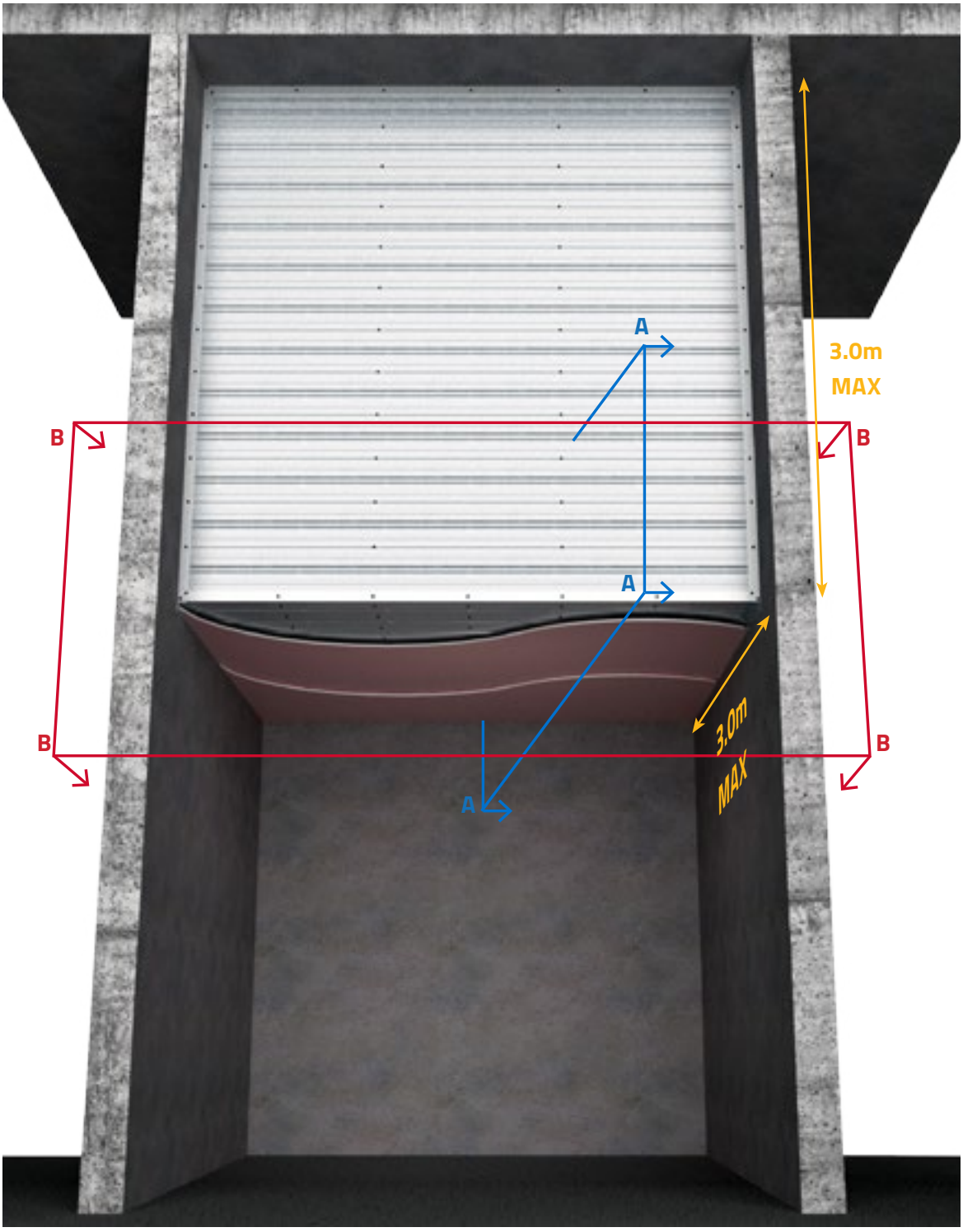


FIGURE 194 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 8 SPECIFICATIONS	
Ceiling type	Option A (Figure 160)
Maximum span	3.0m max. (Figure 194)
Connection and sealant	Figures 195 and 196
Fixings	Figures 162 - 165

SECTION A-A

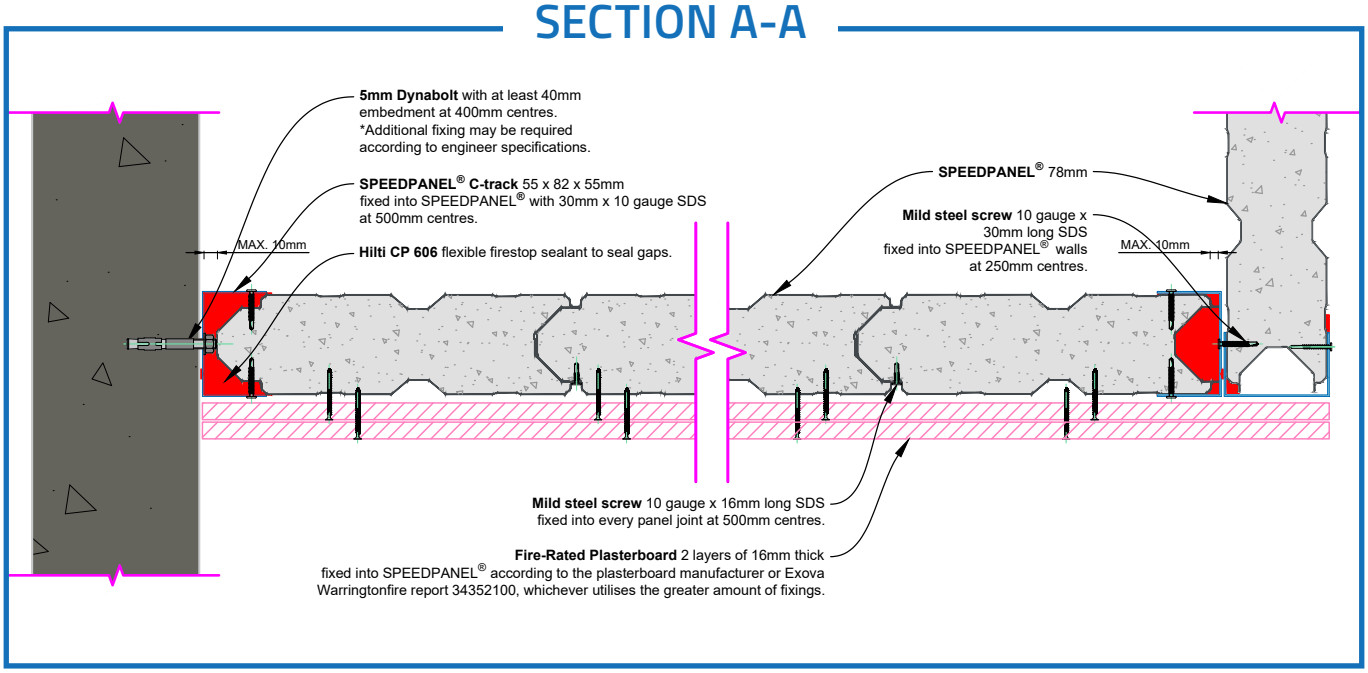


FIGURE 195 [11]

SECTION B-B

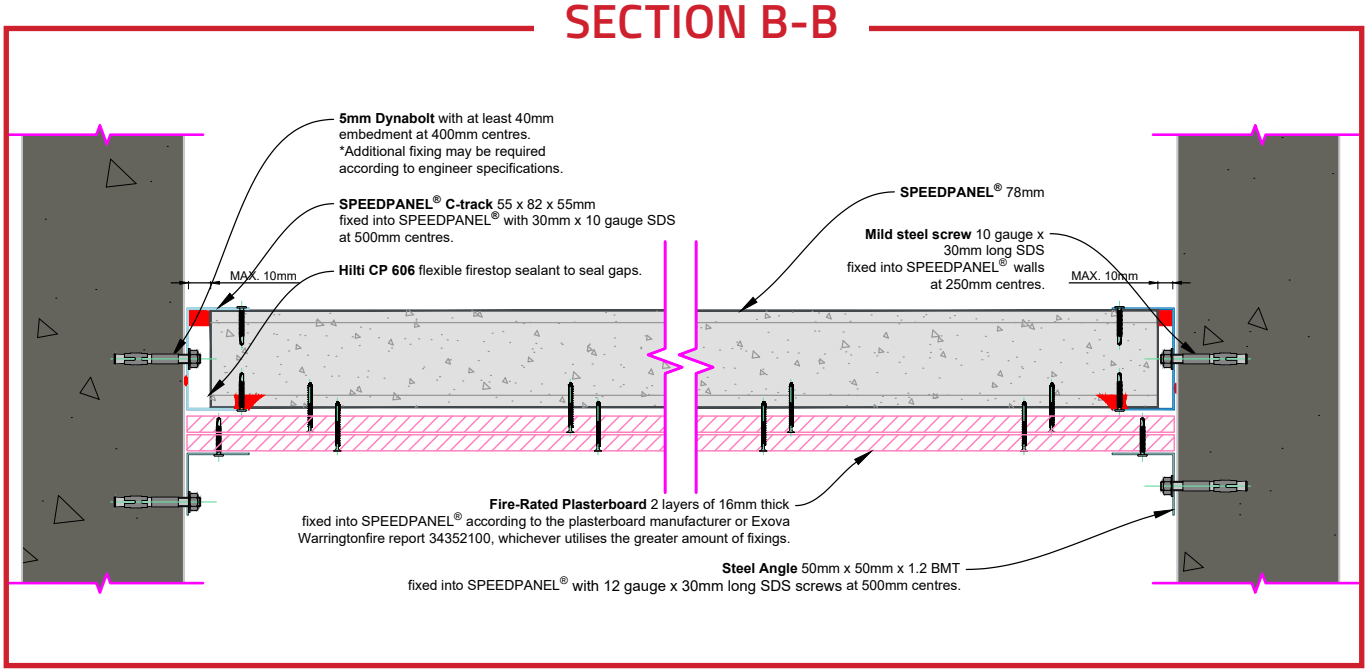


FIGURE 196 [11]

11. Exova Warringtonfire - Report No. 34352100

Ceilings & Bulkheads

SCENARIO 9

78mm Speedpanel® fire-rated bulkhead connected to concrete wall and concrete soffit using vertical 78mm Speedpanel® and horizontally laid 78mm Speedpanel®.

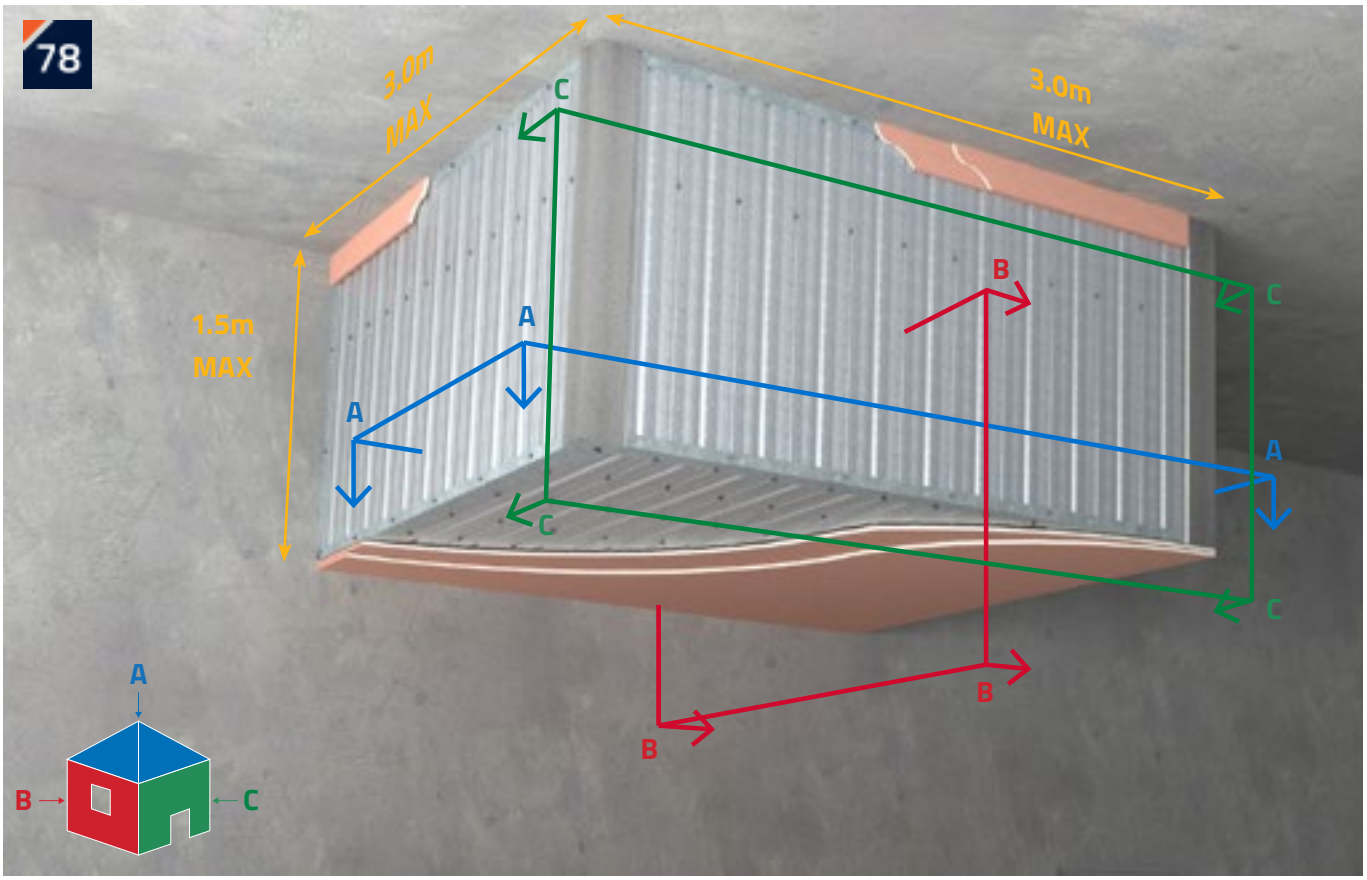


FIGURE 197 [11]

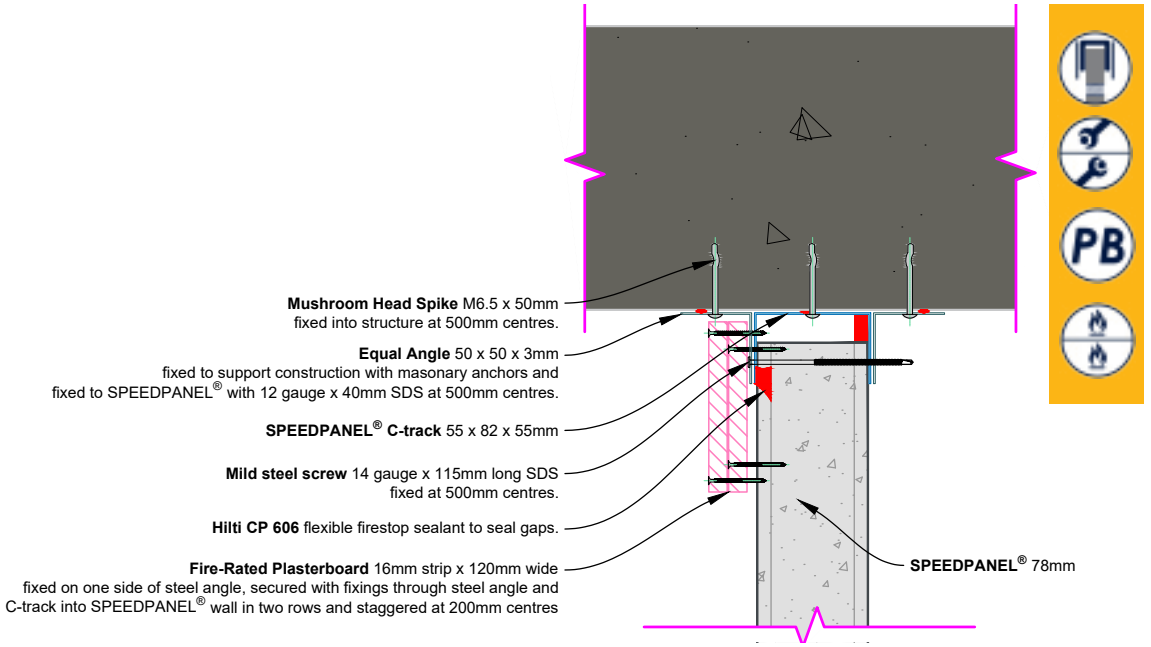


FIGURE 198 [11]

11. Exova Warringtonfire - Report No. 34352100

SCENARIO 9 SPECIFICATIONS	
Ceiling type	Option A (Figure 160)
Maximum span	3.0m max. (Figure 197)
Connection and sealant	Figures 198 - 201
Fixings	Figures 162 - 165

SECTION A-A

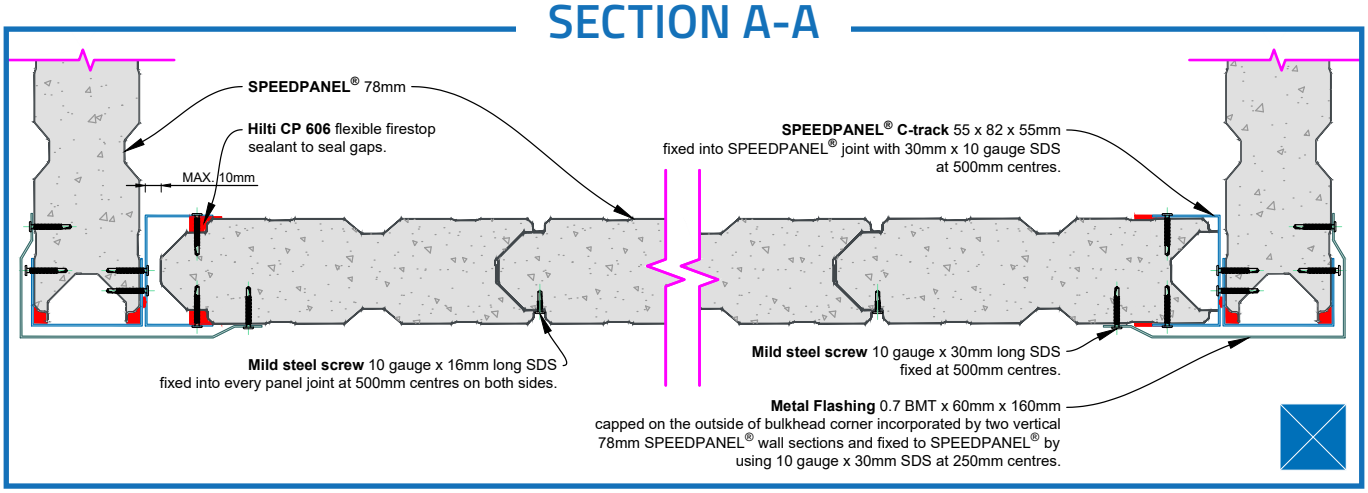


FIGURE 199 [11]

SECTION B-B

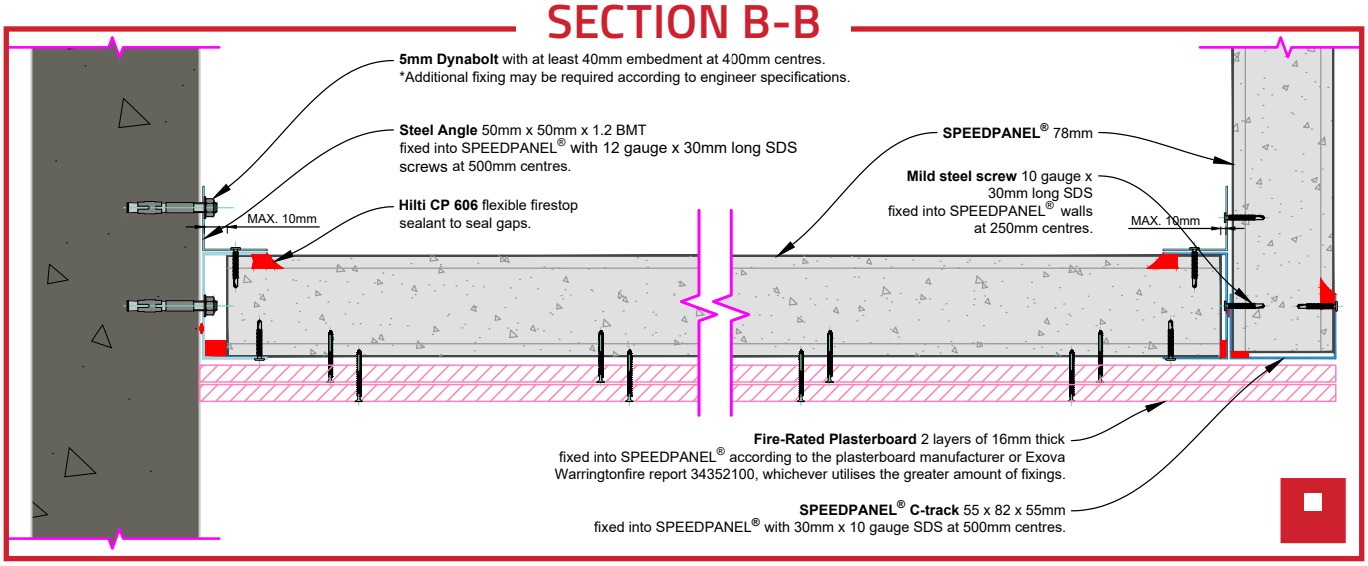


FIGURE 200 [11]

SECTION C-C

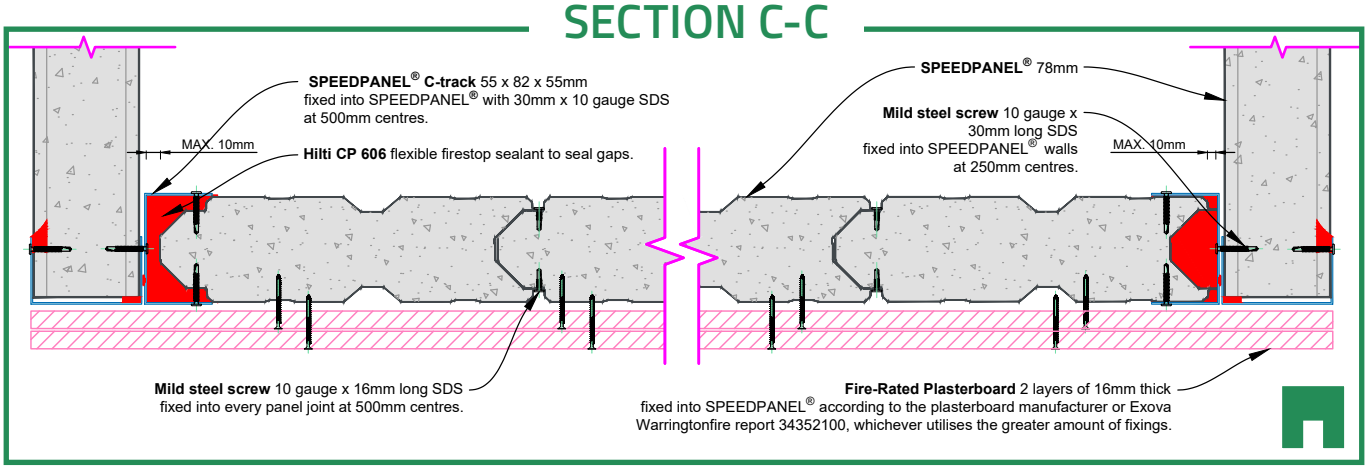


FIGURE 201 [11]

11. Exova Warringtonfire - Report No. 34352100

SCAN THE QR-CODES BELOW TO DOWNLOAD THE ASSESSMENT REPORTS USED IN THIS CHAPTER.

1 - REPORT 21622

4 - REPORT 22551

- INCLINE WALLS
- BUTT JOINTS
- EXTERNAL WALLS & FACADES
- INTERTENANCY WALL SYSTEMS
- CAR PARKS

2.10

ALTERNATIVE SPEEDPANEL®

WALL SYSTEMS

2.10 SPECIALISED DETAILS

VERTICAL ORIENTATION INCLINE WALLS

Figure 202 illustrates the Speedpanel® incline wall. Refer to the table on the following page for incline angle and the maximum wall height dimensions. Note that this application is only valid for 78mm panels.

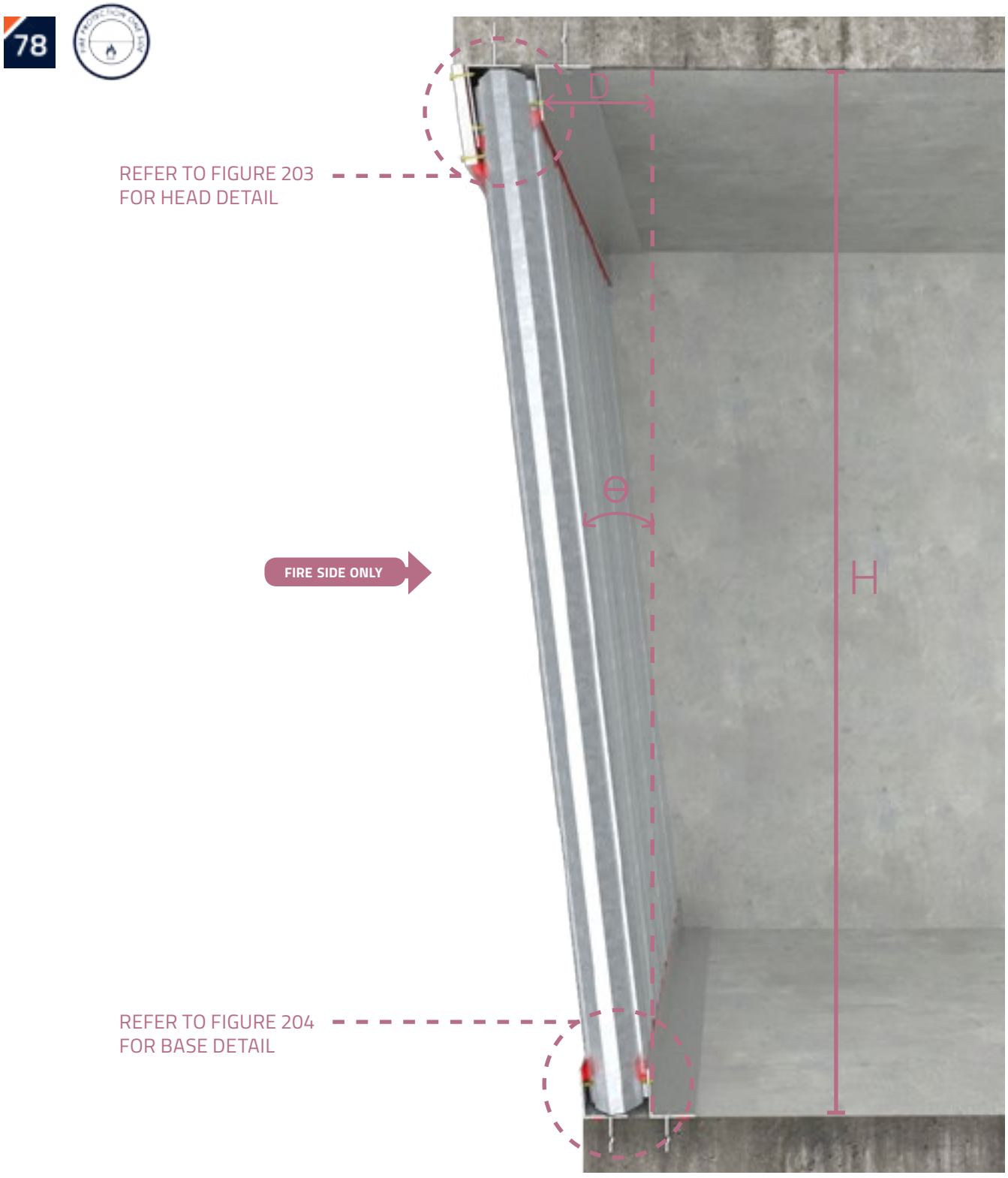


FIGURE 202 [4]

4. Exova Warringtonfire - Report No. 22551

Below are recommended details for Speedpanel® incline walls. All fixing dimensions are as per standard 6.0m vertical installation. Refer to Chapter 2.3 'Vertical Installation' (page 61) for fixing details.

HEAD DETAIL

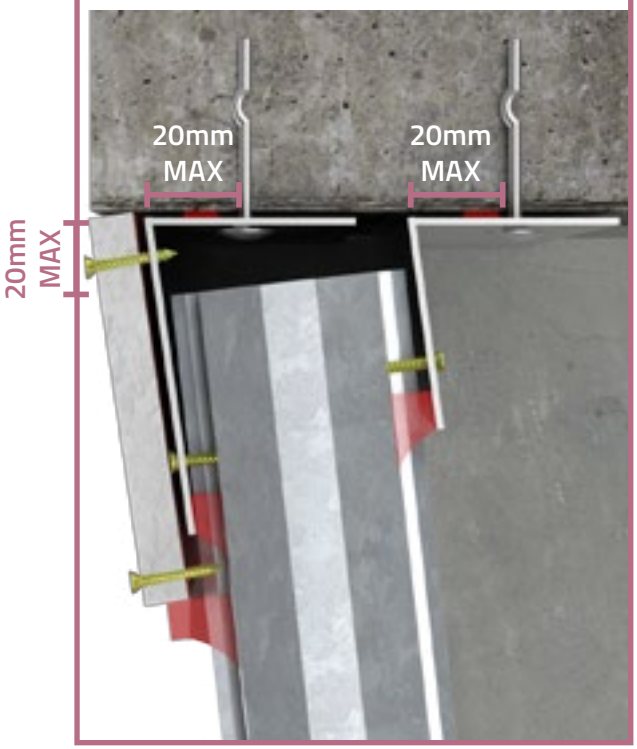


FIGURE 203 [4]

BASE DETAIL

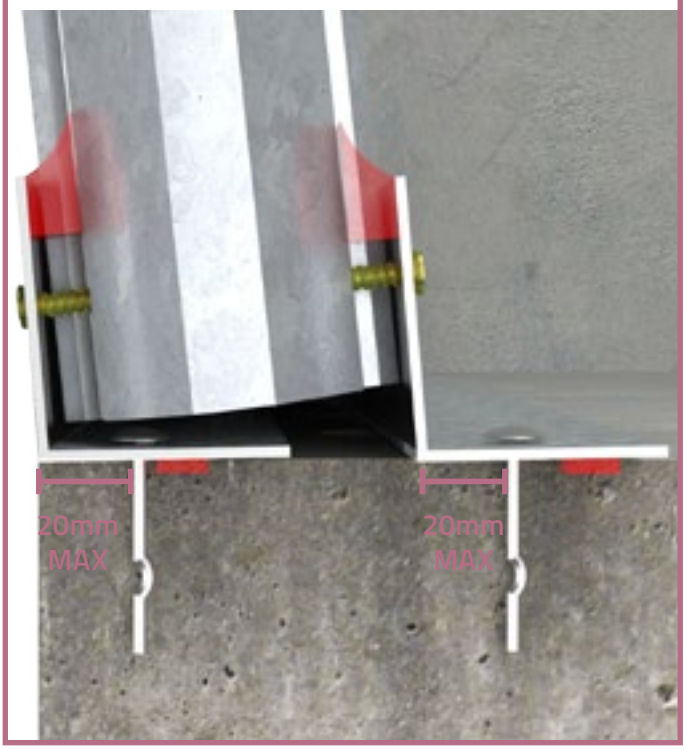


FIGURE 204 [4]

Wall height H (m)	Max. incline distance D (m)	Max. incline angle E (m)	FRL
4	1.34	19	-/120/120 (from one side only)
4.2	1.18	16	
4.5	0.94	12	
4.7	0.79	10	
4.8	0.71	8	
4.9	0.64	7	
5	0.58	6	
5.2	0.42	5	
5.5	0.19	2	
5.7	0.04	0	
5.8	0	0	

4. Exova Warringtonfire - Report No. 22551

Butt Joints

SINGLE PANEL BUTT JOINT

This application can be used in a scenario where panels have been ordered too short or when using leftover stock. It also allows the use of short panels where site access is limited.

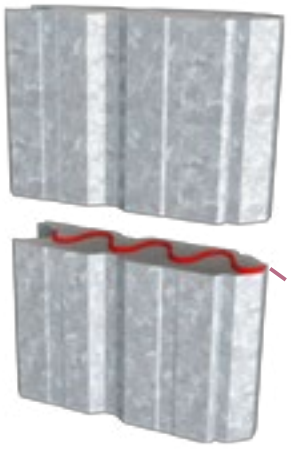


FIGURE 205 [1]

FIGURE 206 [1]

FIGURE 207 [1]

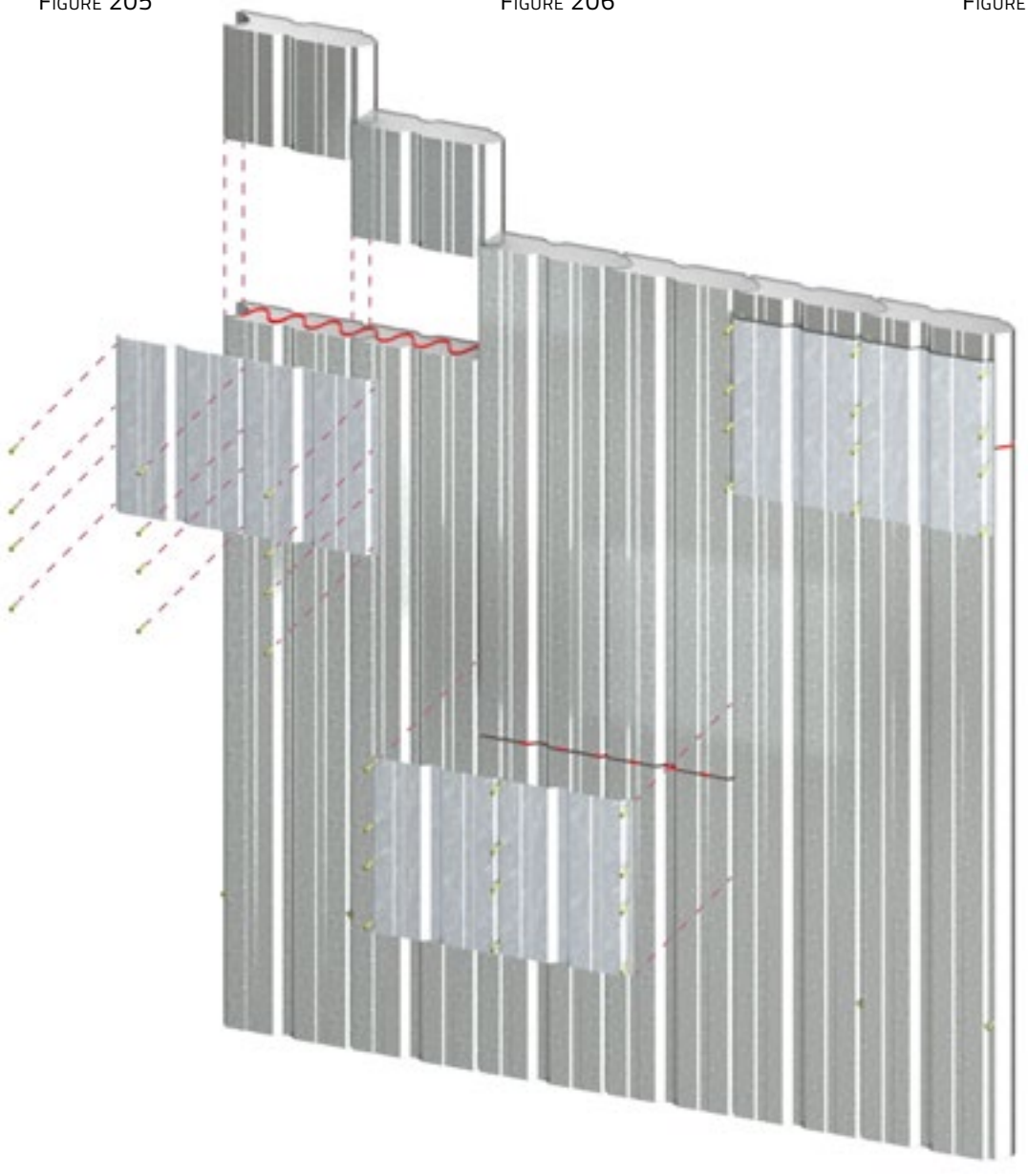


FIGURE 208 [1]

1. Exova Warringtonfire - Report No. 21622

TWO PANEL BUTT JOINT

This application can be used in the scenario where panels have been ordered too short or when using leftover stock. It also allows the use of short panels where site access is limited.

TWO PANELS

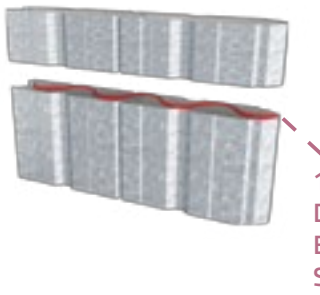


FIGURE 209 [1]

FIGURE 210 [1]

FIGURE 211 [1]

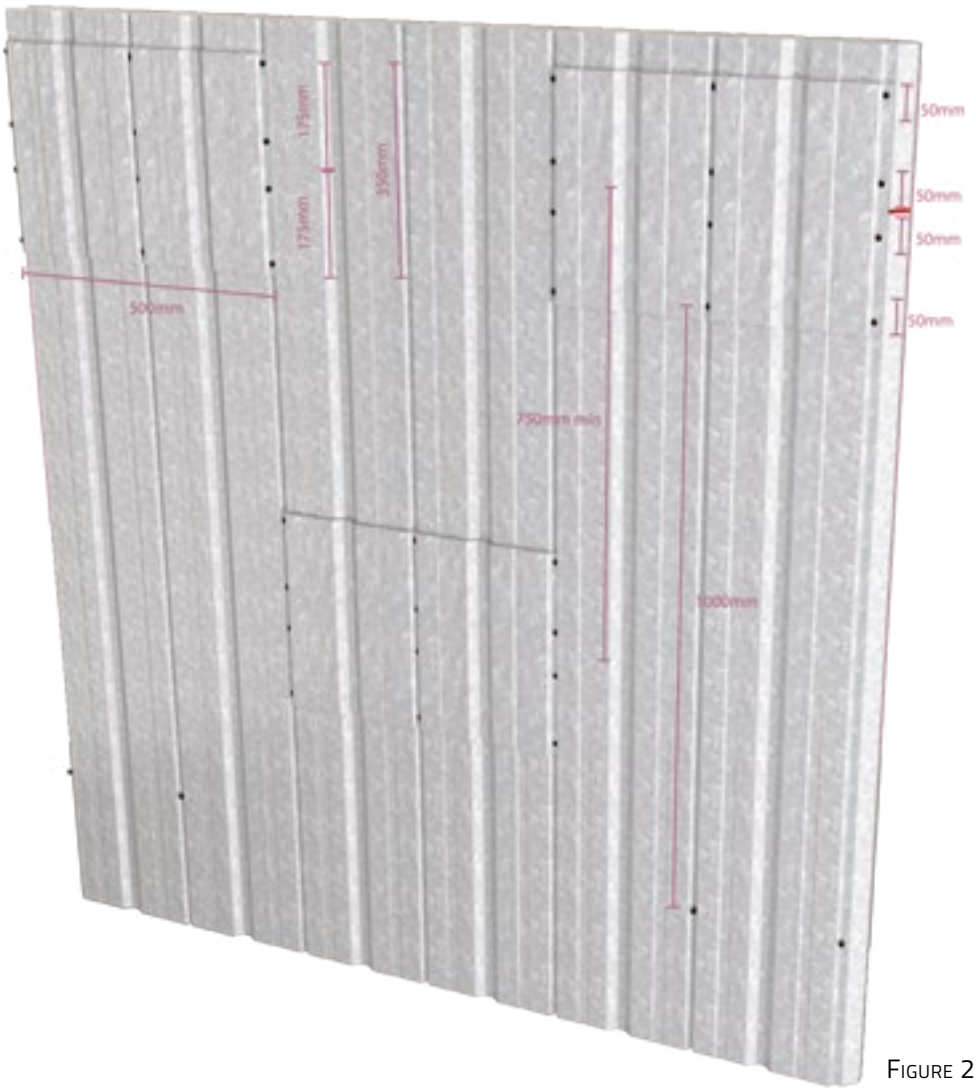


FIGURE 212 [1]

BUTT JOINT
STAGGERED ARRANGEMENT

1. Exova Warringtonfire - Report No. 21622

External Walls & Façades

SPEEDPANEL® EXTERNAL WALL VARIATIONS

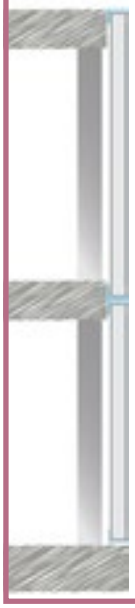
There are three different ways to install Speedpanel® as an external wall. Diagrams below illustrate these different systems.

VERTICAL WITH FAÇADE SUBSTRATE

- Speedpanel® is not the finished façade element.
- Requires façade substrate subject to the engineer specification.
- Can be installed in unlimited lengths.
- Requires a connection to the structure at 6.0m maximum, vertically.

FIGURE 213

VERTICAL STACK



- Speedpanel® is the finished façade element.
- Recommended when building access is from one side only.
- Can be installed in unlimited lengths.
- Requires a connection to the structure at 6.0m maximum, vertically.

*Speedpanel® can have its colour matched to the steel.

FIGURE 214

HORIZONTAL STACK

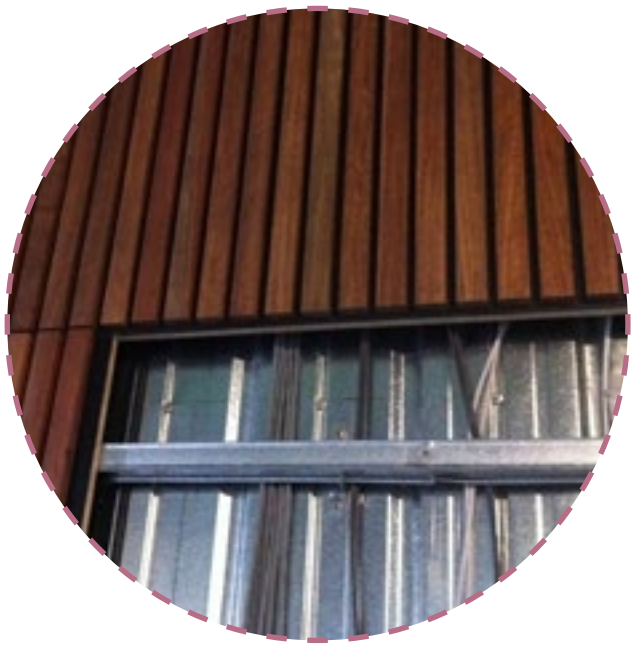
- Speedpanel® is the finished façade element.
- Recommended for tall buildings.
- Can be installed in unlimited heights.
- Requires a connection to the structure at 4.5m maximum, horizontally.

*Speedpanel® can have its colour matched to the steel.

FIGURE 215

SPEEDPANEL® FAÇADE SUBSTRATE

Façade systems can be fixed to Speedpanel® by using top hat sections, for more information regarding specifications and engineering limitations contact our office on +61 3 9724 6888.



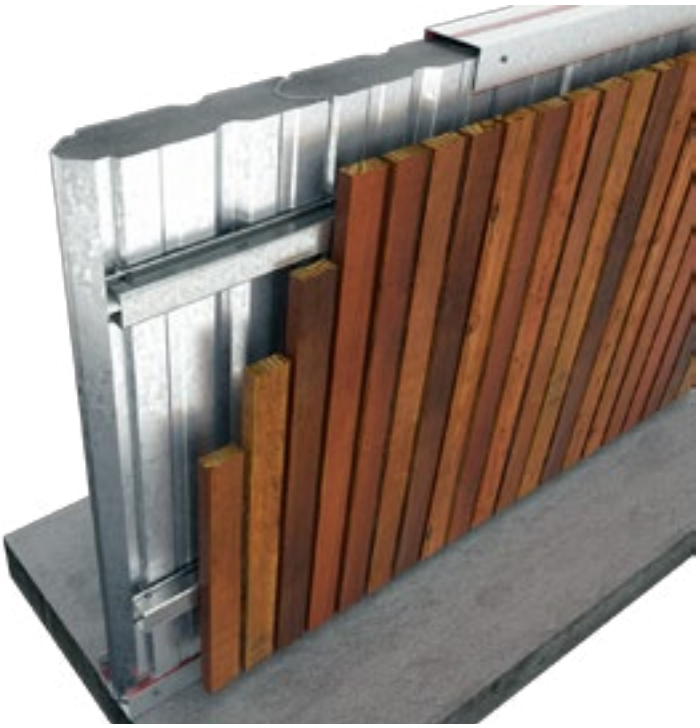


FIGURE 216

SPEEDPANEL® VERTICAL STACK MID-CONNECTION WALL DETAIL

The detail and picture below illustrates the middle connection detail of the Speedpanel® external wall. Hot dipped galvanised C-track with weep-holes and Z-Under flashing is used for water proofing purposes. A structural steel angle must be used as a connection of the Speedpanel® to the structure, the size and fixing of this steel angle should be specified by the structural engineer.

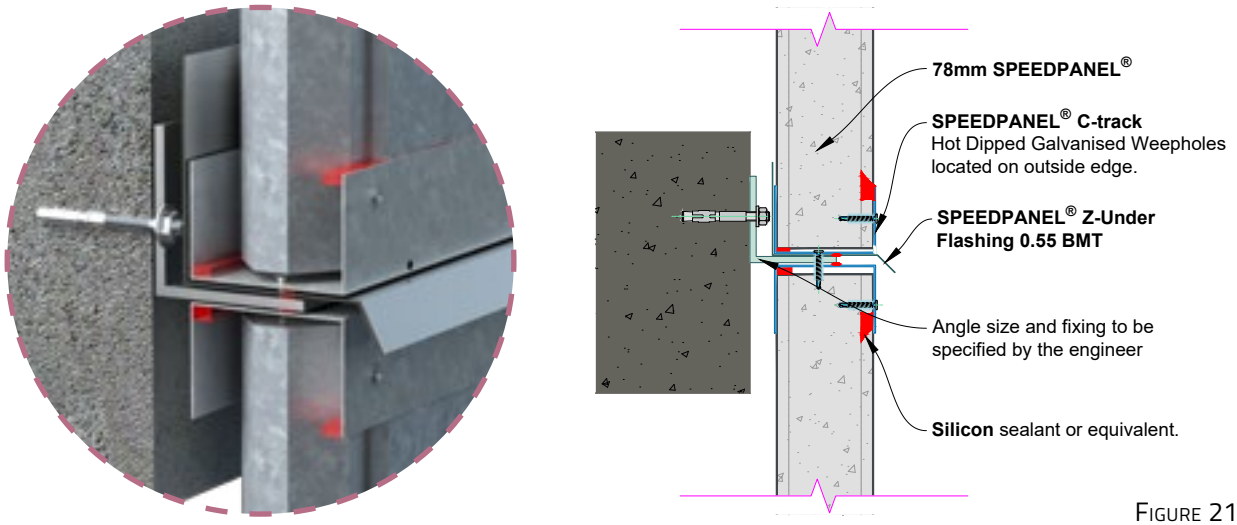


FIGURE 217

SPEEDPANEL® HORIZONTAL AND VERTICAL STACK BASE DETAIL

Below are the base details of the vertical stack and horizontal stack systems.

VERTICAL STACK BASE DETAIL

The detail and picture on right illustrates the base detail of the Speedpanel® external wall. Hot dipped galvanised C-track with weep-holes and Z-Under flashing is used for water proofing purposes.

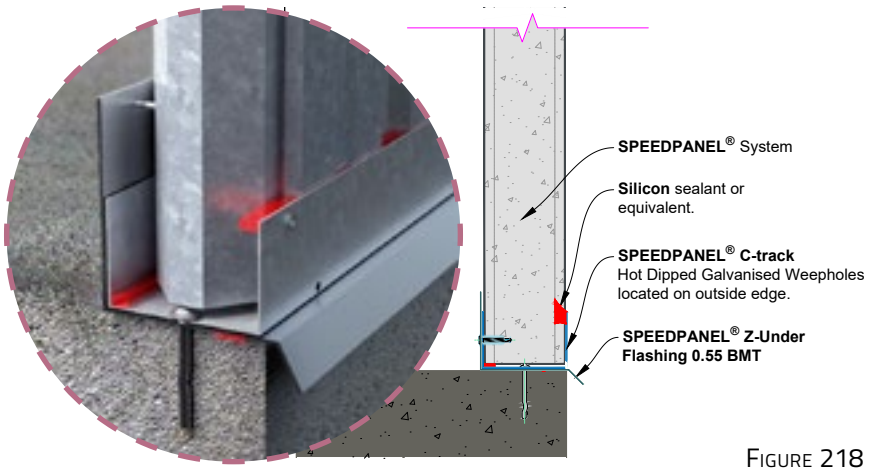
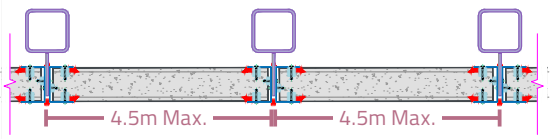


FIGURE 218

HORIZONTAL STACK BASE DETAIL

The detail and picture on right illustrates the base detail of the Speedpanel® external wall. Speedpanel® flashing cover external joint (0.55mm BMT) is used for water proofing purposes.

*Note that Horizontal Speedpanel® System must be connected to a vertical structural support every 4.5m Max.



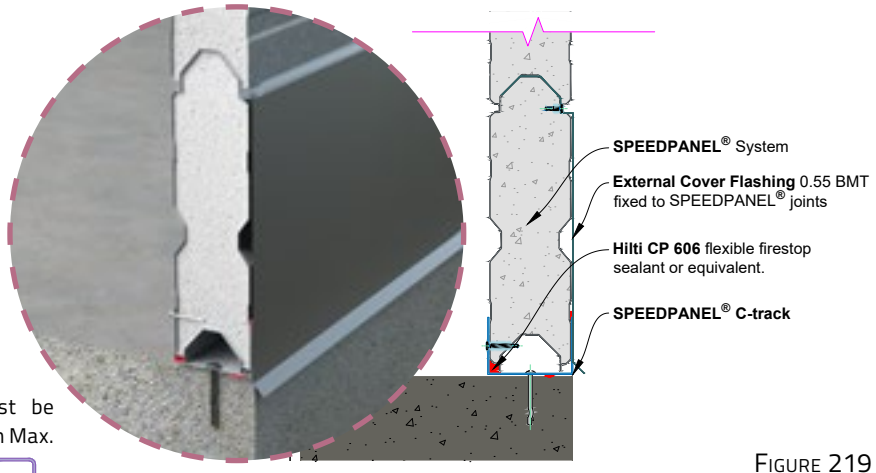


FIGURE 219

*Note that Steel must be protected if fire protection from either side is required.

Car Parks

SPEEDPANEL® CAR PARK WALL VARIATIONS FOR IMPACT PROTECTION

There are two different ways to install Speedpanel® as a car park wall:

- Speedpanel® slab to slab wall with wheel stops (Figure 220)
- Speedpanel® installed over 1.0m height block-work without wheel stops (Figure 221)

SPEEDPANEL® WALL WITH WHEEL STOP

FIGURE 220

SPEEDPANEL® WALL WITH CORE FILLED BLOCK-WORK

FIGURE 221

Intertenancy Wall Systems

SPEEDPANEL® INTERTENANCY WALL SYSTEMS

One of the main advantages of the Speedpanel® Intertenancy Systems in terms of acoustic treatment is that there is no need to have plasterboard all the way up to the concrete soffit, as the plasterboard can be stopped at ceiling line (Figure 222). In addition to this there is no need to have fire boxes behind GPOs as the Speedpanel® wall is the fire barrier element (Figure 223). The detail and picture below will illustrate these factors.

Figure 222

As Speedpanel® is the fire and acoustic barrier element in the wall system, no extra treatment is needed for small penetrations such as GPOs, light switches, etc. In the case of installing GPO, simply cut the plasterboard and install the standard GPO in desired location. Some advantages of the Speedpanel® System compared to the other fire and acoustic systems are:

- No fire-rated protection for GPOs
- No boxing around plasterboard penetrations
- No fire-rated sealant needed to seal the penetrations on plasterboard
- Small holes in plasterboard will not effect acoustic performance
- Holes in plasterboard will not effect the fire rating performance of the system regardless of the size

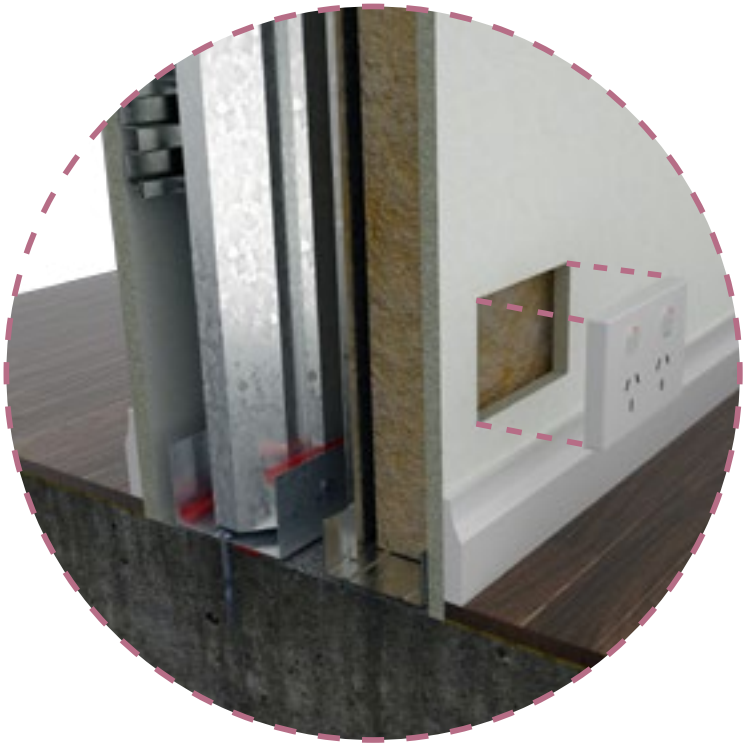


Figure 223

The stud wall systems are separate to the Speedpanel® fire-rated system and are required to be installed as per the manufacturer's specifications.

03

SPEEDPANEL®

ACOUSTIC SYSTEMS

3.1 THE NEW 'SPFT031' 51mm INTERTENANCY SYSTEM

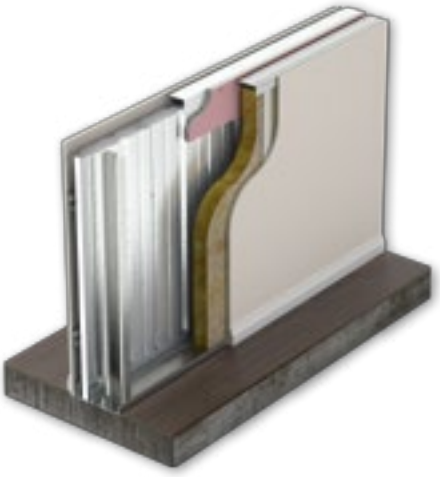
SPEEDPANEL® SYSTEM - SPFT031

REPORT NO.	FRL	DnT,w + Ctr	THICKNESS
Acousticworks 2016255 R23C - Test 24	-/120/90 (up to 3.0m spans)	50	187mm

REPORT NO.	FRL	DnT,w + Ctr	THICKNESS
Acousticworks 2016255 R24C - Test 25	-/120/90 (up to 3.0m spans)	48	187mm

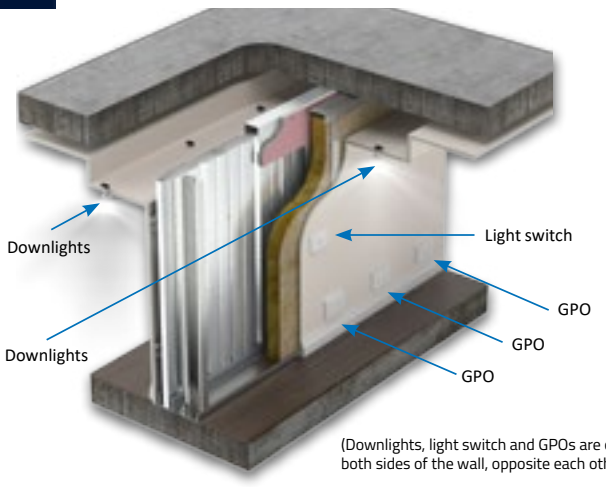
51

Traditional testing method



51

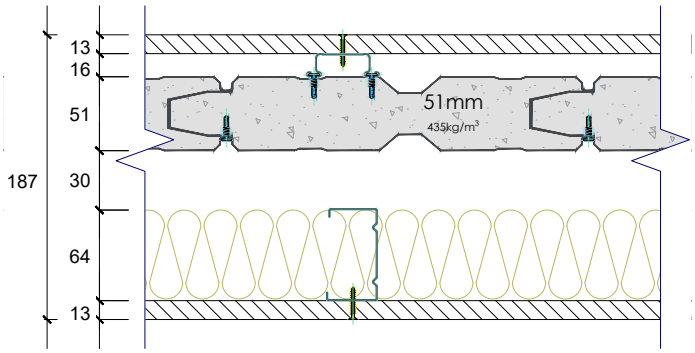
Testing method with service penetrations through plasterboard



(Downlights, light switch and GPOs are on both sides of the wall, opposite each other)

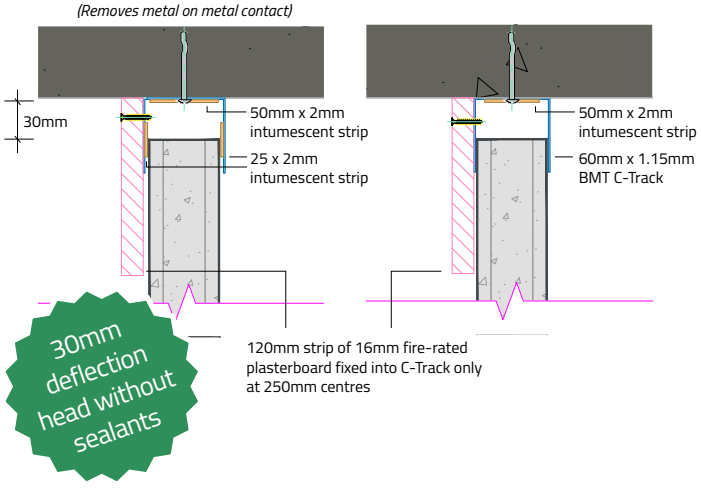
SYSTEM COMPOSITION

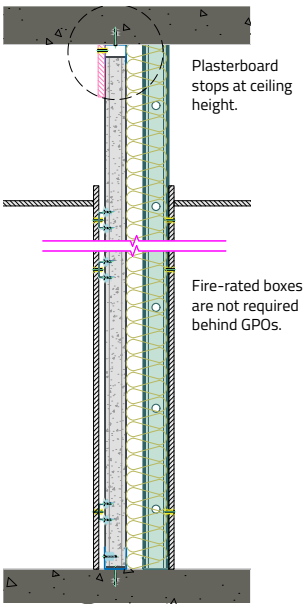
- 13mm standard plasterboard
- 16mm furring channel
- 51mm Speedpanel® 435kg/m³ density
- 30mm air gap
- 100mm 14kg/m³ Glasswool insulation
- 64mm steel stud
- 13mm standard plasterboard

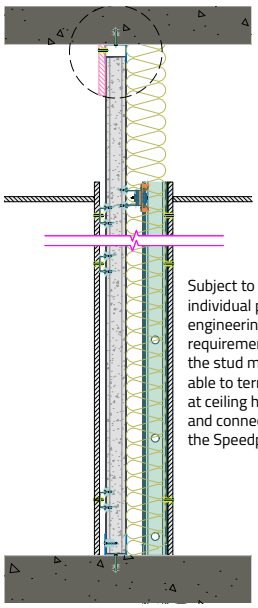


Head Detail Option 1 — Head Detail Option 2 →

(Removes metal on metal contact)



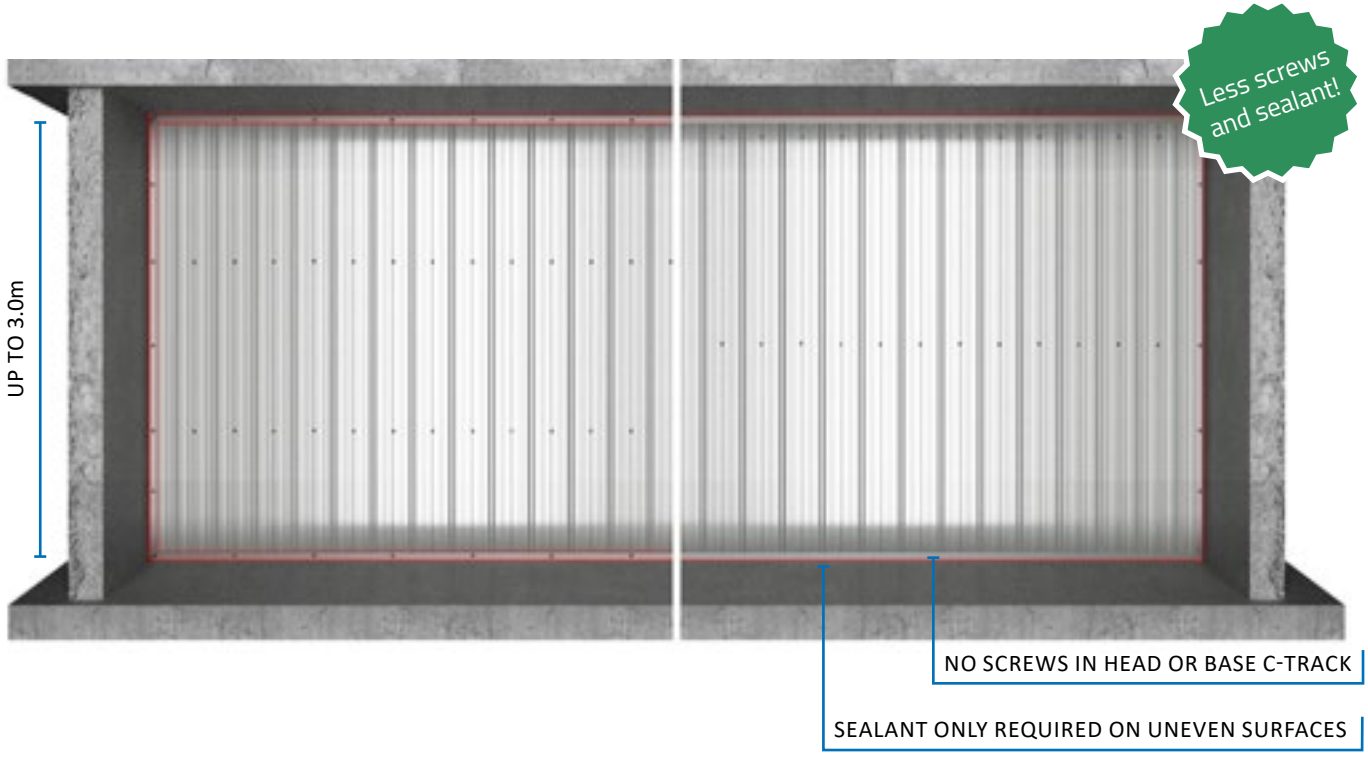




*Note: DnT,w is tested in field conditions, and is equivalent to an Rw rating tested in laboratory conditions.

Note: SPFT031 is a unique Speedpanel® system and therefore the information supplied on SPFT031 is not relevant to the remaining Speedpanel® systems shown in this guide.

TRADITIONAL SPEEDPANEL® SYSTEMS SCREWS & CAULKING METHODS *VS* SPEEDPANEL® 187mm INTERTENANCY SYSTEM SPFT031



The right choice

SPEEDPANEL® 187mm INTERTENANCY SYSTEM SPFT031	
Caulking savings	Other benefits:
Labour: 15mins per m² saving Material: $8-$11 per m² saving No sealant required if surfaces are flat	▪ No mess ▪ No deterioration over time ▪ No risk of forgetting to seal areas ▪ No breaking of sealant with movement and deflection ▪ Time and material savings
Screw savings	Other benefits:
Labour: 2mins per m² Material: $1-2 per m² Less screws	▪ 30mm deflection head for increased building movement ▪ Time and material savings

Caulking and screw savings only applicable when incorporated into a 187mm intertenancy system, as shown on the previous page.

'Traditional testing method' tested by Acousticworks. Verification testing carried out by Renzo Tonin Ron Rumble, exceeded BCA field test requirements with a DnT,w+Ctr 48.
'Testing method with service penetrations through plasterboard' tested by Acousticworks. Verification testing carried out by Renzo Tonin Ron Rumble, exceeded BCA field test requirements with a DnT,w+Ctr 47.

3.2 51mm SPEEDPANEL® ACOUSTIC SYSTEMS

SPEEDPANEL® SYSTEM - SP51004

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 14-187/PD	-/60/60	33	-1	-3	Rw+Ctr 30	51mm

51

SYSTEM COMPOSITION

- 51mm Speedpanel® 450kg/m³ density

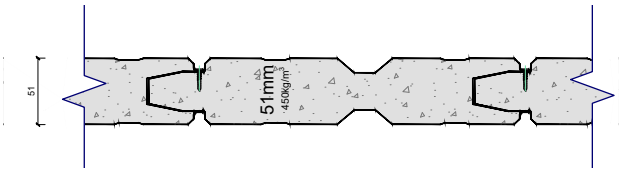
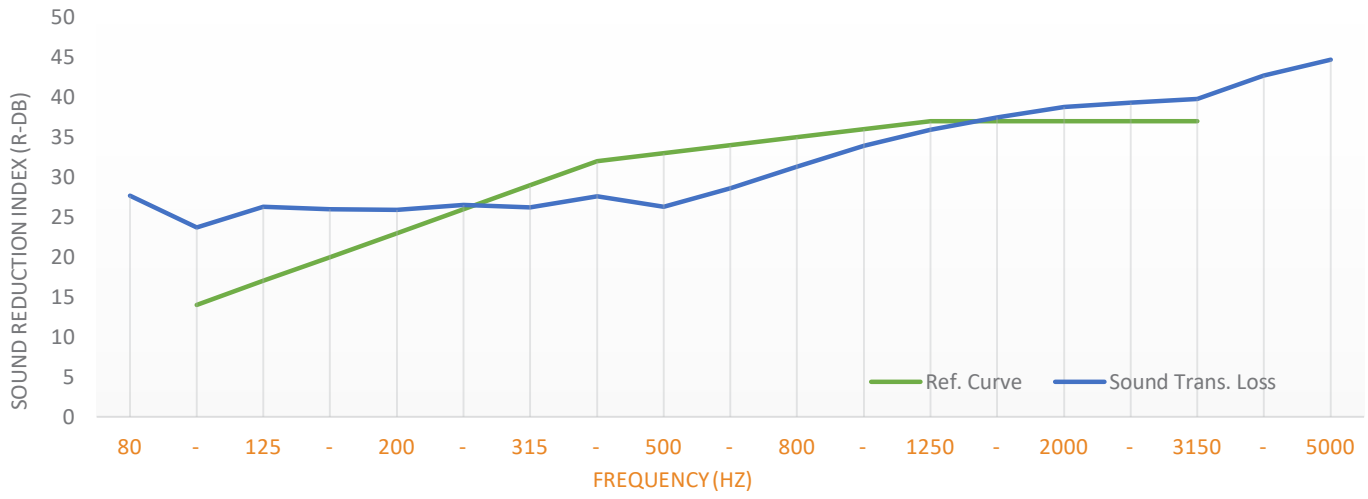


FIGURE 224

FREQUENCY (HZ)	Rw33 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	27.7
100	14	23.7
125	17	26.3
160	20	26.0
200	23	25.9
250	26	26.5
315	29	26.2
400	32	27.6
500	33	26.3
630	34	28.6
800	35	31.3
1000	36	33.9
1250	37	35.9
1600	37	37.5
2000	37	38.8
2500	37	39.3
3150	37	39.8
4000	-	42.7
5000	-	44.7

FIGURE 225



SPEEDPANEL® SYSTEM - SP51019

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 15-013/PD	-/60/60	59	-3	-9	Rw+Ctr 50	158mm

51

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 10mm steel batten
- 51mm Speedpanel® 950kg/m³ density
- 20mm air gap
- 51mm steel stud
- 75mm x 24kg/m³ Glasswool insulation
- 13mm standard plasterboard

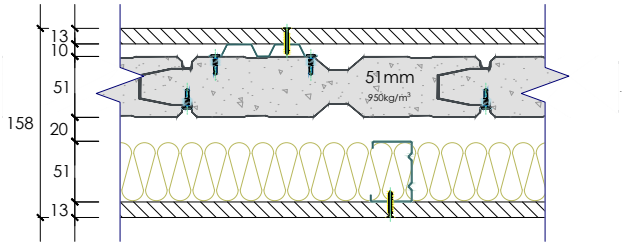
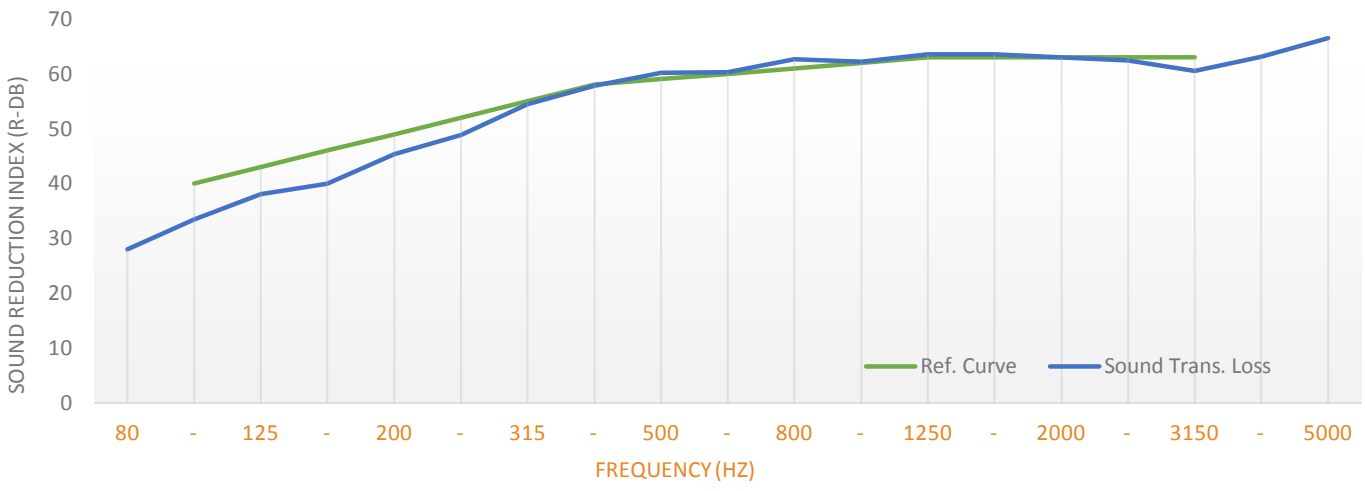


FIGURE 226

FREQUENCY (HZ)	Rw59 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	28.0
100	40	33.4
125	43	38.1
160	46	40.0
200	49	45.3
250	52	48.8
315	55	54.5
400	58	57.8
500	59	60.2
630	60	60.3
800	61	62.7
1000	62	62.2
1250	63	63.5
1600	63	63.5
2000	63	63.0
2500	63	62.4
3150	63	60.5
4000	-	63.1
5000	-	66.5

FIGURE 227



SPEEDPANEL® SYSTEM - SP51008

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 14-181/PD	-/60/60	56	-2	-6	Rw+Ctr 50	185mm

51

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 10mm batten
- 51mm Speedpanel® 450kg/m³ density
- 34mm air gap
- 64mm steel stud
- 2 x 50mm x 24kg/m³ Glasswool insulation
- 13mm standard plasterboard

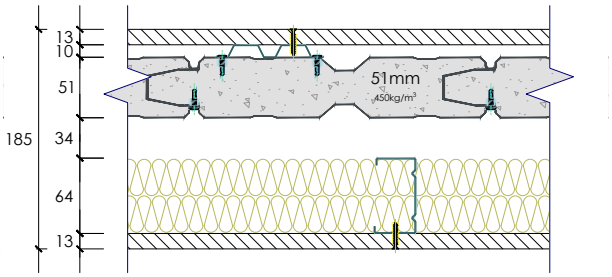


FIGURE 228

FIGURE 229

SPEEDPANEL® SYSTEM - SP51010

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 14-193/JW	-/60/60	56	-2	-6	Rw+Ctr 50	185mm

51

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 10mm steel batten
- 51mm Speedpanel® 450kg/m³ density
- 34mm air gap
- 64mm steel stud
- 2 x 50mm x 24kg/m³ Glasswool insulation
- 13mm standard plasterboard

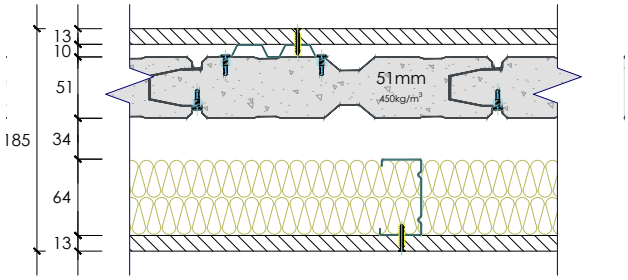


FIGURE 230

This system incorporates these items on each sides of the wall:

- 3 GPO
- 1 light switch
- 2 down lights
- Bulkhead with 150 x 100mm opening

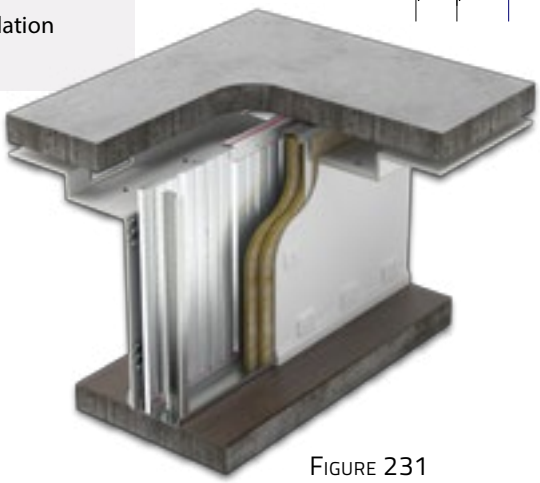


FIGURE 231

SPEEDPANEL® SYSTEM - SPFT026

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R19C19	-/60/60	56	-9	Dntw+Ctr 47	164mm

51

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 51mm Speedpanel® 600kg/m³ density
- 20mm air gap
- 75mm 14kg/m³ polyester insulation
- 51mm steel stud
- 13mm standard plasterboard

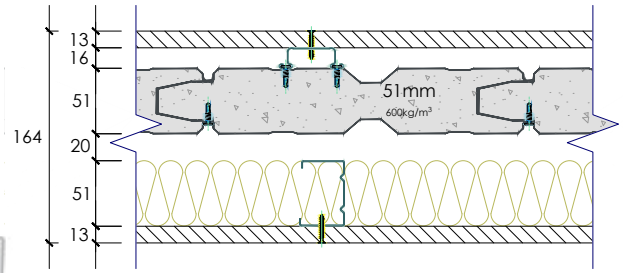


FIGURE 232

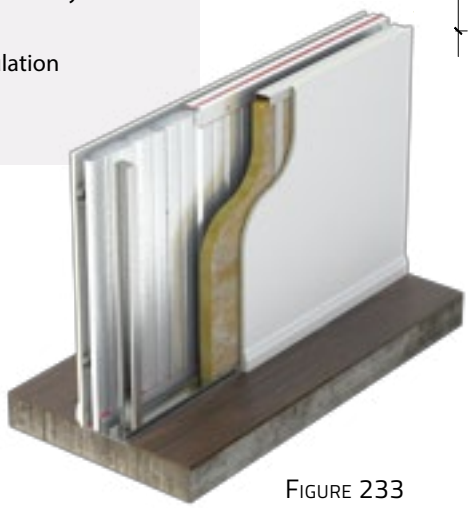


FIGURE 233

SPEEDPANEL® SYSTEM - SP51002

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/11-121/PD	-/60/60	57	-3	-7	Rw+Ctr 50	187mm

51

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 51mm Speedpanel® 750kg/m³ density
- 30mm air gap
- 100mm x 32kg/m³ polyester insulation
- 64mm steel stud
- 13mm standard plasterboard

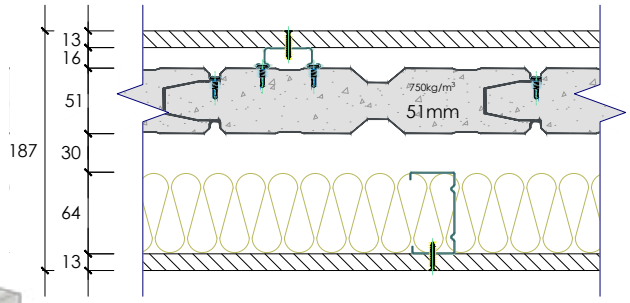


FIGURE 234

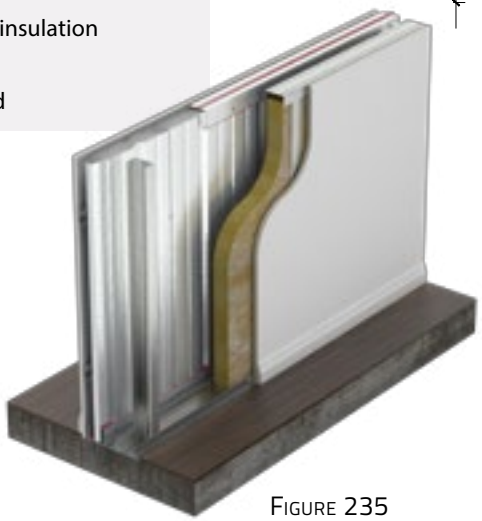


FIGURE 235

SPEEDPANEL® SYSTEM - SPFT018

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R08C11	-/60/60	53	-11	Dntw+Ctr 42	133mm

51

Corridors

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 51mm Speedpanel® 435kg/m³ density
- 50mm 14kg/m³ polyester insulation
- 28mm furring channel on clips to create 40mm cavity
- 13mm standard plasterboard

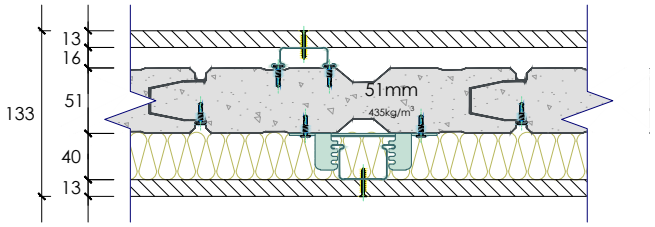


Figure 236

SPEEDPANEL® SYSTEM - SP51035

TEST NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 15-129	-/60/60	52	-5	-12	Rw+Ctr 40	150mm

51

Corridors

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 28mm furring channel
- 51mm Speedpanel® 600kg/m³ density
- 28mm furring channel on clips to create 45mm cavity
- 50mm 14kg/m³ Glasswool insulation
- 13mm standard plasterboard

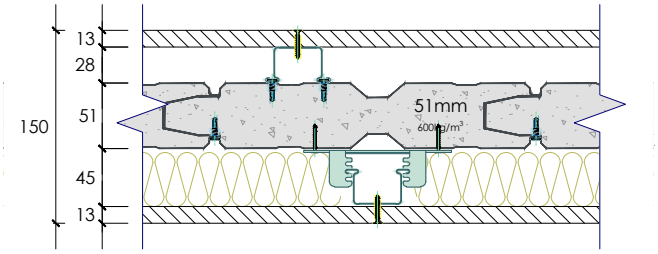


Figure 237

SPEEDPANEL® SYSTEM - SP51033

TEST NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 15-042A/jw	-/60/60	50	-3	-9	Rw+Ctr 41	121mm

51

Intertenancy

SYSTEM COMPOSITION

- 13mm wet area plasterboard
- 16mm steel batten
- 51mm Speedpanel® 750kg/m³ density
- 25mm x 32kg/m³ polyester insulation
- 28mm furring channel
- 13mm standard plasterboard

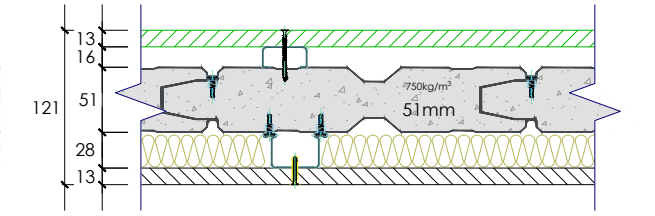


Figure 238

SPEEDPANEL® SYSTEM - SP51005

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 14-188/JW	-/60/60	54	-3	-10	Rw+Ctr 44	135mm

51

SHAFTS & RISERS

SYSTEM COMPOSITION

- 51mm Speedpanel® 450kg/m³ density
- 20mm air gap
- 51mm steel stud
- 75mm 24kg/m³ Glasswool insulation
- 13mm standard plasterboard

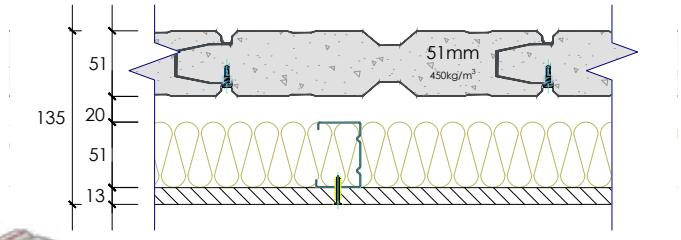


FIGURE 239

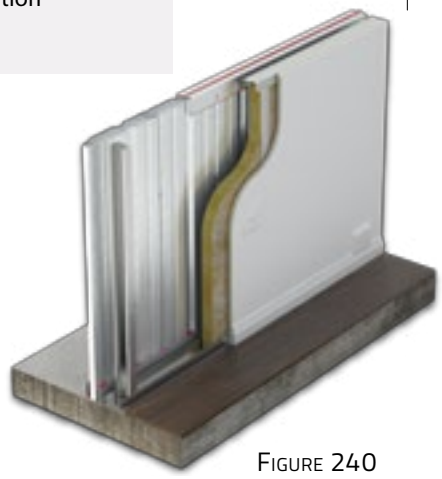


FIGURE 240

SPEEDPANEL® SYSTEM - SPFT028

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R21C	-/60/60	48	-9	Dntw+Ctr 39	80mm

51

SHAFTS & RISERS

SYSTEM COMPOSITION

- 51mm Speedpanel® 600kg/m³ density
- 16mm furring channel
- 30mm x 14kg/m³ polyester insulation
- 13mm standard plasterboard

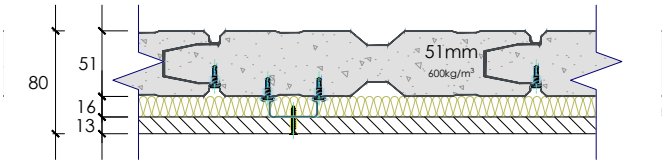


FIGURE 241

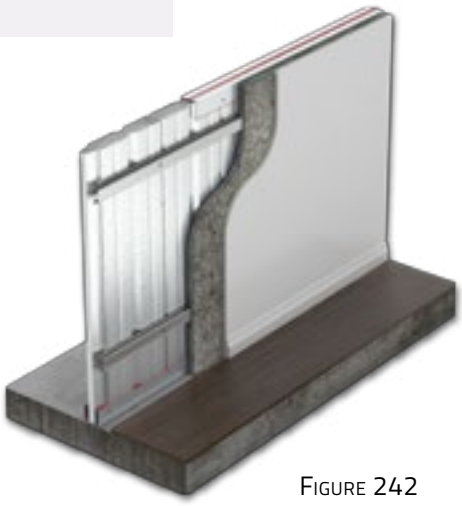


FIGURE 242

3.3 64mm SPEEDPANEL® ACOUSTIC SYSTEMS

SPEEDPANEL® SYSTEM - SP64001

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-115/PD	-/90/90	35	-1	-3	Rw+Ctr 32	64mm

64

INTERTENANCY

SYSTEM COMPOSITION
• 64mm Speedpanel® 500kg/m³ density

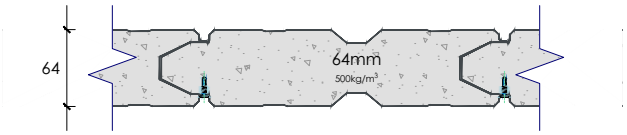
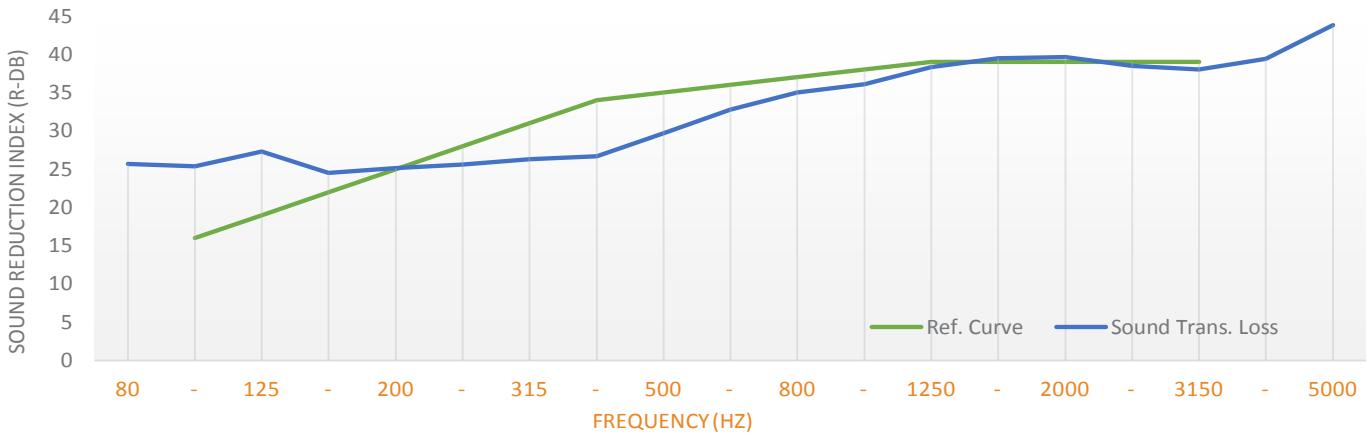


FIGURE 243

FREQUENCY (HZ)	Rw35 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	25.7
100	16	25.4
125	19	27.3
160	22	24.5
200	25	25.1
250	28	25.6
315	31	26.3
400	34	26.7
500	35	29.7
630	36	32.8
800	37	35.0
1000	38	36.1
1250	39	38.3
1600	39	39.5
2000	39	39.6
2500	39	38.5
3150	39	38.0
4000	-	39.4
5000	-	43.8

FIGURE 244



SPEEDPANEL® SYSTEM - SPOP013

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R08C 11	-/90/90	53	-11	Dntw+Ctr 42	146mm

64

CORRIDORS

SYSTEM COMPOSITION
• 13mm standard plasterboard • 16mm furring channel • 64mm Speedpanel® 435kg/m³ density • 28mm furring channel on clips to create 40mm cavity • 50mm 14kg/m³ polyester insulation • 13mm standard plasterboard

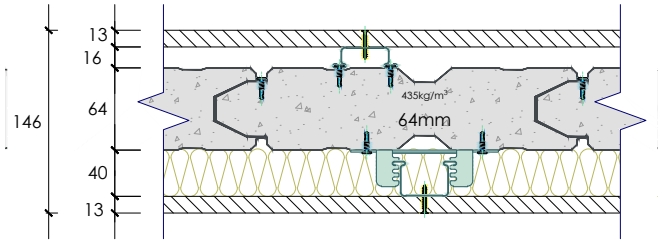


FIGURE 245

SPEEDPANEL® SYSTEM - SPOP006

REPORT NO.	FIRE RATING LEVEL	Rw	Ctr	NET ACOUSTIC RATING	THICKNESS
MARSHALL DAY - Da 003	-/90/90	50	-10	Rw+Ctr 40	141mm

64

CORRIDORS

SYSTEM COMPOSITION
• 13mm standard plasterboard • 13mm furring channel • 64mm Speedpanel® 600kg/m³ density • 28mm furring channel on clip to create 38mm cavity • 35mm 24kg/m³ Glasswool insulation • 13mm standard plasterboard

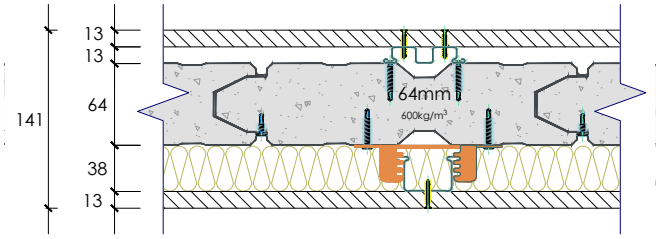


FIGURE 246

SPEEDPANEL® SYSTEM - SPOP017

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R18C 18	-/90/90	49	-10	Dntw+Ctr 39	150mm

64

CORRIDORS

SYSTEM COMPOSITION
• 13mm standard plasterboard • 28mm furring channel on clips to create 30mm cavity • 64mm Speedpanel® 600kg/m³ density • 50mm x 14kg/m³ polyester insulation • 28mm furring channel on clips to create 30mm cavity • 13mm standard plasterboard

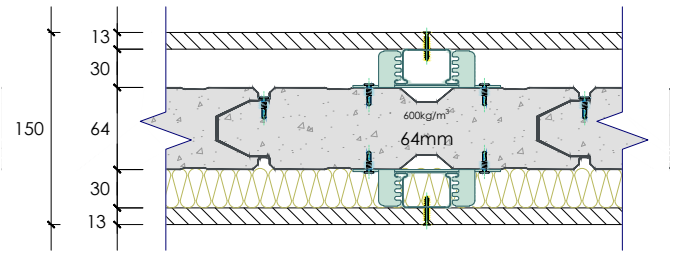


FIGURE 247

SPEEDPANEL® SYSTEM - SPOP016

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R21C 21	-/90/90	48	-9	Dntw+Ctr 39	93mm

64

SHAFTS & RISERS

SYSTEM COMPOSITION

- 64mm Speedpanel® 600kg/m³ density
- 16mm furring channel
- 30mm 14kg/m³ polyester insulation
- 13mm standard plasterboard

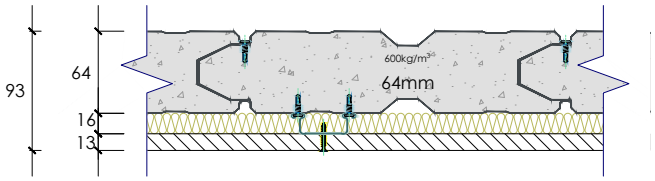


FIGURE 248

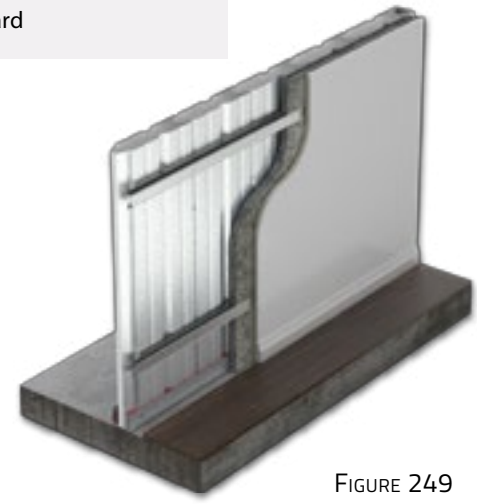


FIGURE 249

SPEEDPANEL® SYSTEM - SPOP008

REPORT NO.	FIRE RATING LEVEL	Rw	Ctr	NET ACOUSTIC RATING	THICKNESS
MARSHALL DAY - Da 003	-/90/90	50	-9	Rw+Ctr 41	141mm

64

SHAFTS & RISERS

SYSTEM COMPOSITION

- 64mm Speedpanel® 600kg/m³ density
- 64mm steel stud or 28mm furring channel on clip
- 50mm 14kg/m³ Glasswool Insulation
- 13mm standard plasterboard

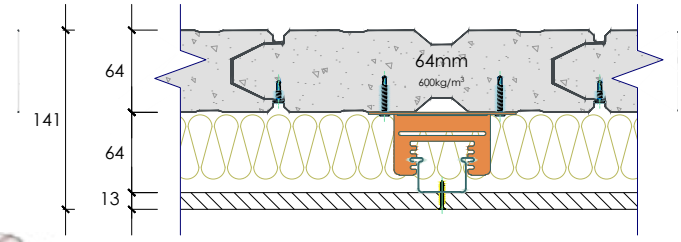


FIGURE 250

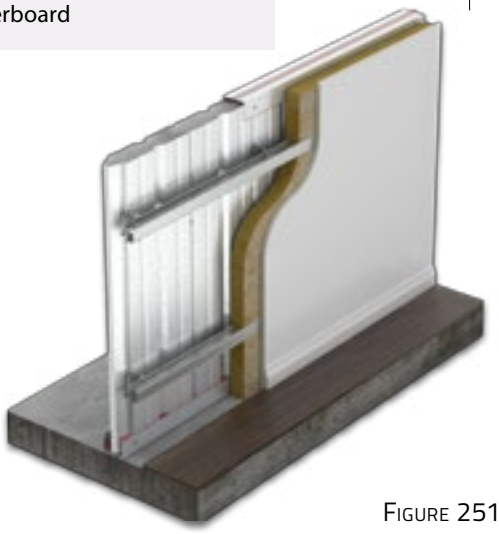


FIGURE 251

SPEEDPANEL® SYSTEM - SP64005

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-123/PD	-/90/90	59	-3	-9	Rw+Ctr 50	177mm

64

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm steel batten
- 64mm Speedpanel® 750kg/m³ density
- 50mm x 15kg/m³ Glasswool insulation
- 20mm air gap
- 51mm steel stud
- 13mm wet area plasterboard

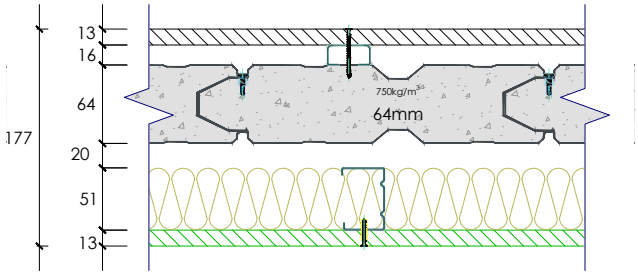


FIGURE 252

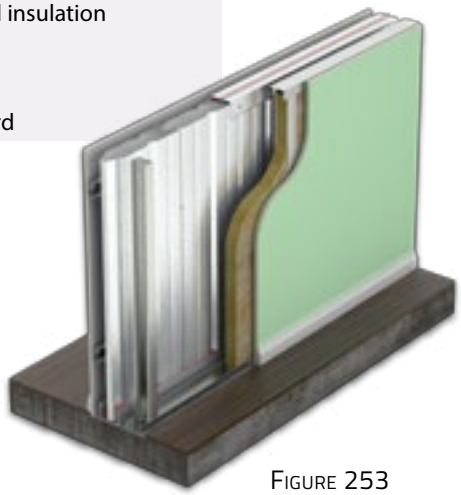


FIGURE 253

SPEEDPANEL® SYSTEM - SP64006

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-124/PD	-/90/90	59	-2	-8	Rw+Ctr 51	177mm

64

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm steel batten
- 64mm Speedpanel® 750kg/m³ density
- 50mm x 15kg/m³ Glasswool insulation
- 20mm air gap
- 51mm steel stud
- 13mm wet area plasterboard

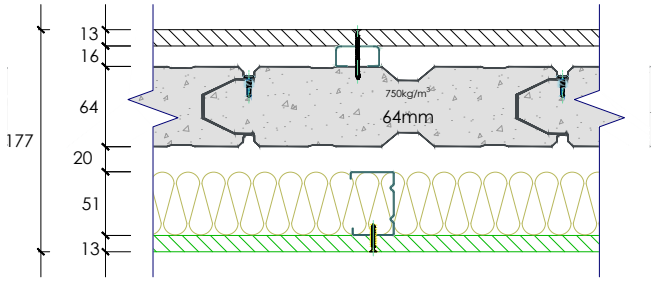


FIGURE 254

This system incorporates these items on each sides of the wall:

- 3 GPO
- 1 light switch
- 2 down lights
- Bulkhead with 150 x 100mm opening

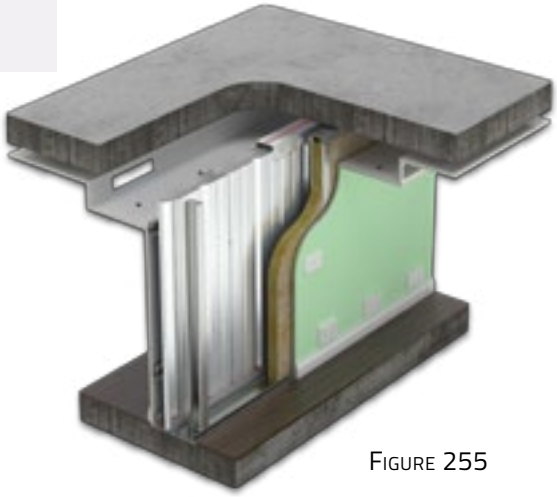


FIGURE 255

SPEEDPANEL® SYSTEM - SPOP014

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R09C 12	-/90/90	59	-10	Dntw+Ctr 49	210mm

64

INTERTENANCY

SYSTEM COMPOSITION
• 13mm standard plasterboard • 16mm furring channel • 64mm Speedpanel® 435kg/m³ density • 40mm air gap • 64mm steel stud • 100mm 14kg/m³ polyester insulation • 13mm standard plasterboard

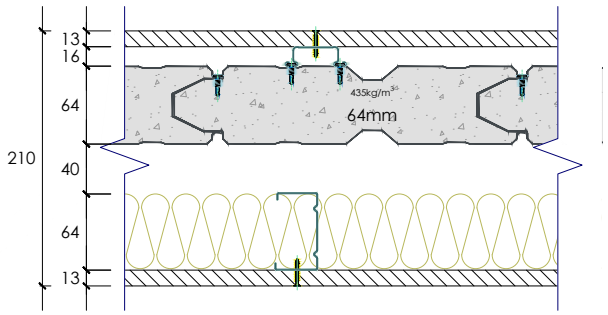


FIGURE 256

FIGURE 257

SPEEDPANEL® SYSTEM - SPOP015

REPORT NO.	FIRE RATING LEVEL	DnT,w	Ctr	NET ACOUSTIC RATING	THICKNESS
Acousticworks 2016255 R19C 19	-/90/90	56	-9	Dntw+Ctr 47	177mm

64

INTERTENANCY

SYSTEM COMPOSITION
• 13mm standard plasterboard • 16mm furring channel • 64mm Speedpanel® 600kg/m³ density • 20mm air gap • 51mm steel stud • 75mm 14kg/m³ polyester insulation • 13mm standard plasterboard

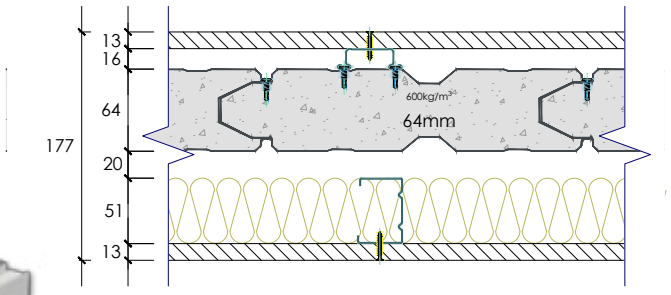


FIGURE 258

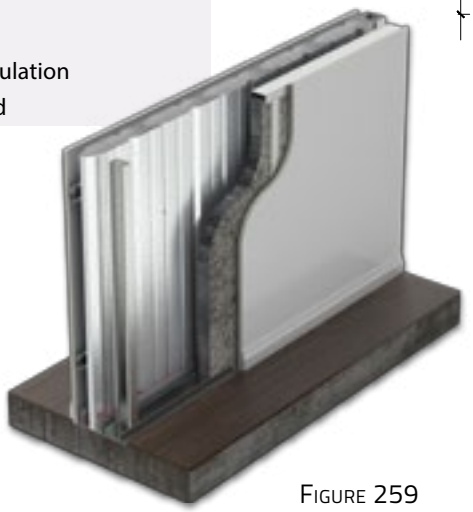


FIGURE 259

3.4 78mm SPEEDPANEL® ACOUSTIC SYSTEMS

SPEEDPANEL® SYSTEM - SP78003

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/837/KC	-/120/120	40	-2	-6	Rw+Ctr 34	78mm

78

SYSTEM COMPOSITION

- 78mm Speedpanel® 435kg/m³ density

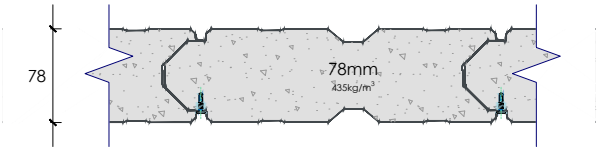
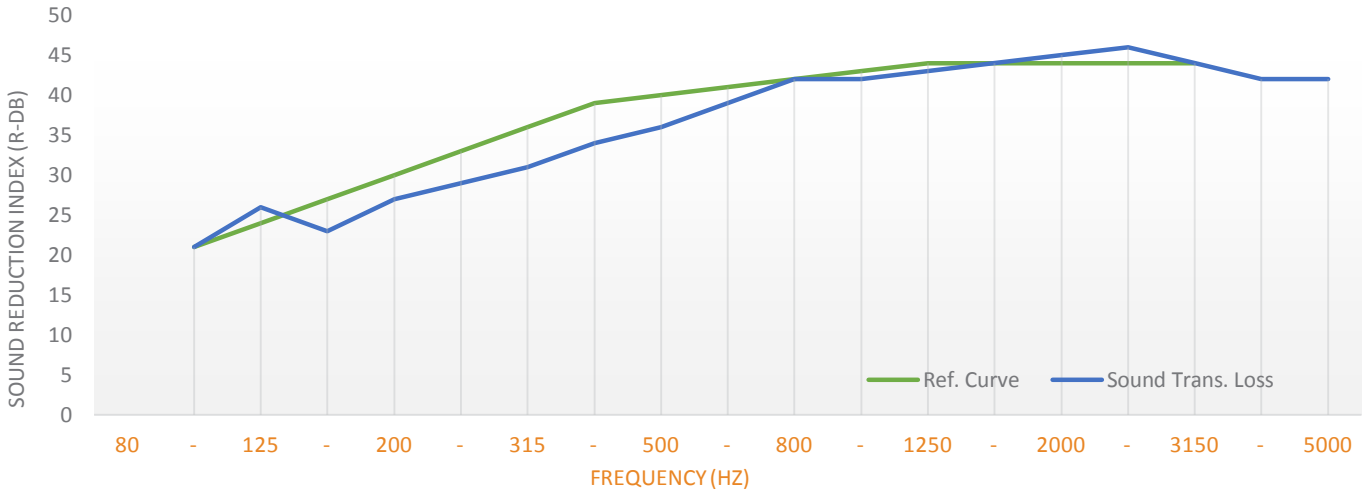


FIGURE 260

FREQUENCY (HZ)	Rw40 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	-
100	21	21
125	24	26
160	27	23
200	30	27
250	33	29
315	36	31
400	39	34
500	40	36
630	41	39
800	42	42
1000	43	42
1250	44	43
1600	44	44
2000	44	45
2500	44	46
3150	44	44
4000	-	42
5000	-	42

FIGURE 261



SPEEDPANEL® SYSTEM - SP78081

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/06-017/JW	-/120/120	62	-7	-15	Rw+Ctr 47	223mm

78

External Walls

SYSTEM COMPOSITION

- Dulux Acra-Tex 955 Acra-Shield
- Joints Dulux-Tex Textured Coating 951 Tuscany Coarse
- 4mm Dulux Acra-Tex Flush Base 500/13 Fast Coat
- 9mm Comtex Facade System - James Harding
- 35mm top hat section
- 78mm Speedpanel® 435kg/m³ density
- 20mm air gap
- 65mm Autex insulation
- 64mm steel stud
- 13mm standard plasterboard

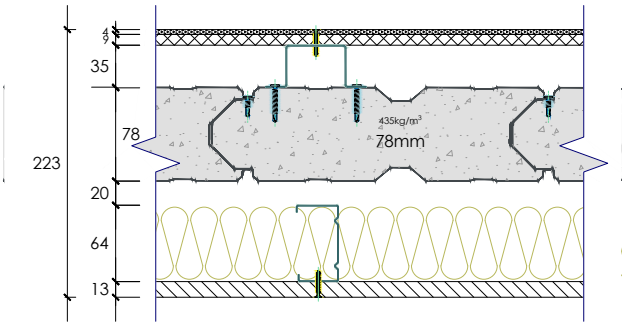
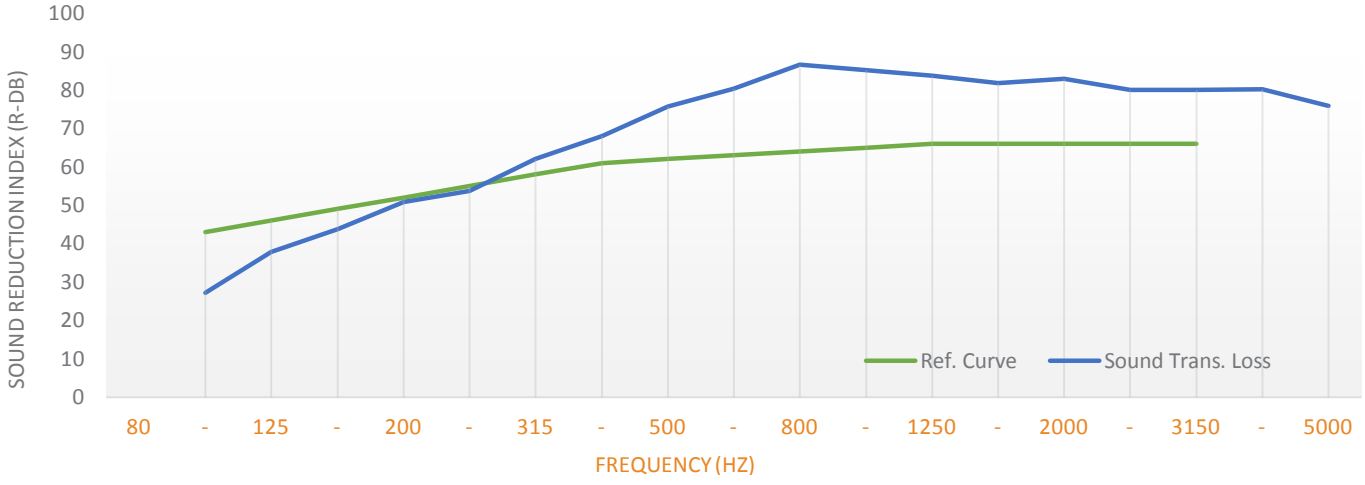


Figure 262

FREQUENCY (HZ)	Rw62 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	-
100	43	27.2
125	46	37.8
160	49	43.8
200	52	50.9
250	55	53.8
315	58	62.0
400	61	68.0
500	62	75.7
630	63	80.4
800	64	86.6
1000	65	≥ 85.1
1250	66	≥ 83.7
1600	66	≥ 81.8
2000	66	≥ 82.9
2500	66	≥ 80.1
3150	66	≥ 80.0
4000	-	≥ 80.2
5000	-	≥ 75.8

Figure 263



SPEEDPANEL® SYSTEM - SP78121

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/11-091/PD	-/120/120	50	-3	-9	Rw+Ctr 41	116mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION

- 78mm Speedpanel® 435kg/m³ density
- 16mm furring channel with clips to create 25mm cavity
- 25mm x 32kg/m³ polyester insulation
- 13mm fire-rated plasterboard

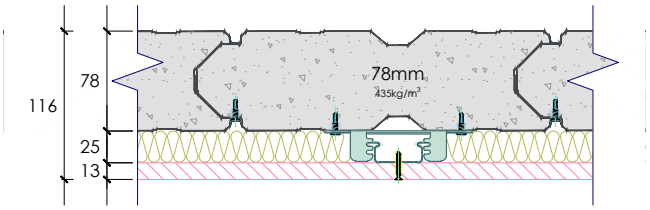


FIGURE 264

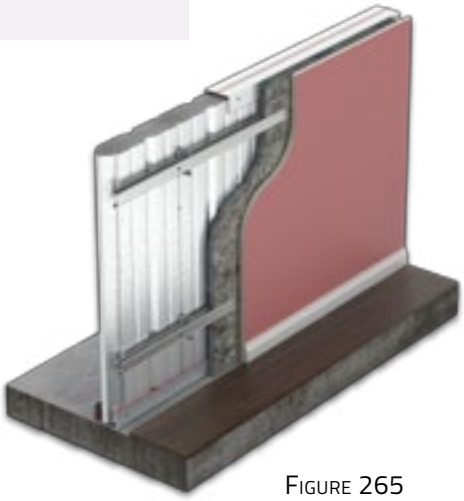


FIGURE 265

SPEEDPANEL® SYSTEM - SP78139

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/11-116B/PD	-/120/120	50	-2	-8	Rw+Ctr 42	19mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION

- 78mm Speedpanel® 600kg/m³ density
- 28mm furring channel
- 25mm x 32kg/m³ polyester insulation
- 13mm standard plasterboard

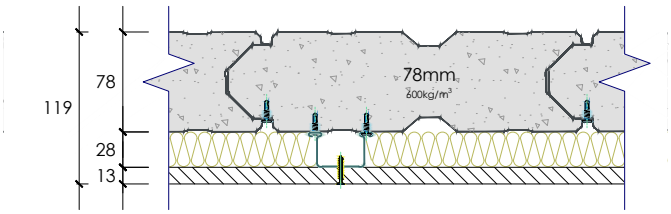


FIGURE 266

FIGURE 267

SPEEDPANEL® SYSTEM - SP78097

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/08-152/JW	-/120/120	58	-2	-7	Rw+Ctr 51	175mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION

- 78mm Speedpanel® 600kg/m³ density
- 20mm air gap
- 75mm x 14kg/m³ polyester insulation
- 64mm steel stud
- 13mm standard plasterboard

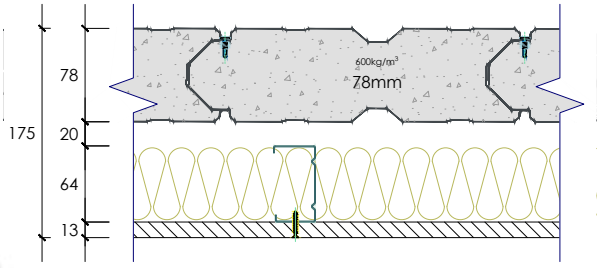


FIGURE 268

FIGURE 269

SPEEDPANEL® SYSTEM - SP78105

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/08-217/PD	-/120/120	62	-2	-5	Rw+Ctr 57	190mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION

- 78mm Speedpanel® 600kg/m³ density
- 32mm air gap
- 100mm x 20kg/m³ polyester insulation
- 64mm steel stud
- 16mm fire-rated plasterboard

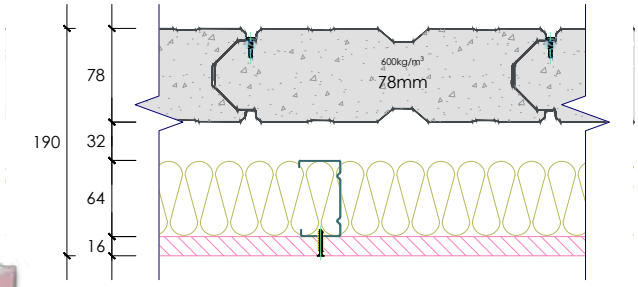


FIGURE 270

FIGURE 271

SPEEDPANEL® SYSTEM - SP78147

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-113/PD	-/120/120	65	-3	-9	Rw+Ctr 56	158mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION
• 78mm Speedpanel® 475kg/m³ density • 20mm air gap • 51mm steel stud • 90mm x 22kg/m³ polyester insulation • 9mm FC sheet

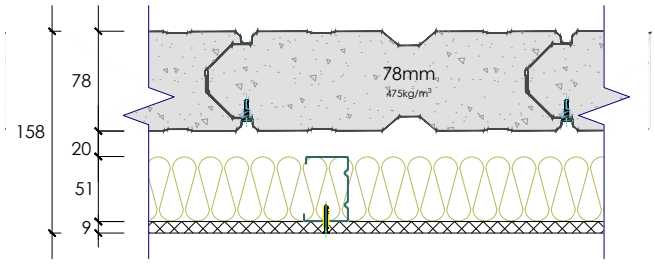


FIGURE 272

SPEEDPANEL® SYSTEM - SP78141

TEST NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-102	-/120/120	40	-1	-4	Rw+Ctr 36	107mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION
• 78mm Speedpanel® 475kg/m³ density • 16mm furring channel • 13mm standard plasterboard

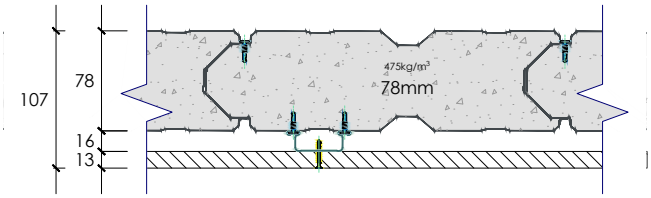


FIGURE 273

SPEEDPANEL® SYSTEM - SP78120

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/11-090/PD	-/120/120	47	-3	-9	Rw+Ctr 38	116mm

78

SHAFTS & RISERS

SYSTEM COMPOSITION
• 78mm Speedpanel® 435kg/m³ density • 16mm furring channel with clips, 25mm total cavity • 25mm x 32kg/m³ insulation • 13mm standard plasterboard

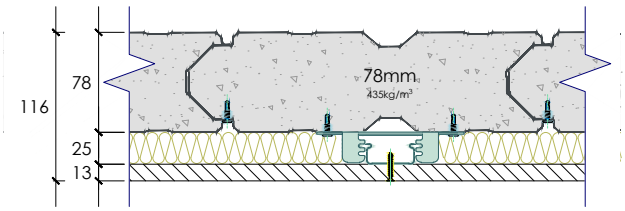


FIGURE 274

SPEEDPANEL® SYSTEM - SP78142

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-103/PD	-/120/120	60	-4	-10	Rw+Ctr 50	191mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 78mm Speedpanel® 475kg/m³ density
- 20mm air gap
- 51mm steel stud
- 90mm x 22kg/m³ Glasswool insulation
- 13mm standard plasterboard

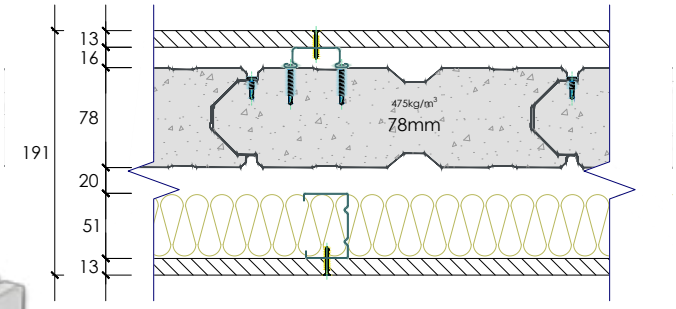


FIGURE 275

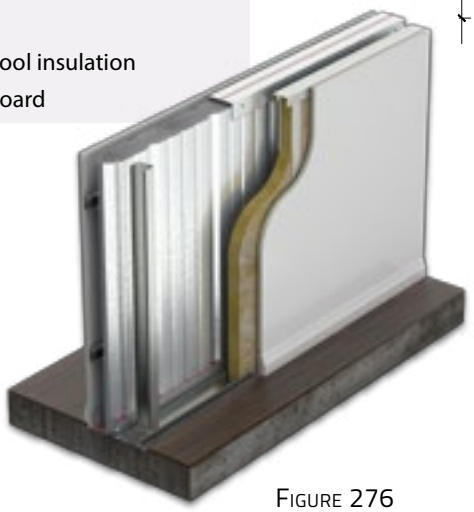


FIGURE 276

SPEEDPANEL® SYSTEM - SP78143

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12-104/PD	-/120/120	59	-3	-9	Rw+Ctr 50	191mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 78mm Speedpanel® 475kg/m³ density
- 20mm air gap
- 51mm steel stud
- 22kg/m³ x 90mm Glasswool insulation
- 13mm standard plasterboard

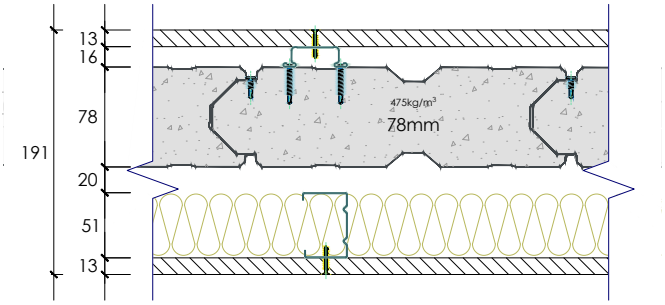


FIGURE 277

This system incorporates these items on each sides of the wall:

- 3 GPO
- 1 light switch
- 2 down lights
- Bulkhead with 150 x 100mm opening

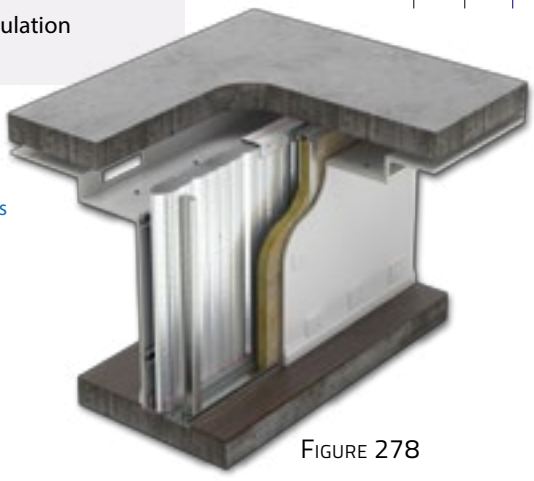


FIGURE 278

SPEEDPANEL® SYSTEM - SP78136

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/11-114/PD	-/120/120	62	-3	-9	Rw+Ctr 53	211mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 13mm furring channel
- 78mm Speedpanel® 600kg/m³ density
- 30mm air gap
- 64mm steel stud
- 100mm 32kg/m³ polyester insulation
- 13mm standard plasterboard

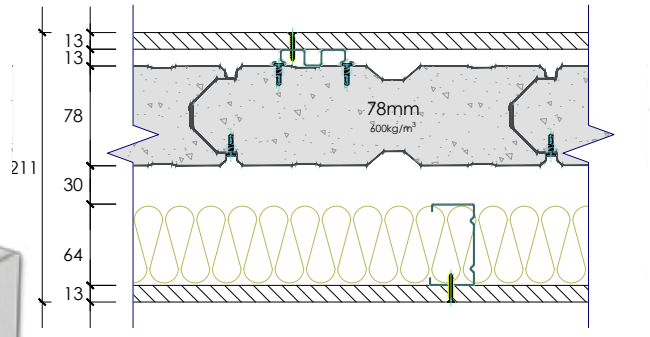


FIGURE 279

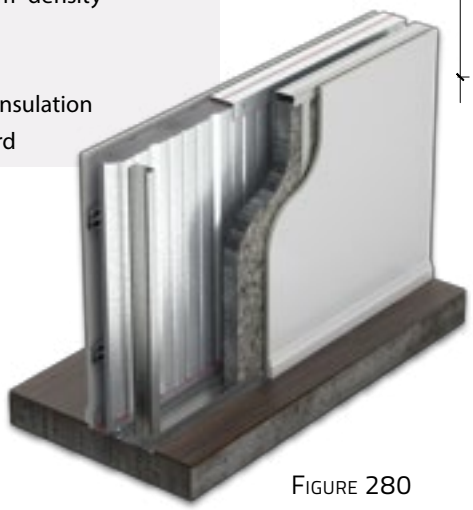


FIGURE 280

SPEEDPANEL® SYSTEM - SP78137

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 121i/11-114/PD	-/120/120	62	-2	-9	Rw+Ctr 53	211mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 13mm furring channel
- 78mm Speedpanel® 600kg/m³ density
- 30mm air gap
- 64mm steel stud
- 100mm 32kg/m³ polyester insulation
- 13mm standard plasterboard

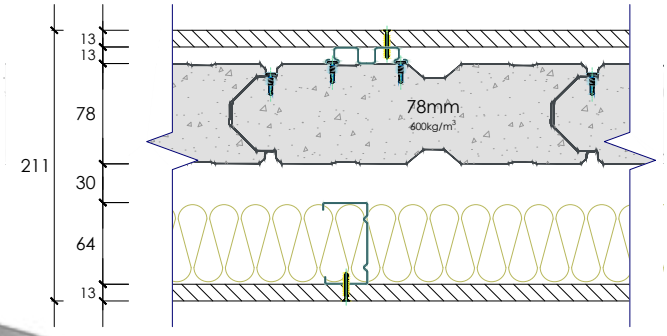


FIGURE 281

This system incorporates these items on each sides of the wall:

- 3 GPO
- 1 light switch
- 2 down lights
- Bulkhead with 150 x 100mm opening

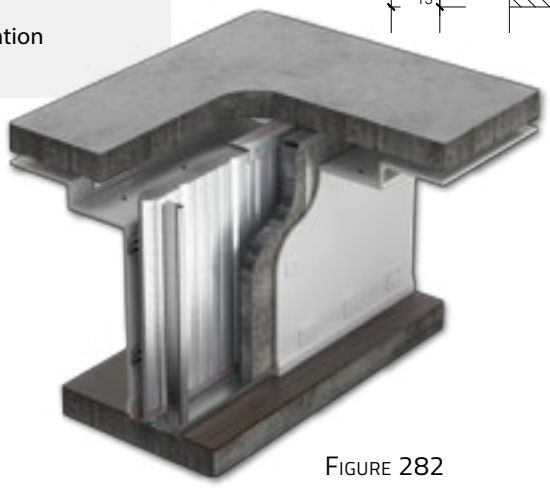


FIGURE 282

SPEEDPANEL® SYSTEM - SP78101

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/08-207/JW	-/120/120	62	-2	-7	Rw+Ctr 55	188mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 78mm Speedpanel® 600kg/m³ density
- 20mm air gap
- 64mm steel stud
- 2 x 50 x 11kg/m³ Glasswool compressed in 84mm
- 13mm standard plasterboard

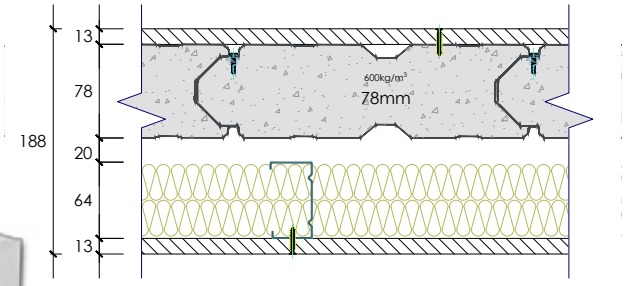


FIGURE 283

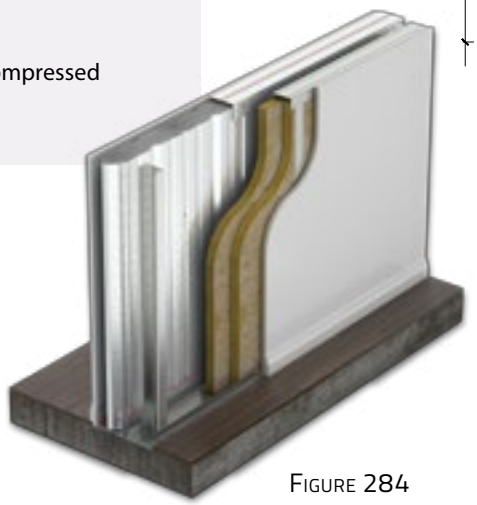


FIGURE 284

SPEEDPANEL® SYSTEM - SP78117

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/09-090B/PD	-/120/120	60	-3	-10	Rw+Ctr 50	248mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 28mm furring channel
- 78mm Speedpanel® 600kg/m³ density
- 52mm air gap
- 50mm x 14kg/m³ Glasswool insulation
- 64mm steel stud
- 13mm standard plasterboard

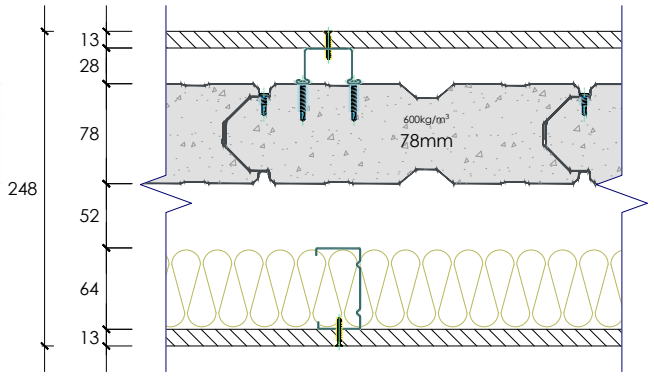


FIGURE 285

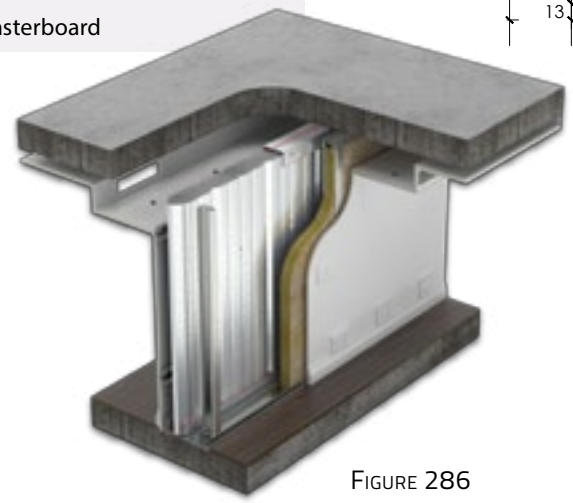


FIGURE 286

This system incorporates these items on each sides of the wall:

- 3 GPO
- 1 light switch
- 2 down lights
- Bulkhead with 150 x 100mm opening

SPEEDPANEL® SYSTEM - SP78096

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/08-151/PD	-/120/120	57	-2	-7	Rw+Ctr 50	204mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 16mm furring channel
- 78mm Speedpanel® 600kg/m³ density
- 20mm air gap
- 75mm x 14kg/m³ polyester insulation
- 64mm steel stud
- 13mm standard plasterboard

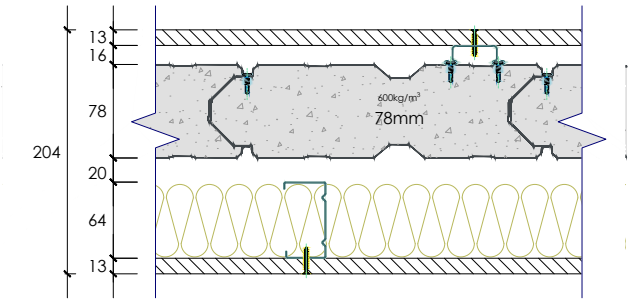
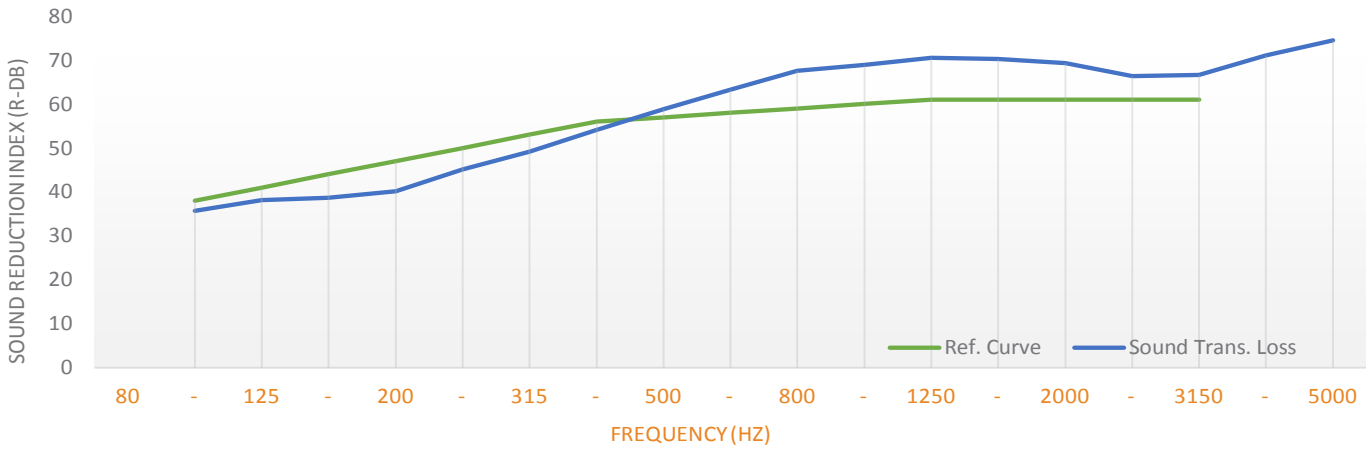


FIGURE 287

FREQUENCY (HZ)	Rw57 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	-
100	38	35.7
125	41	38.2
160	44	38.7
200	47	40.1
250	50	45.1
315	53	49.1
400	56	54.1
500	57	58.8
630	58	63.3
800	59	67.6
1000	60	68.9
1250	61	70.5
1600	61	70.2
2000	61	69.3
2500	61	66.4
3150	61	66.6
4000	-	71.1
5000	-	74.5

FIGURE 288



SPEEDPANEL® SYSTEM - SP78111

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/08-232/JW	-/120/120	64	-2	-8	Rw+Ctr 56	236mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 28mm furring channel
- 78mm Speedpanel® 600kg/m³ density
- 27mm air gap
- 100 x 20kg/m³ polyester insulation
- 64mm steel stud
- 2 x 13mm standard plasterboard

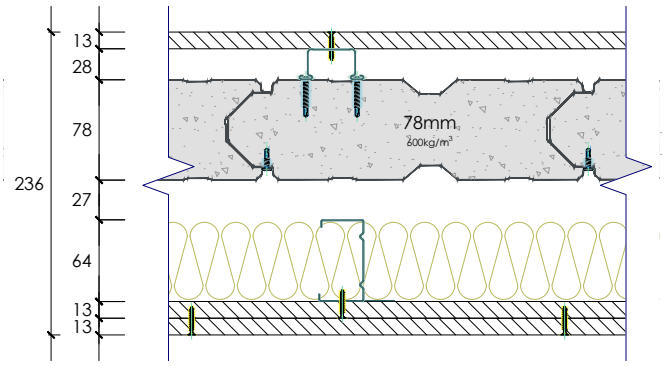


FIGURE 289

SPEEDPANEL® SYSTEM - SP78074

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/04-103/PD	-/120/120	64	-2	-9	Rw+Ctr 55	214mm

78

INTERTENANCY

SYSTEM COMPOSITION

- 13mm standard plasterboard
- 13mm furring channel
- 78mm Speedpanel® 435kg/m³ density
- 20mm air gap
- 64mm steel stud
- 70mm 14kg/m³ polyester insulation
- 2 x 13mm standard plasterboard

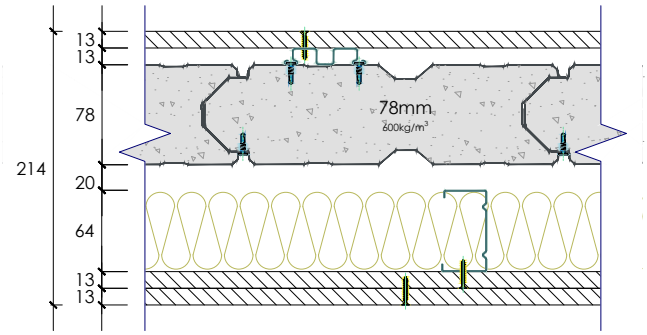


FIGURE 290

SPEEDPANEL® SYSTEM - SP78091

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/07-024/PD	-/120/120	62	-2	-8	Rw+Ctr 54	77mm

78

INTERTENANCY IMPACT PROTECTION

SYSTEM COMPOSITION

- 6mm Villaboard
- 78mm Speedpanel® 500kg/m³ density
- 20mm air gap
- 64mm steel stud
- 65mm x 32kg/m³ Glasswool insulation
- 9mm Villaboard

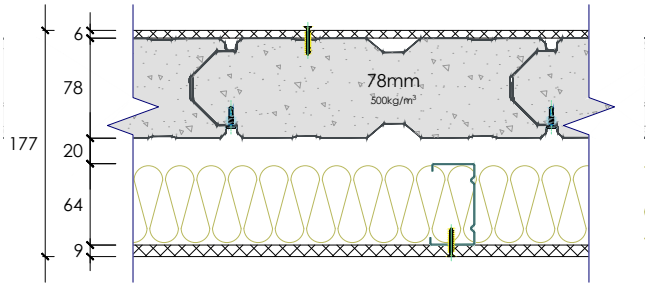


FIGURE 291

3.5 MISCELLANEOUS SPEEDPANEL® ACOUSTIC SYSTEMS

SPEEDPANEL® SYSTEM - SP78106

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/08-222/JW	-/120/120	71	-4	-11	Rw+Ctr 60	280mm

78

CEILING & BULKHEADS

SYSTEM COMPOSITION

- Kingclip Roofing (0.48 BMT) with Fletchers Permastop 55mm insulation
- 90mm steel stud
- 78mm Speedpanel® 600kg/m³ density
- 32mm air gap
- 100mm 20kg/m³ insulation
- 64mm steel stud
- 16mm fire-rated plasterboard

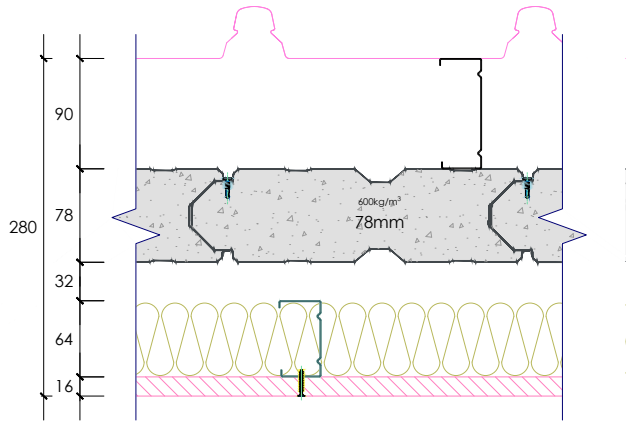


FIGURE 292

FREQUENCY (HZ)	Rw71 REF. CURVE (DB)	SOUND TRANSMISSION LOSS (DB)
80	-	-
100	52	40.9
125	55	48.6
160	58	54.1
200	61	58
250	64	63.7
315	67	65
400	70	71.8
500	71	76.1
630	72	78
800	73	79.6
1000	74	78.2
1250	75	78.6
1600	75	79.8
2000	75	78
2500	75	80.4
3150	75	84.2
4000	-	85.1
5000	-	86.9

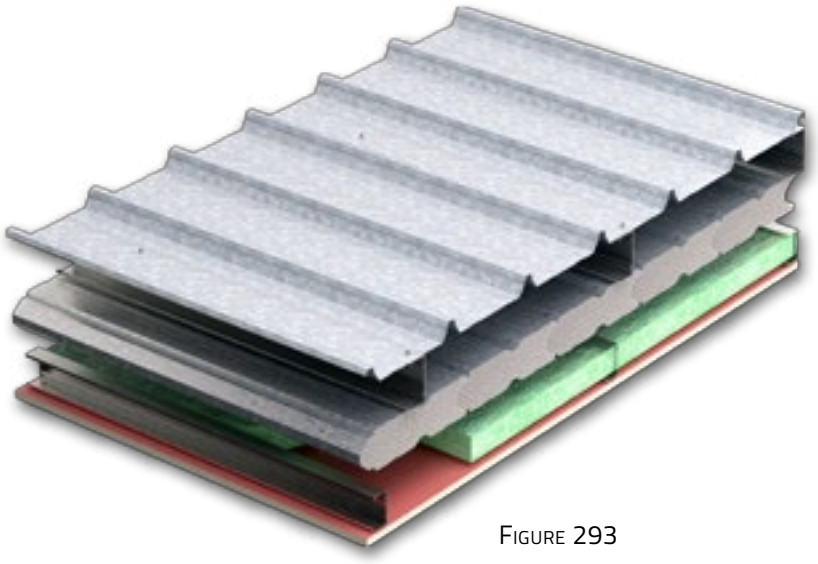
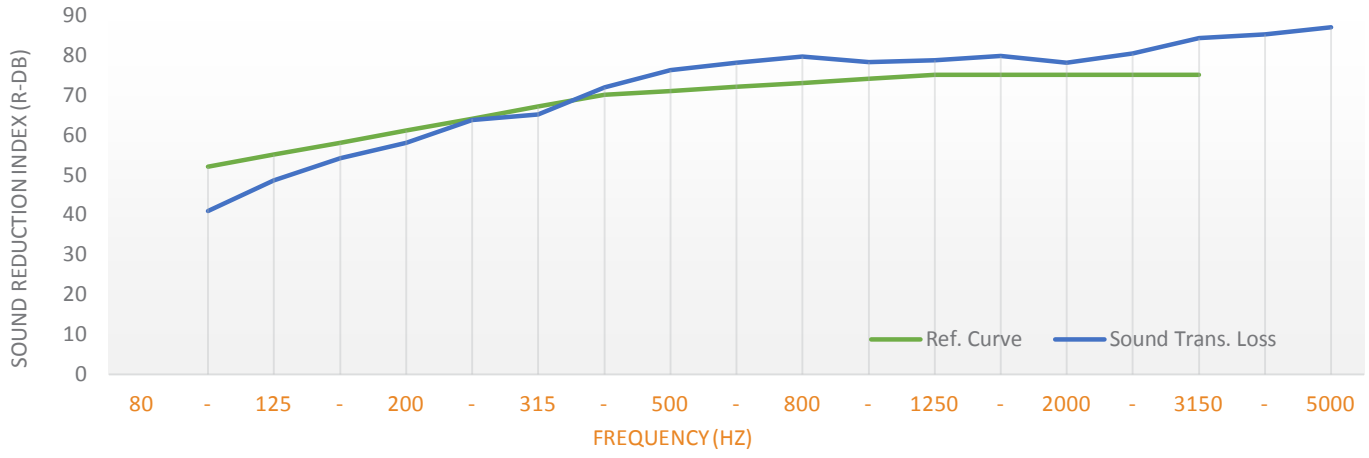


FIGURE 293



SPEEDPANEL® SYSTEM - SP2P018

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 15-004/PD	-/120/120	61	-1	-7	Rw+Ctr 54	179mm

78 51

PLANT ROOMS CAR PARKS

SYSTEM COMPOSITION

- 78mm Speedpanel® 550kg/m³ density
- 50mm air gap
- 51mm Speedpanel® 450kg/m³ density

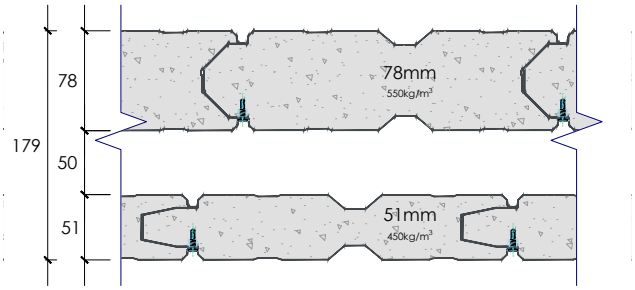


FIGURE 294

SPEEDPANEL® SYSTEM - SP2P019

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 15-007/PD	-/60/60	57	-2	-7	Rw+Ctr 50	147mm

51 51

PLANT ROOMS CAR PARKS

SYSTEM COMPOSITION

- 51mm Speedpanel® 550kg/m³ density
- 45mm gap
- 50mm 24kg/m³ Glasswool insulation
- 51mm Speedpanel® 450kg/m³ density

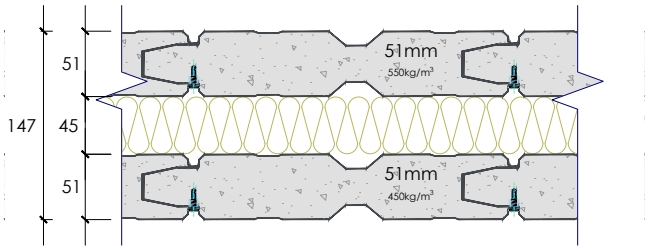


FIGURE 295

SPEEDPANEL® SYSTEM - SP2P013

REPORT NO.	FIRE RATING LEVEL	Rw	C	Ctr	NET ACOUSTIC RATING	THICKNESS
RMIT 12i/949-PD	Up To -/240/240	75	-2	-9	Rw+Ctr 66	596mm

78 78

CINEMAS FACTORY SEPARATIONS

SYSTEM COMPOSITION

- 78mm Speedpanel® 600kg/m³ density
- 350mm air gap
- 90mm x 42kg/m³ polyester insulation
- 78mm Speedpanel® 600kg/m³ density

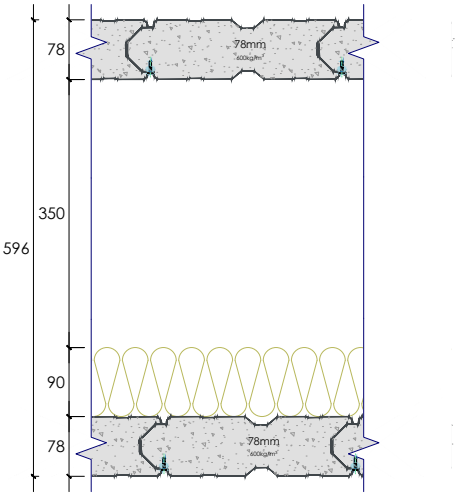
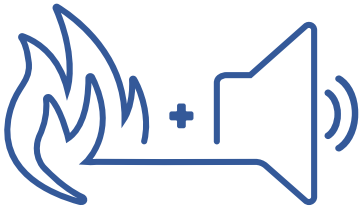


FIGURE 296



SAFE & SOUND