

SPEEDPANEL®

STEEL CONNECTIONS



Release

1

1st Edition

COVER PHOTO

Project: Melbourne Metro Temporary Acoustic Sheds

Builder: Rail Projects Victoria (RPV) under a Public Private Partnership (PPP) with the Cross Yarra Consortium comprising Lendlease Engineering, John Holland, Bouygues Construction and Capella Capital.

Builder/Designer: Protector Building Systems

Speedpanel® Uses: Speedpanel was chosen as the external wall and ceiling system for all Temporary Acoustic Sheds, built to minimise the noise, dust and light from the around-the-clock excavation and tunnelling works of the Melbourne Metro Project.

At the completion of tunnelling and construction works, each acoustic shed will be dismantled with all construction materials required to be recycled. Made from 29.5% recycled materials, Speedpanel is easily dismantled, reused and recycled.



SPEEDPANEL® STEEL CONNECTIONS

1st Edition, 1st Release; Published October 2022

421 Dorset Rd, Bayswater, VIC 3153 | +61 3 9115 6666

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IMPORTANT INFORMATION & DISCLAIMER

THIS BROCHURE AND SPEEDPANEL® SYSTEMS

The information contained within this brochure and any reports, specifications, installation guides and other supplementary documents and information referred to in this marketing collateral ("Supplementary material") have been prepared by or on behalf of Speedpanel® systems Pty Ltd ("us", "we" or "our") to assist the user of this brochure ("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, 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 all relevant content in this brochure, the supplementary material and all other product information, installation guides and data available from us upon request;
- Assess whether or not 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 systems with other building members and/or structures remain 'serviceable' (structurally sound) under ambient conditions and under different loads that Speedpanel systems may be subjected to in your proposed design and/or construction project.

Unless stated otherwise, the limitations, requirements and design details in this brochure 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® 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 brochure. Other specific performance criteria for, amongst others; acoustics, wind loading, pressurisation, and deflection, can be obtained from or discussed with us by contacting our office on +61 3 9115 6666.

Whilst we make all reasonable efforts to ensure that the QR codes in marketing literature 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 9115 6666 to ensure you are working from the latest information and to obtain general advice on

whether or not 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 or 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 systems. We disclaim all liability for any loss and damage suffered by you from your use of product's, 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 brochure and the supplementary material are indicative and intended to provide general information for the design and construction of Speedpanel® systems only in general (not project or site specific) applications, examples of which are contained within this brochure.

All 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 our standards and tolerances please contact our office on +61 3 9115 6666.

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, designing and/or constructing Speedpanel systems.

LIMITATIONS

The recommended maximum vertical span for Speedpanel® systems designed for certain FRL's is contained within this brochure and supplementary material. Vertical spans of greater height than those recommended will need to be subjected to 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 9115 6666.

You must not install Speedpanel systems above the span and height limits stated in this brochure, or the supplementary material.

External wall system limitations for design serviceability Limit State wind pressure ± 2.5 kPa. Please contact us on +61 9115 6666 if your requirements fall outside of this range.

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 craning 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 8 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 typically manufactured with a protective plastic film to provide defence against staining and cosmetic damage during manufacturing, handling and transportation. In all applications the plastic film is required to be removed prior to installation.

Failure to remove the plastic film may 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 to loads other than our wind loading limitations. You must also ensure that the connection between each Speedpanel® product is properly made and that materials and steps used to connect Speedpanel® systems to structures are in accordance with relevant and current; certifications, installation literature, drawings and or material. If you are uncertain about how to properly install Speedpanel® systems, or what the current and correct version of installation documents are relevant to your specific application, please contact us on +61 3 9115 6666.

DO NOT SUBSTITUTE ANY COMPONENT

Substitution of any Speedpanel® products, components or fixings within any Speedpanel systems specified in this brochure 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.

EXTERNAL WALL APPLICATIONS

Before designing and/or installing Speedpanel in external wall applications, you must engage, or seek advice from a suitably qualified person(s), including but not limited to; architects, façade consultants, engineer(s) and others, to ensure suitability, as well as account for specific design considerations unique to the proposed application. 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.

Speedpanel accept no responsibility or liability for any loss or damage arising out of any design or construction of Speedpanel systems, which we have deemed not designed and/or installed correctly.

SEALANTS

Speedpanel® systems incorporate various types of sealants. These sealants are often condition specific e.g. fire rating, acoustics, air pressurisation or weather resistance and are also application specific e.g. service penetrations. When choosing sealants, please refer to the relevant certifications to ensure that you are selecting the correct sealant for the application.

Failure to select the correct sealant may result in a lack of system performance and be in breach of the relevant certification. For further information please contact our office on +61 3 9115 6666.

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 are used. For information on maintenance regimes, please contact our office on +61 3 9115 6666.

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® 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 that 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 our current literature, installation guides, supplementary material and or otherwise specified by us. Please contact us on +61 3 9115 6666. 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 brochure and 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).

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 brochure or the supplementary material. You must make your own independent assessments, investigations, inspections and enquiries with respect to the matters the subject of this brochure content or the supplementary material, and your proposed design and/or construction of Speedpanel® systems.

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 and to either permanently or temporarily withdraw any such systems or products from sale without incurring any liability.

This brochure 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 brochure and the supplementary material.

To the best of our knowledge, all information in this brochure 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 brochure 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(s) that are 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 accredited laboratories, Speedpanel can provide advice on how to connect to structural elements 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 engineer's 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 brochure and/or the supplementary material or as otherwise instructed by us.

IS THIS PUBLICATION CURRENT?

This brochure 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 brochure or the supplementary material are current publications, please call us on +61 3 9115 6666 to confirm.

MANUAL HANDLING

In line with the requirements of Occupational Health, Safety and Welfare Regulations, employers and employees must all work together to manage manual handling risks on site.

Proper assessment of all risks and hazards must be conducted prior to any manual or assisted handling of Speedpanel products. Assessments should identify tasks involved in the successful installation of Speedpanel, considering all movements and their effects on the body. These need to be considered in conjunction with the specifics of the Speedpanel being installed, factoring in length, weight, access and the environment. Careful consideration must also be placed on appropriate Personal Protective Equipment (PPE) and a safe Method Work Statement (SWMS) may need to be completed.

For further information please speak with your site's OHS representative or contact the Work Safe / Safe Work regulatory body in your state.

SCAN FOR MORE
INFORMATION



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 on-site.

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 Head track.

Horizontal orientation: Horizontally orientated panels.

Horizontal wall: A wall built with horizontally orientated panels not exceeding 5.0m in height and 5.0m width.

Horizontal stack: A wall built with horizontally orientated panels (not to be confused with lay-flat ceiling/lid panels) with an unlimited height and horizontal span not exceeding 4.5m.

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 82" in apertures 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 53 or 83 for illustrations).

Sealant: A product used to block the passage of fire, smoke, weather, sound through the surface of joints or openings in panels. Speedpanel® systems incorporate various types of sealants. Sealants are often condition specific e.g. fire rating, acoustics, air pressurisation or weather resistance and are also application specific e.g. service penetrations. (See page 45 for further details).

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.)

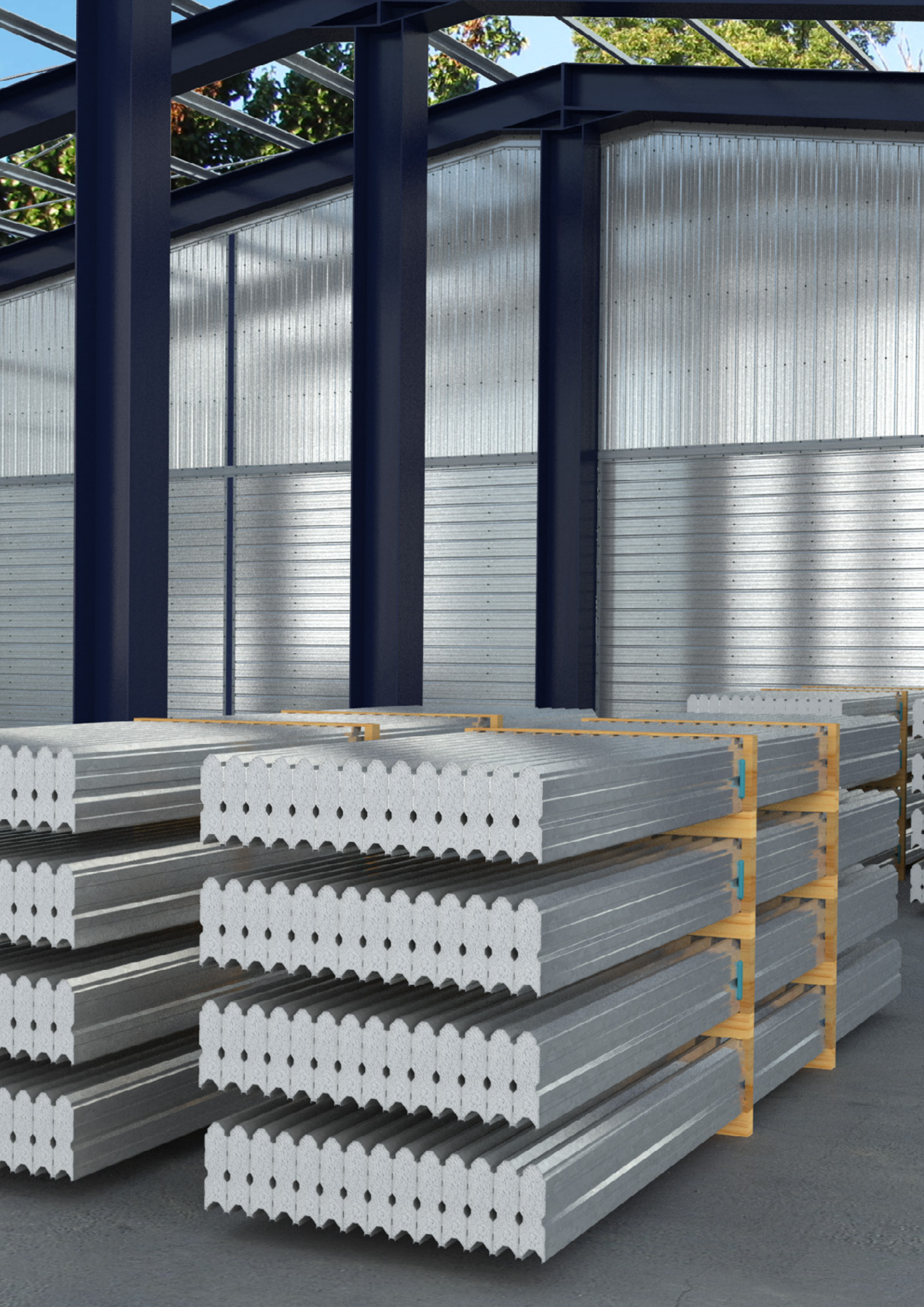
Wall height: Refers to the height of the Speedpanel® wall from the bottom of the wall to the top of the wall.

Vertical orientation: Vertically orientated panels.

Vertical wall: A wall built with vertically orientated panels unlimited in length and not exceeding 6.0m in height.

Vertical stack: A vertical wall built on top of another vertical Speedpanel wall. This can be unlimited in length but with a total combined system height not exceeding 14.0m.

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



01

INTRODUCTION

WHAT IS IMPORTANT TO US?

SERVICE.

SIMPLICITY.

QUALITY.

INGENUITY.

About Speedpanel®

We are an Australian owned and operated company that 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 just as they would be constructed on site. 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 reinstalled several times.
- Speedpanel can achieve 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 RATING

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.



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 RESISTANT

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



CYCLONIC TESTED

Speedpanel® is cyclonic tested in accordance with AS/NZS 1170.2.



SPAN & HEIGHT

Unrivalled span and height performance, requiring significantly less structural support than other non-load bearing wall systems.



GREATER BUILD EFFICIENCIES

Speedpanel® systems can drastically speed up construction programs, saving both time and money.



TO YOUR PROJECT...



ABOUT SPEEDPANEL

SPEEDPANEL® SYSTEM

APPLICATIONS



**STEEL
CONSTRUCTION**



**TIMBER
CONSTRUCTION**



**CONCRETE
CONSTRUCTION**

INDUSTRIAL & CINEMA **STEEL** CONSTRUCTION

FEATURED IN THIS BROCHURE



HIGH-RISE & COMMERCIAL **CONCRETE** CONSTRUCTION, AND MULTI-RESIDENTIAL **TIMBER** CONSTRUCTION

FEATURED IN OTHER LITERATURE



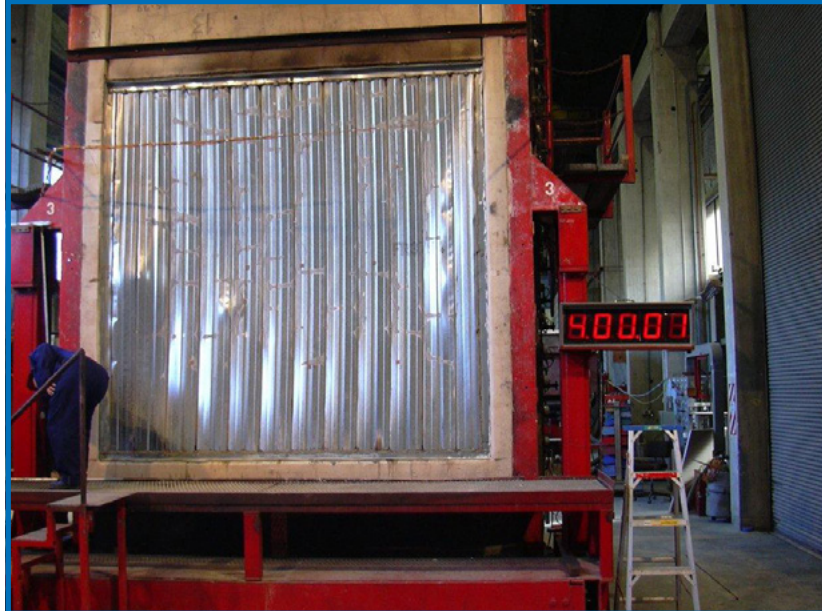
FOR MORE INFORMATION ON THE HIGH-RISE & COMMERCIAL **CONCRETE**, OR MULTI-RESIDENTIAL **TIMBER** APPLICATIONS CONTACT US ON +61 3 9115 6666

SPEEDPANEL® PERFORMANCE TESTED, CERTIFIED & PROVEN

SPEEDPANEL® | FIRE RATED |

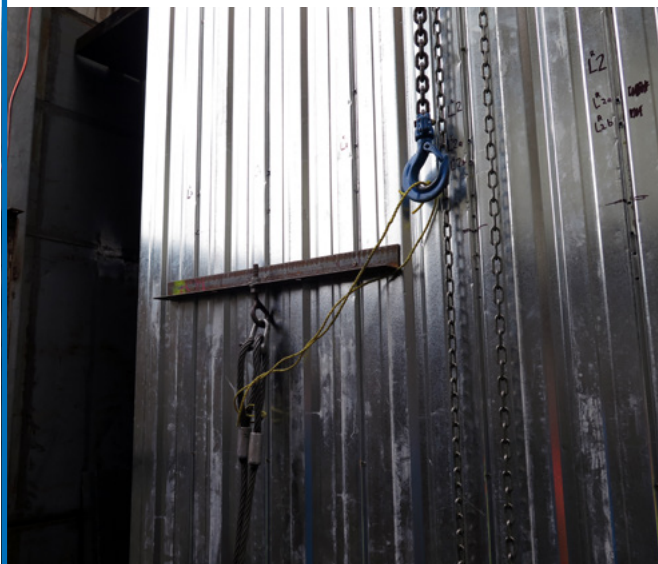
Speedpanel® systems are tested across various NATA approved laboratories in different everyday building scenarios to ensure the system performance will never be compromised.

Picture on left: Branz - 78mm Speedpanel in furnace at 4 hours of exposure.



SPEEDPANEL® | SEISMIC RATED |

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



SPEEDPANEL® | ACOUSTIC RATED |

Speedpanel® systems are tested and certified for acoustic applications.



SPEEDPANEL® - 2 HOUR TEST

A combination of vertical 78mm Speedpanel® being supported by horizontal 78mm Speedpanel at 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

EXTERNAL WALL SYSTEMS



WHY USE SPEEDPANEL®?

Speedpanel® systems are fast and easy to install and are available in a galvanised finish, as well as a wide variety of colour steel finishes, making them the perfect way to bring style and aesthetic appeal to your project, without the need for additional finishes such as paint or cladding.

When working on an external wall of a building it is often difficult or impossible to erect expensive scaffolding or even gain access with elevated work platforms. It is with this in mind that Speedpanel has 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 without requiring any access to the neighbouring property.

Speedpanel has completed testing on wind loading and deflection requirements creating systems that are 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. Our products have also undergone weather resistance testing in accordance with NCC-2019 verification methods FV1 and V2.2.1. For more information on these specialist installation requirements contact our office on +61 9115 6666.



SEPARATION WALL SYSTEMS



WHY USE SPEEDPANEL®?

Speedpanel® is the perfect solution to fire and acoustic separation walls within factory and warehouse environments. The industrial steel finish provides a pleasing aesthetic in either colour steel or galvanised finishes.

The made to order, pre-fabricated panels are lightweight and easy to handle, with the tongue and groove click together system incredibly fast to install. The versatility of Speedpanel shines due to its unique ability to be installed either vertically or horizontally, making it simple to connect to existing structures and therefore saving significant costs. When Speedpanel is stacked horizontally (max 4.5m spans) it can be built to unlimited heights - making it the ideal wall solution for warehouses and factories with high roofs.

When comparing Speedpanel to other systems, it is important to compare all costs associated with other wall construction methods. Due to the weight of Speedpanel, additional footings costs are avoided as are unnecessary scaffolding costs that would be required when constructing similar tall walls in blockwork.

Speedpanel walls can also be easily dismantled and re-used within its life cycle, providing flexibility to factories and warehouses that may need to change their factory layout over time.



CINEMA WALL SYSTEMS



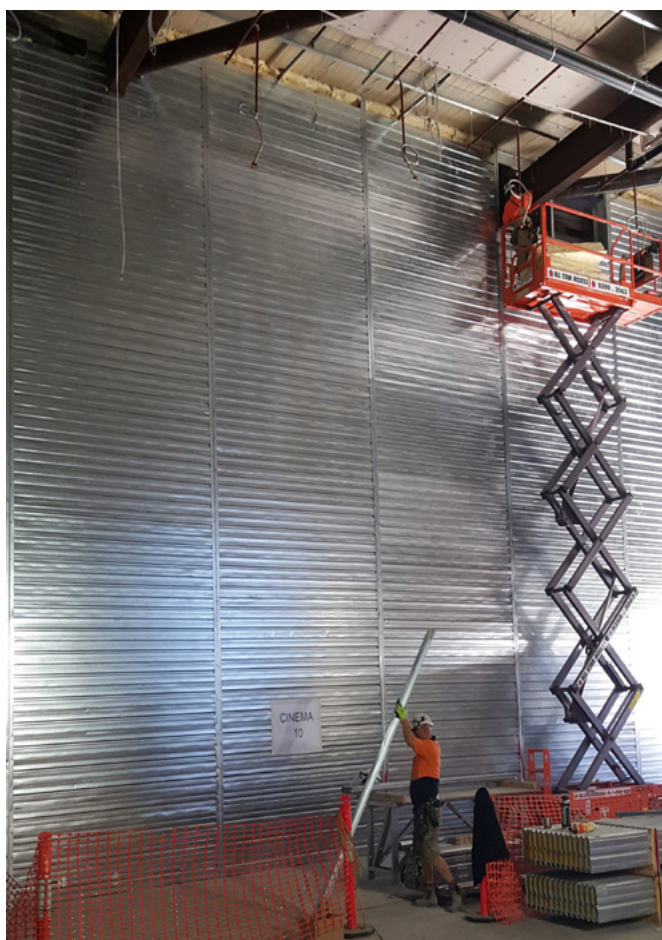
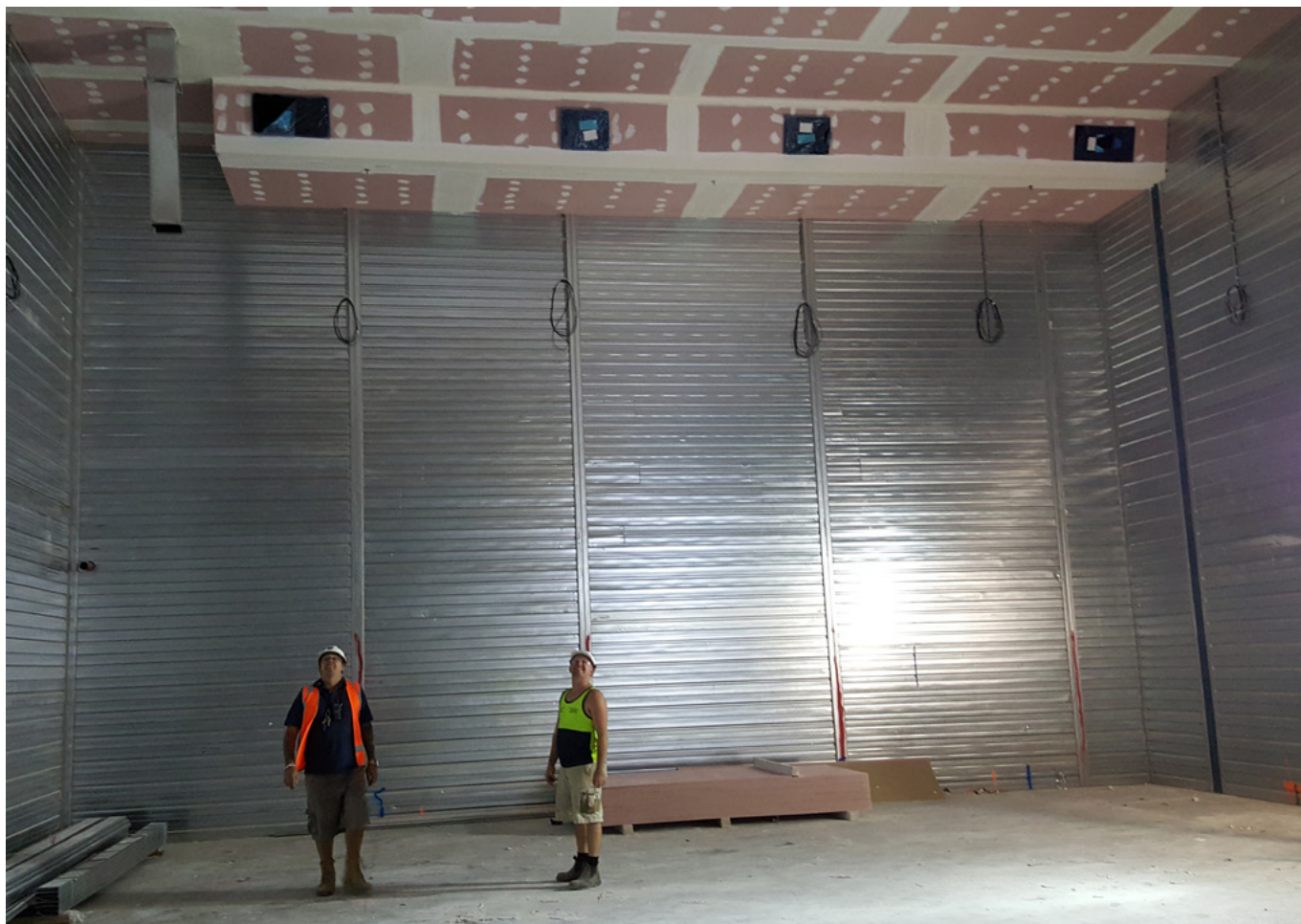
WHY USE SPEEDPANEL®?

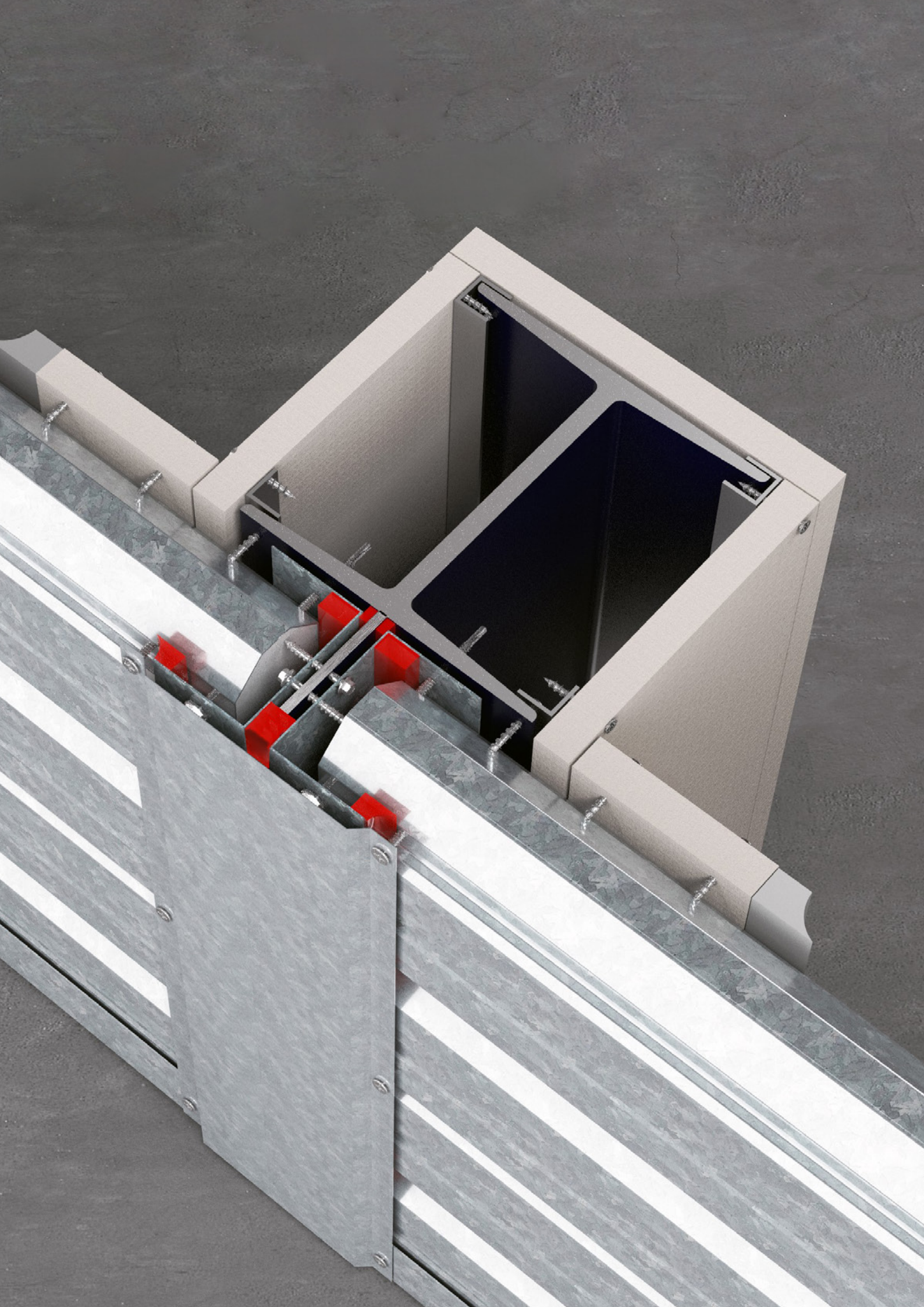
Not only can you stack to unlimited heights with our 78mm panel, but unlike plasterboard systems that require multiple layers on each face to build up the system density, Speedpanel® only has a single skin. By varying the density of infill (kg/m^3) within each skin, the panels become stronger and are therefore able to disrupt sound transmission, resulting in better overall results across greater frequency ranges.

We can tailor our panels to your acoustic requirements, with various options to treat penetrations and apertures.

You will use less structural steel due to the large span capabilities of Speedpanel in cinema applications, plus our systems are lighter and require fewer foundations to support structure. During construction, sections of wall can be left out to allow for ease of movement of EWP's, machinery and materials between cinemas and work areas.

Building cinema walls with Speedpanel is the ideal choice as our systems can deliver up to a -/240/240 FRL.





02

SPEEDPANEL® INSTALL GUIDE

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 "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 level (FRL) 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 certified laboratories in accordance with AS 1191 for acoustic ratings of a bare wall system and Speedpanel proprietary acoustic lined 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 1 in 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.

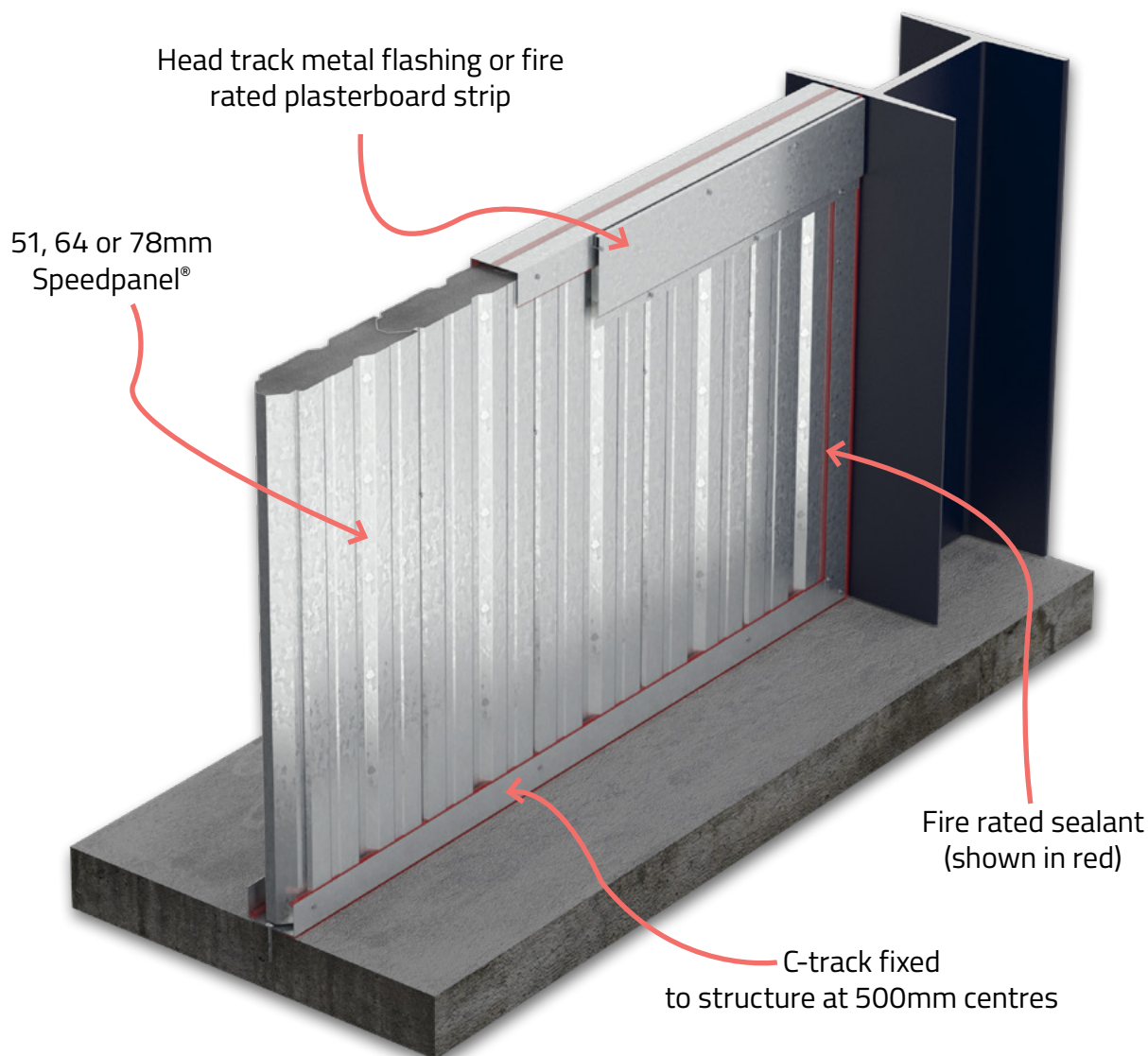


FIGURE 1

TESTED & CERTIFIED

THAT EXTRA PEACE OF MIND.

Speedpanel® systems are fire tested and certified by independent testing bodies including 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 9115 6666

SPEEDPANEL® AIR INFILTRATION DATA

Pressure (Pa)	Unsealed (L/m ² .s)	Sealed (L/m ² .s)
+300	7.7	<0.1
-300	-9.0	<-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

HOW TO USE QR CODES

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

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

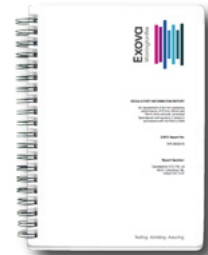
Below you will find all the assessment reports used in this guide with a short description.

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 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



2 - REPORT 22551



3 - REPORT 31919000

An assessment of the fire resistance performance of Speedpanel® and structural steel integrated wall systems.



3 - REPORT 31919000



4 - REPORT 28928

An assessment of 51mm, 64mm and 78mm thick vertically orientated Speedpanel® wall system to AS 1530.4:2014. Up to 5.0m.



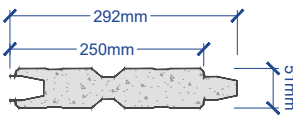
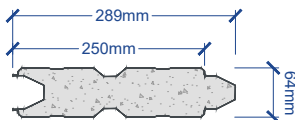
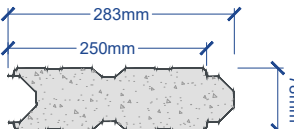
4 - REPORT 28928



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 9115 6666.

TABLE 1: PANEL PROPERTIES

Panel profile	51						64						78					
Series ^	435	550	650	750	850	950	435	550	650	750	850	950	435	550	650	750	850	950
Weight per 1m (kg) ^{W1}	7.7	9.0	10.2	11.3	12.5	13.6	9.1	10.8	12.3	13.8	15.3	16.7	10.7	12.8	14.6	16.4	18.2	20.0
Weight per m² (kg) ^{W2}	30.9	36.2	40.8	45.4	50.0	54.6	36.5	43.3	49.2	55.1	61.0	66.9	42.6	51.0	58.3	65.6	72.9	80.2
Dimensions																		
Shell material	0.4 BMT galvanised steel																	
Core material	Lightweight aerated cement																	

SPEEDPANEL® FRL AND ASSOCIATED SPANS - WALL SYSTEMS

The table below illustrates Speedpanel® FRL and associated spans in Speedpanel® Wall Systems. Please read this table in conjunction with the relevant chapter and fire assessment for each specific system. The maximum allowable spans listed below are compliant to fire ratings only. Any additional forces anticipated (e.g. wind loading) may result in a reduction of the maximum allowable spans.

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

^ Series label based on 435, 550, 650, 750, 850 & 950 kg/m³ Speedpanel® densities, +/- manufacturing tolerances.

^{W1 & W2} Published weight per lineal metre and per square metre values are strictly indicative only. Panel weight subject to change based on, residual moisture, exposure to environmental factors and storage. Speedpanel® strongly recommends seeking advice from a suitably qualified professional such as an engineer and/or other design consultant(s) when considering Speedpanel® in project design.

* 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 3 9115 6666.

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	7.7	<0.1
-300	-9.0	<-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

SPEEDPANEL® LOADING & LINING OF FIRE RATED SYSTEMS

Please refer to Speedpanel® Loading and Lining of Fire Rated Systems brochure, as well as Warringtonfire Report FAS200070 RIR for detailed information and important requirements for Speedpanel systems, in instances where Speedpanel walls are to be lined and/or support any additional loads.



REPORT FAS200070

An assessment of the fire resistance performance of Speedpanel® and structural steel integrated wall systems.



LOAD AND LINING OF FIRE RATED SYSTEMS

A document of the fire Load and Lining performance of Speedpanel® wall systems.



SPEEDPANEL® EXTERNAL WALL SYSTEMS REQUIRING FP1.4 (NCC 2019)

Speedpanel® systems have been weather resistance tested in accordance with NCC-2019 verification methods FV1 & V2.2.1. For further information on specific construction details and/or treatment requirements please contact our office on +61 3 9115 6666.



FP1.4 (NCC 2019) CERTIFICATE

This certificate satisfies the Performance Requirements FP1.4 and P2.2.2 of the National Construction Code 2019, Building Code of Australia, Volumes 2 & 1 for Weatherproofing of External Walls.



COLOUR STEEL OPTIONS



A wide variety of colour options are available for products within the Speedpanel® range. These colours may come in the form of pre-painted steel or alternatively powder coated finishes to match pre-painted steel. The colours referenced below have both the generic industry names, along with specific Colorbond® Proprietary brand names.

Should you wish Speedpanel to manufacture goods using a specific brand or supplier of steel, you must specify this in writing at the time of enquiry for quoting purposes. Colour options may incur minimum order quantity requirements, upfront deposit and additional fees.

Common Speedpanel® Colour Options



Armour Grey

Windspray®

Code: AG



Ebony

Night Sky™

Code: EB



Gull Grey

Shale Grey™

Code: GG



Off White

Surf Mist®

Code: OW



Slate Grey

Woodland Grey™

Code: SL

Alternative colours



Basalt

Basalt®

Code: BA



Birch

Dune®

Code: BI



Blue Horizon

Blue Ridge™

Code: BH



Caulfield Green

Cottage Green™

Code: CG



Dusk

Evening Haze®

Code: DU



Iron Grey

Ironstone™

Code: IG



Iron Grey

Ironstone™

Code: IG



Jasmin Brown

Jasper™

Code: JA



Merino

Paperbark™

Code: ME



Mist Green

Pale Eucalypt™

Code: MG



Monolith

Monument®

Code: MO



Mountain Blue

Deep Ocean®

Code: MB



Rivergum

Wilderness®

Code: RI



Smooth Cream

Classic Cream™

Code: SC



Stone

Code: ST



Territory

Terraine®

Code: TE



Wheat

Code: WH

Note: Colours shown above are to be used as a guide only, and varying screens and printers will manipulate colours. For exact matching an official colour swatch should be used. Please contact us on 03 9115 6666 or email enquiries@Speedpanel.com.au for further information.

IN SCOPE / OUT OF SCOPE...

SPEEDPANEL® SCOPE

Speedpanel® systems can be connected to various types of structural steel as outlined throughout the connection details documented in this guide and the certifications upon which they are based. It's important to note that the various specifications and designs of all Speedpanel supporting structure are considered outside of the scope of this document and need to be specified and designed by suitably qualified professionals such as engineers, architects and/or other design consultants. The fire protection of structural steel is also considered outside of the scope of this document and must be installed/applied as per the manufactures and/or project engineer's specifications. The in scope, out of scope delineation is explained further in the details below.

OUT OF SCOPE - STRUCTURAL STEEL AND THE PROTECTION OF STRUCTURAL STEEL

Structural steel and the protection of structural steel is outside of the scope of our certification and must be installed/applied as per the manufacturer's and/or project engineer's specifications

IN SCOPE - PROTECTION OF SPEEDPANEL® CONNECTED TO STRUCTURAL STEEL

Option 1 – Minimum 15mm Promatect® 250 calcium silicate board, installed with minimum 100mm overlap onto Speedpanel systems.

Option 2 - Minimum 25mm Cafco® 300 Vermiculite spray applied with a minimum 100mm overlap onto Speedpanel systems.

Option 3 - Minimum 25mm Fendolite® MII Cementitious spray applied with a minimum 100mm overlap onto Speedpanel systems.

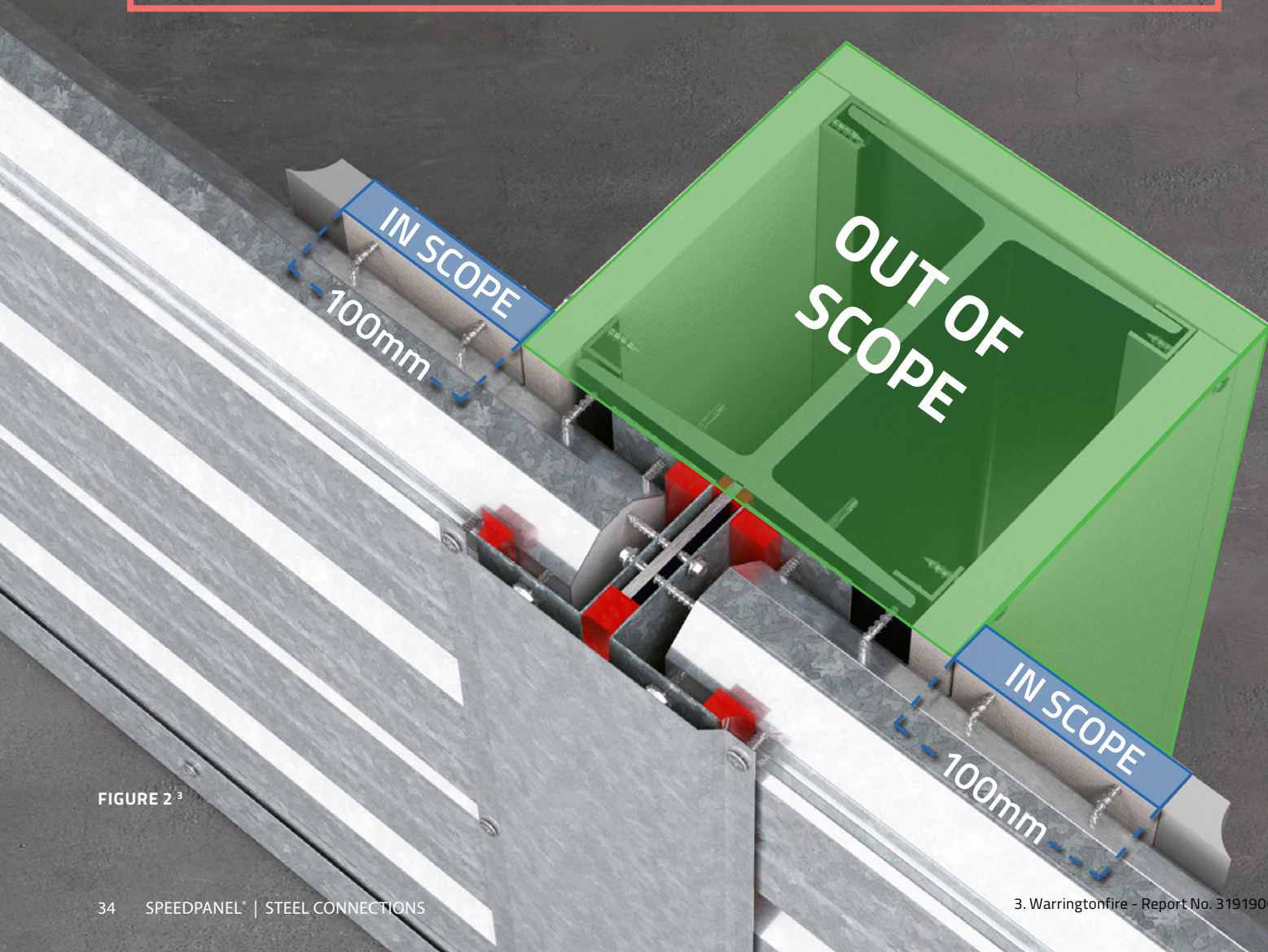


FIGURE 2³

Promatect® 250 Board



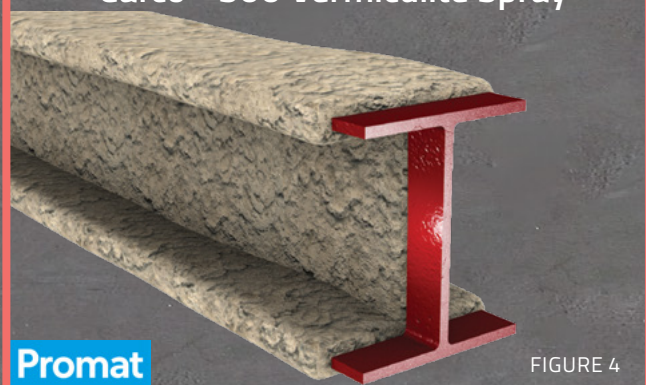
Promatect® 250 mineral board comprises autoclaved calcium silicate spheres bound in a mineral matrix. Off white in colour, one face is smooth and ready to finish with the ability to receive almost any form of architectural/finish treatment. Suitable for use in dry internal areas, it's easy to install, highly-adaptable and offers excellent fire resisting performance.

ADVANTAGES

- Steel protection up to FRL 120/-/-
- Easy to install
- High level of finish
- Most types of architectural finishes can be applied
- Non-combustible to AS1530.1

FIGURE 3

Cafco® 300 Vermiculite Spray



Cafco® 300 is a spray or trowel applied premix based on vermiculite and gypsum. This lightweight coating offers efficient fire resistance with a minimal application thickness required.

ADVANTAGES

- Economical - High Yield - Low density
- No primer required on steel
- Low material cost, efficient thicknesses.
- Comprising of 5% recycled material and has a 0% ozone depleting raw materials.
- Monolithic coating
- Most widely specified
- Compatible with most primers
- Direct spray application

FIGURE 4

Fendolite® MII Cementitious Spray



Cafco Fendolite® MII is a wet spray premix based on vermiculite and Portland cement. It may be floated or roller finished and is suitable for exterior use.

ADVANTAGES

- Suitable for external use
- Tested to Hydrocarbon , RWS, UL and other high intensity fire curves
- Blast and Jet Fire Resistant
- Low density for minimal additional load to structures

FIGURE 5

Please contact Promat for further information

P: 1800 776 628 E: papl.mail@etexgroup.com

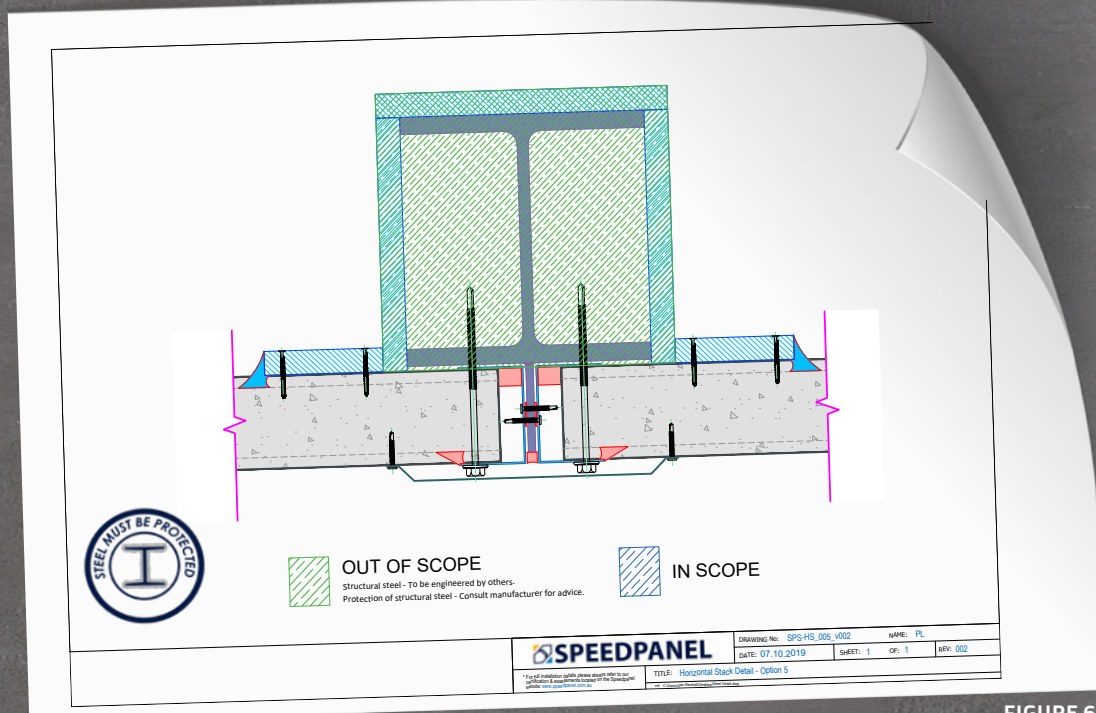


FIGURE 6³

PROTECTION OF PRIMARY & SECONDARY STEEL

As outlined in detail on pages 34-35, Speedpanel®'s certification is based on a 100mm overlap of the Speedpanel system using one of the three prescribed treatment options. All other requirements for protection of primary and/or secondary steel structure is outside of our scope of the Speedpanel certification and external advice from other manufacturers and/or project engineers should be obtained.

Note: Illustrative purposes only.



FIGURE 7

Note: Illustrative purposes only.



FIGURE 8

GENERAL ADVICE FOR CONNECTING SPEEDPANEL® SYSTEMS TO STRUCTURAL STEEL SUPPORT

Any structural elements that support the Speedpanel® system must achieve an FRL of at least that which the Speedpanel system is required to achieve.

When using the primary structure to support the Speedpanel system (see Figure 7) it's important to consider the potential on-flow effects. It's likely that you will have to protect all directly or indirectly connected elements, as well as any associated elements passing through the Speedpanel system. For example, if you connect the Speedpanel top track to a beam, not only will the beam need to achieve the required FRL, but the columns holding up that beam will also need to achieve the required FRL (see Figure 8). It may also be that there are other elements (such as roof purlins, wall girts or bracing) attached to these beams or columns, and these elements may also be have to achieve the required FRL.

Where there are elements passing through the Speedpanel system such as beams and roof purlins (see Figure 9), you may be required to not only protect these elements on both sides of the wall but also to infill the apertures that these elements pass through using a certified methodology.

In scenarios where there are significant cost implications to using the primary steel structure to support the Speedpanel, it may be economical to introduce an independent secondary steel structure, which could eliminate many on-flow effects as this structure would be separate to any primary elements.

Note: Illustrative purposes only.

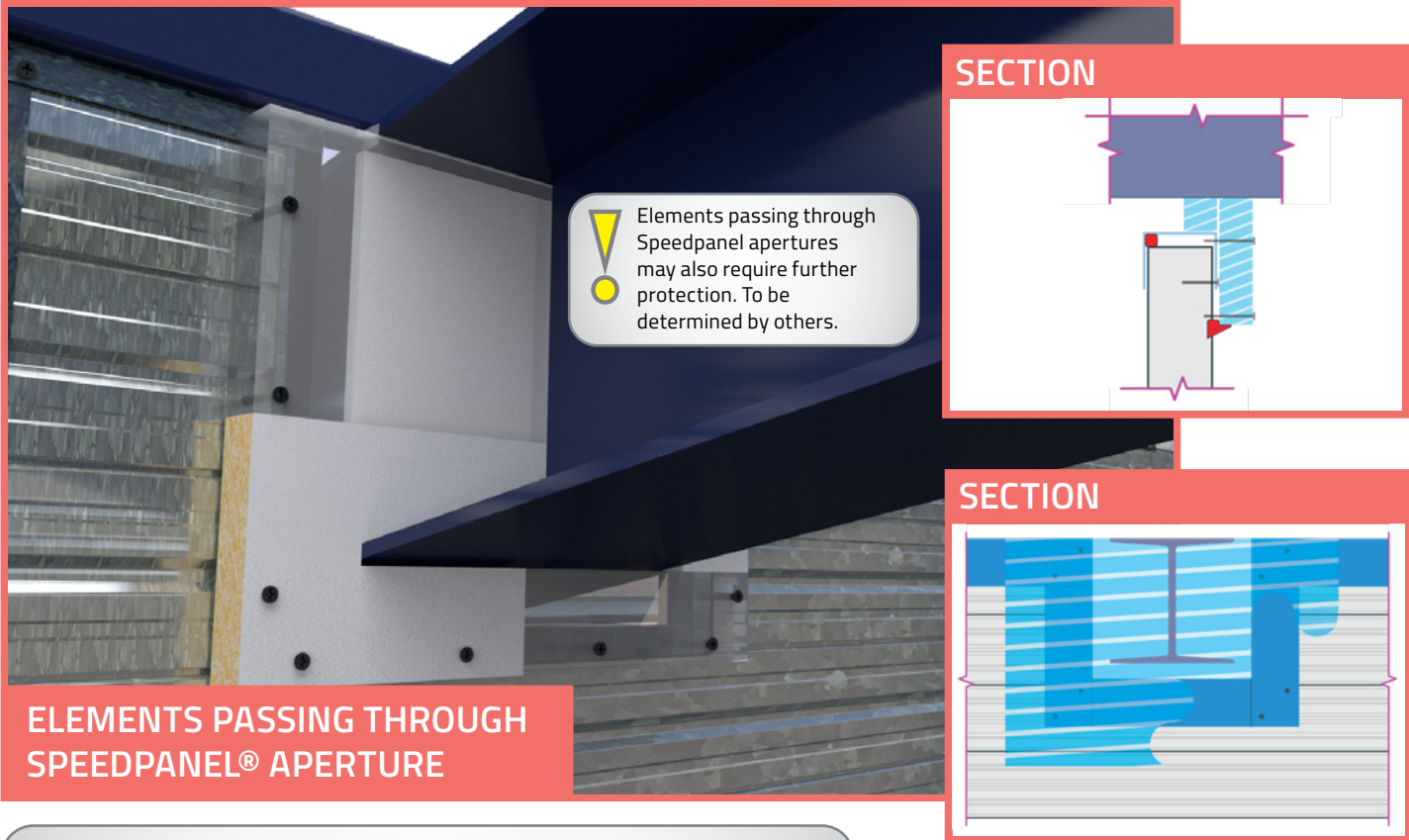


FIGURE 9

Protection of primary and/or secondary steel structure is outside of our scope of the Speedpanel certification and external advice from other manufacturers and/or project engineers should be obtained. For further information, please contact our office on +61 3 9115 6666.

PICK THE RIGHT DETAIL...

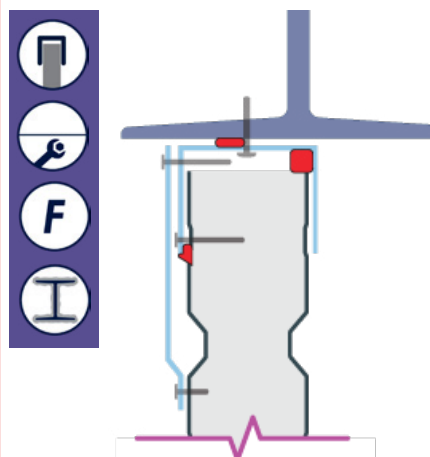
Throughout this publication there are instances where you will have several options available when approaching a building design solution.

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.

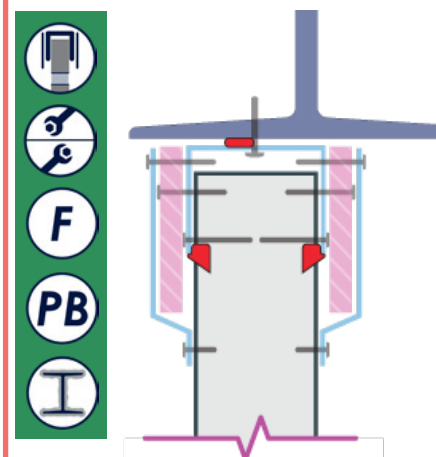
Please have a look at the examples below to get a better understanding of the symbols.

EXAMPLE



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

STRUCTURE PROTECTION SYMBOL:

FIRE PROTECTION ON STEEL

In order to maintain the FRL in any given details or systems on this guide, steel structure must be protected against fire. This could be achieved by using other manufacturers systems such as Promatect® board or vermiculite spray as outlined on pages 34 to 37. Protection of structural steel outside of Speedpanel® scope and to be installed/applied as per manufacturer's and/or engineer's specifications.



HEAD DETAIL CONSTRUCTION OPTIONS:

OPTION A: C-TRACK OR J-TRACK HEAD DETAIL

C-track and/or J-tracks generally 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 and J-tracks require additional head track protection. This can be either a 13mm fire rated plasterboard strip, our aesthetic metal flashing option, or the 100mm overlap of structural steel protection outlined on pages 34 and 35.



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 apertures 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 buildability 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

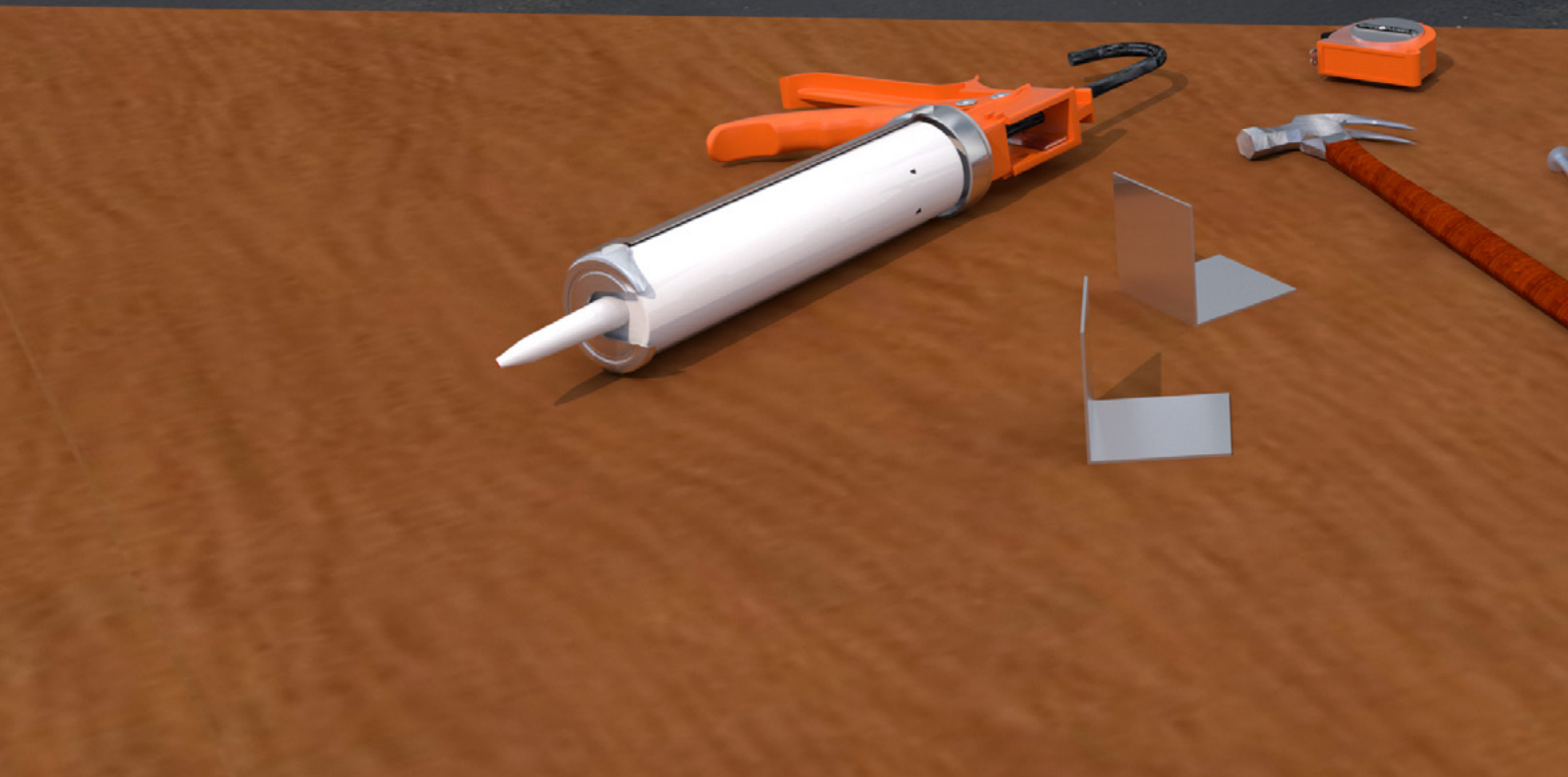
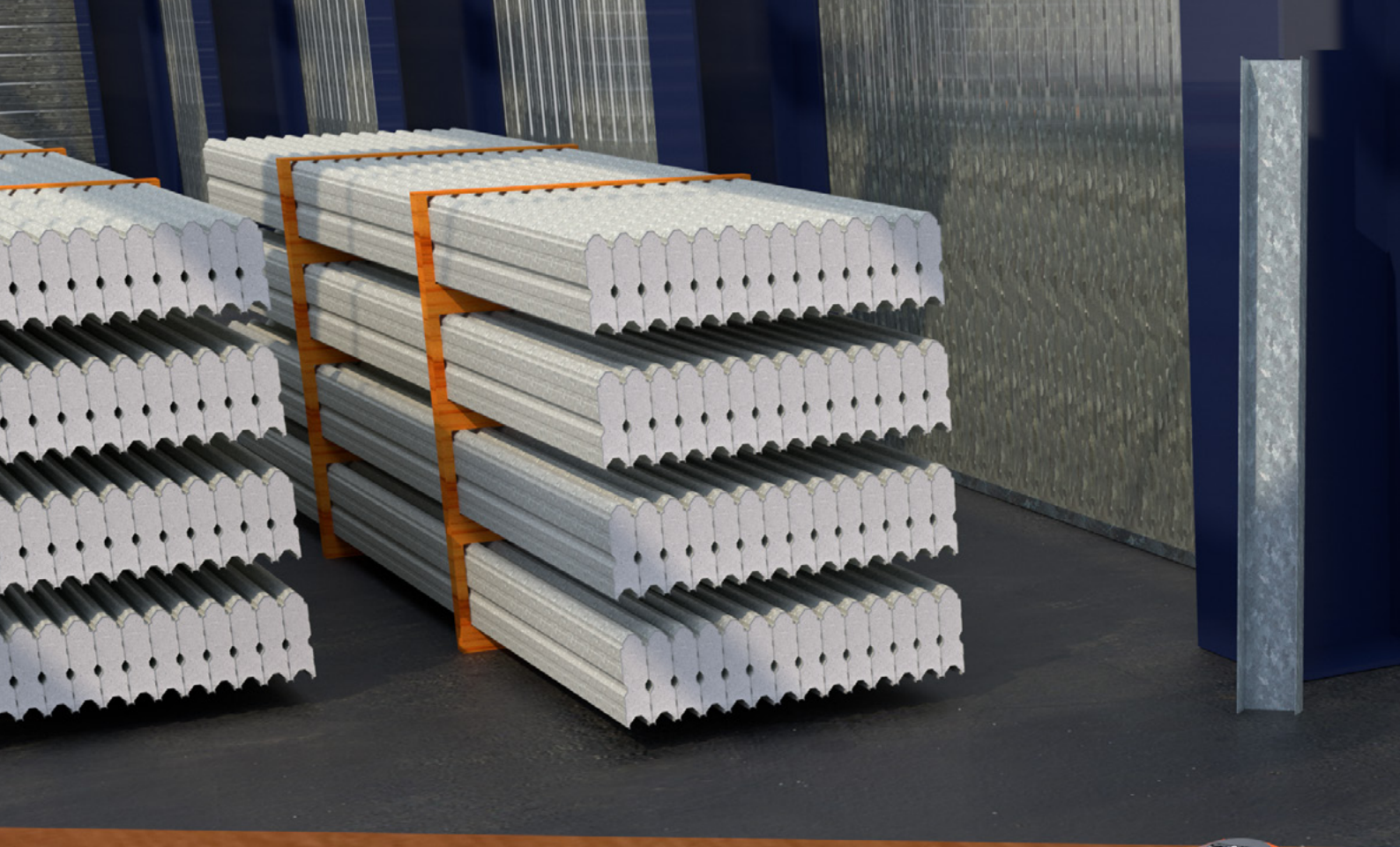
When protection from fire is required from one side only.



FIRE PROTECTION TWO SIDES

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





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.






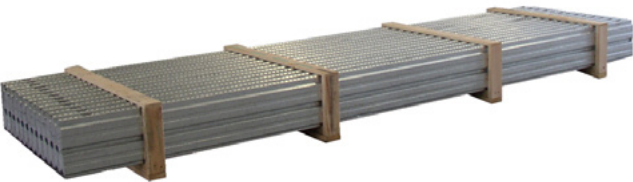
SYSTEM COMPONENTS OVERVIEW

2.2 SYSTEM COMPONENTS OVERVIEW

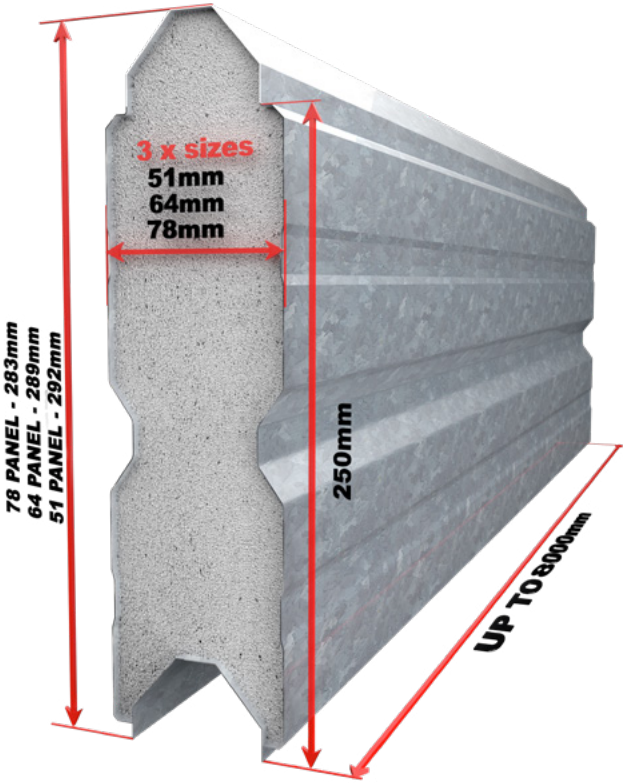
SPEEDPANEL®

Different panel thicknesses 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
 51	51 mm - /60/60
 64	64 mm - /90/90
 78	78 mm - /120/120



SPEEDPANEL® READY FOR TRANSPORT



SPEEDPANEL® CRITICAL DIMENSIONS
FIGURE 10



*Minimum order quantities may apply for some colours. Refer to page 33 for further details.

C-TRACK

For general use around perimeter of Speedpanel® walls and encapsulating square & rectangular apertures.

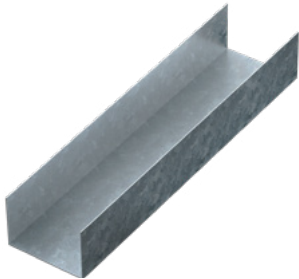


FIGURE 11

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 12

WEEP HOLE J-TRACK

J-track with weep holes at every 250mm. Weep holes are only required in the base J-track of external Speedpanel® walls. Weep holes are orientated facing outside and are designed to prevent pooling of water within the J-tracks.



FIGURE 13

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 14

BACK TO BACK C-TRACK FLASHING

Back to back track connections require additional protection from the heat source. 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.

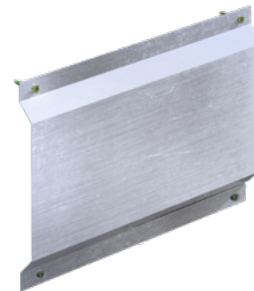


FIGURE 15

HEAD TRACK PROTECTION

Head tracks in Speedpanel® systems **MUST** be protected by either Flashing, FR plasterboard or Promatect board. Fixings are to be staggered at 125mm centres horizontally at the top and bottom as shown in Figures: 16-17

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

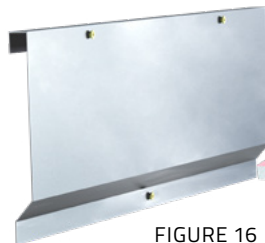


FIGURE 16

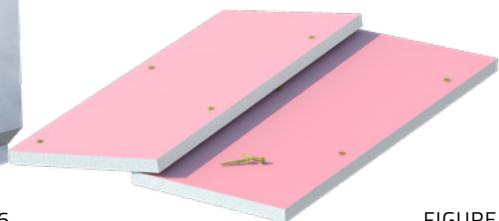


FIGURE 17

SPEEDPANEL® COVER SKINS

Cover skins are thin sheets 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.

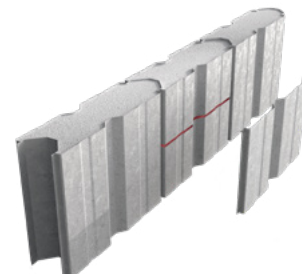
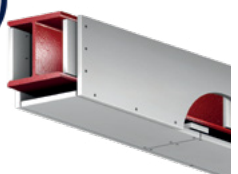


FIGURE 18

STRUCTURAL STEEL & PROTECTION OF STRUCTURAL STEEL

Various options exist for the specifications of structural steel supporting Speedpanel® systems, as well as the passive fire products which protect these structural elements. All structural elements and protection of structural elements are considered outside of the scope of our certification and this brochure and must be installed/applied as per the manufacturer's and/or project engineer's specifications.



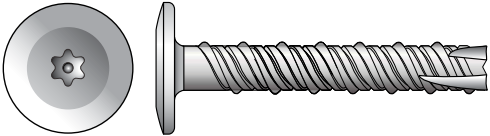
Typical Fixings

FIXING INTO CONCRETE

MUSHROOM HEAD SPIKES
M6.5 x 50mm

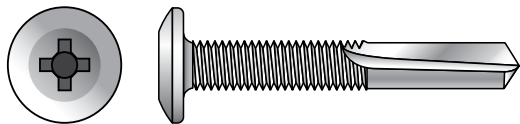


HILTI® SCREW ANCHOR HUS3-P
6x60/5/25

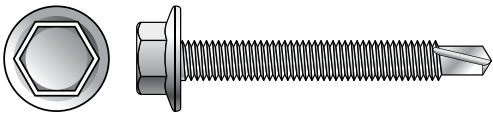


FIXING INTO STEEL

SDS 12 GAUGE X 38mm
(SERIES 500)

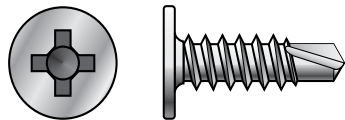


SDS 14-10 GAUGE X 30mm
(HEX HEAD)

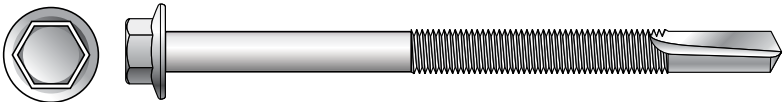


FIXING INTO PANELS

SDS 10 GAUGE X 16mm
(CLASS 3)



SDS 14-12 GAUGE X 115mm
(HEX HEAD)



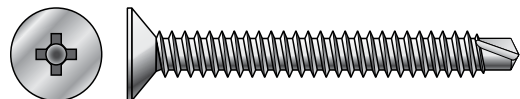
FIXING INTO C-TRACK

SDS 10 GAUGE X 30mm (CLASS 3)



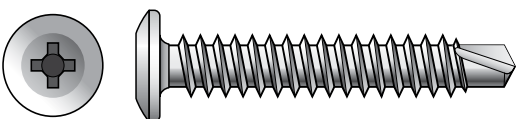
FIXING INTO PLASTERBOARD

SDS 12 GAUGE X 45mm
(BUGLE HEAD)



FIXING INTO STEEL ANGLE

SDS 12 GAUGE X 30mm
(WAFFER HEAD)



Sealant

SEALANTS

Speedpanel® systems incorporate various types of sealants. These sealants are often condition specific (e.g. fire rating, acoustics, air pressurisation or weather resistance) and are also application specific (e.g. service penetrations). When choosing sealants, please refer to the relevant certifications to ensure that you are selecting the correct sealant for the application. Failure to use the correct sealant may result in a lack of system performance and be in breach of the relevant certification.

For internal applications, Speedpanel® recommends acrylic sealants such as **Hilti Flexible firestop CP 606** sealant for sealing gaps, joints and between panels and the perimeter tracks and angles. This sealant is represented in **RED** throughout this Guide.

For external wall applications, applications where moisture may be present and/or applications requiring pressurisation, Speedpanel® recommends a polyurethane weather resistant sealant, such as **Sikaflex®-400 Fire**. This sealant is also represented in **RED** throughout this Guide.

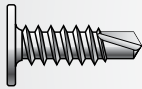
Protection of structural steel often requires specific sealants and materials to be used as part of its independent fire protection system. This system and the selection, use and application of sealant and materials falls outside of the scope of Speedpanel® and should be installed/applied as per the manufacturer's and project engineer's specifications. This specific sealant is represented in **BLUE** throughout this guide.

Although Speedpanel® has tested various brands and types of sealants within our wall systems, not every brand has currently been tested in every application referenced in this brochure. For further information please contact our office on +61 3 9115 6666.



FIGURE 19

Alternative fixings and 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® to confirm the compatibility of any alternative desired fixings or sealants.

Supplementary Components

FIRE RATED PENETRATIONS AND APERTURES

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

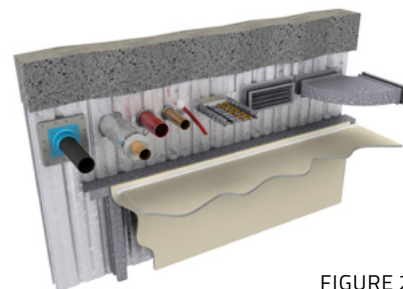


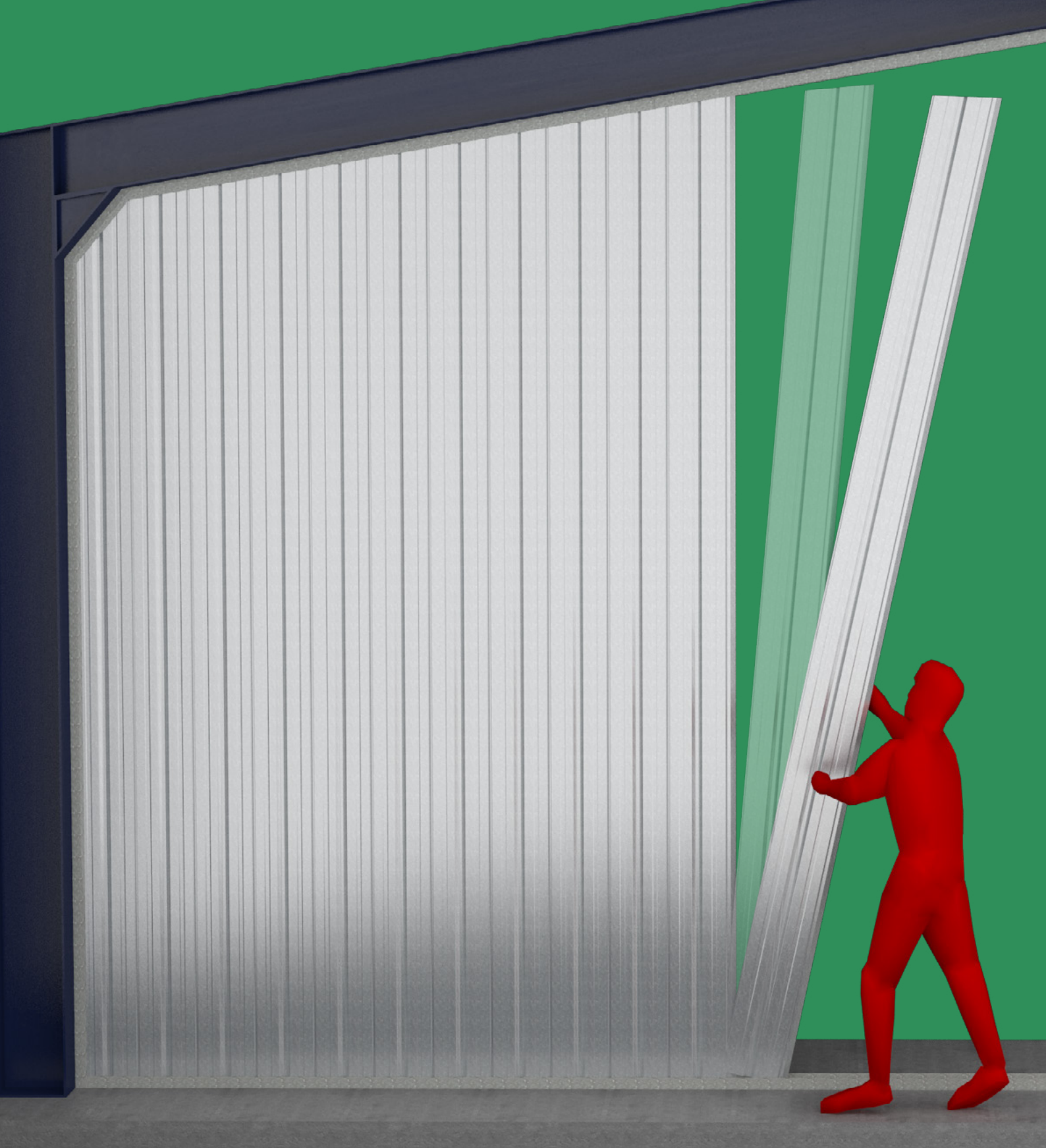
FIGURE 20

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 9115 6666.



FIGURE 21



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



2 - REPORT 22551



3 - REPORT 31919000



4 - REPORT 28928

2.3

STEP BY STEP

VERTICAL INSTALLATION

2.3

VERTICAL INSTALLATION

PART A (STANDARD 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 - stock and custom sizes available.
3. Nominate: coloured steel or standard galvanised finish.
4. Determine how many panels you require.

WALL LENGTH (MM)

PANEL LENGTH 250 (MM)

=

AMOUNT OF PANELS REQUIRED
(ROUND UP TO NEAREST UNIT OF 14, 17, OR 21 DEPENDING ON THICKNESS)

VERTICAL SPEEDPANEL® SYSTEM

Note: Required 100mm overlap protection of Speedpanel® system connected to structural steel not shown for clarity purposes. Please refer to pages 34 to 37 for detailed information.

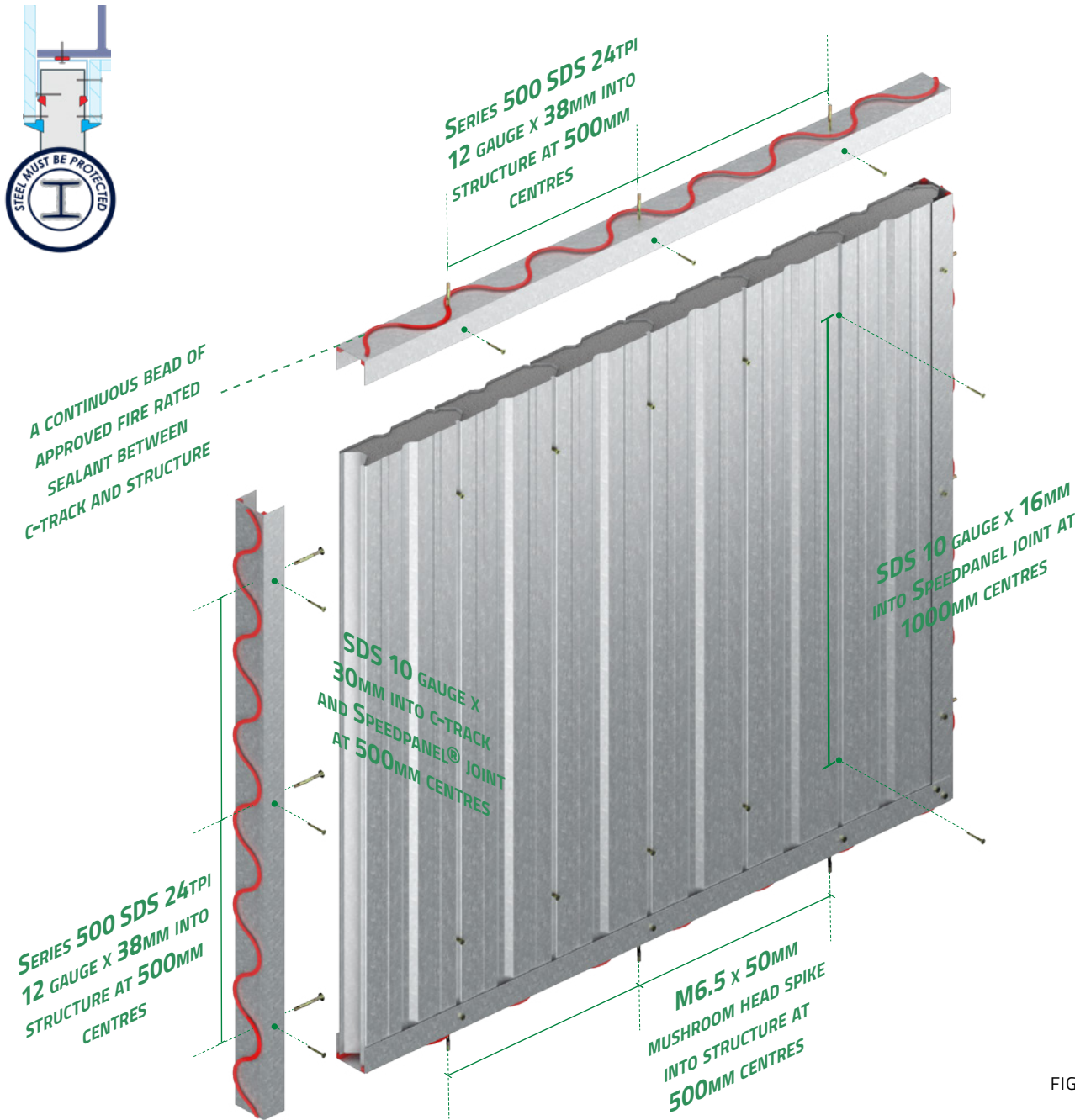


FIGURE 23

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.

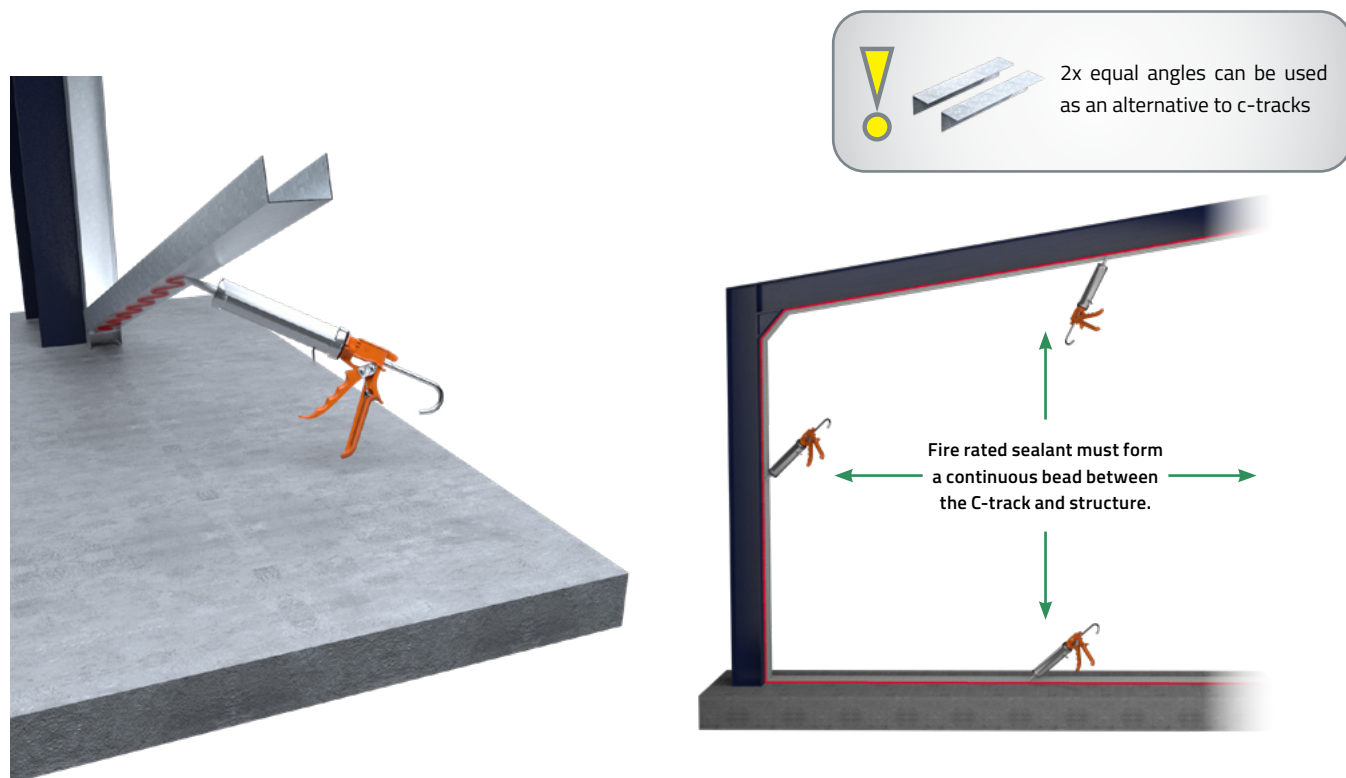


FIGURE 24

STEP 2 - DRILL & FIX C-TRACK TO STRUCTURE

Drill through C-track/angles into structure at 500mm centres and then fix the C-track into structure using appropriate fixings.

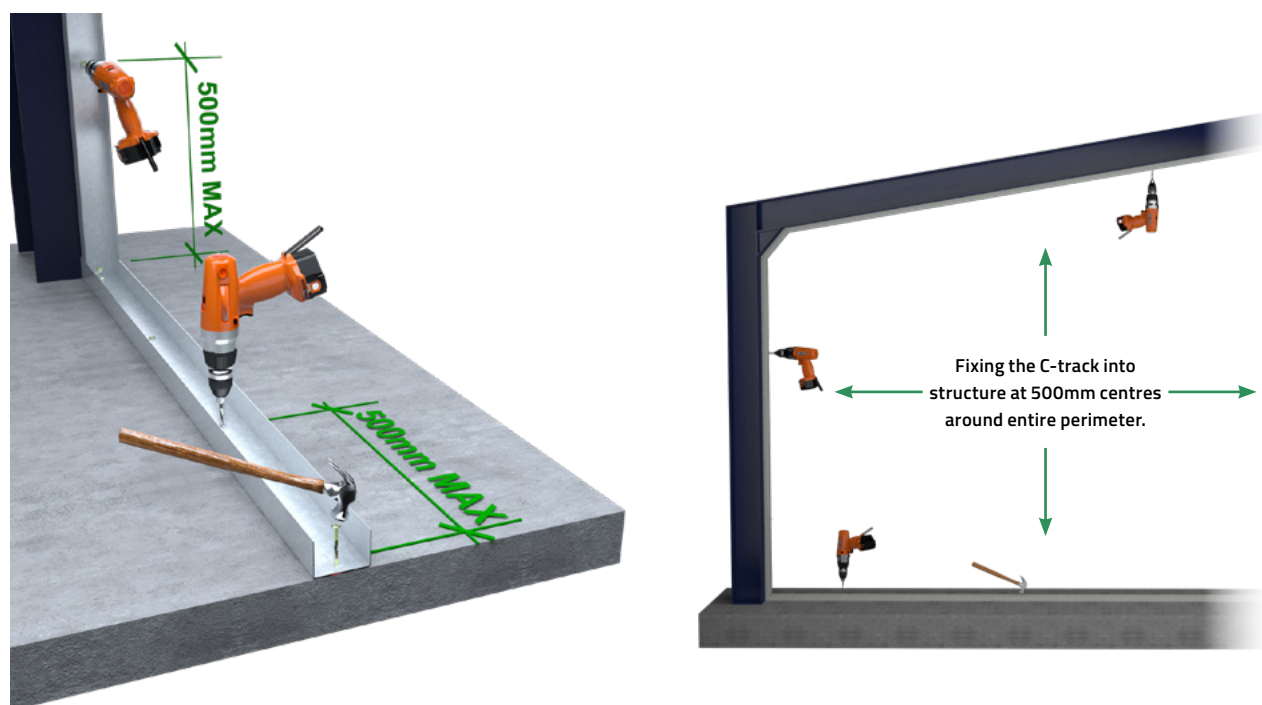


FIGURE 25

Vertical Installation

STEP 3 - 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.

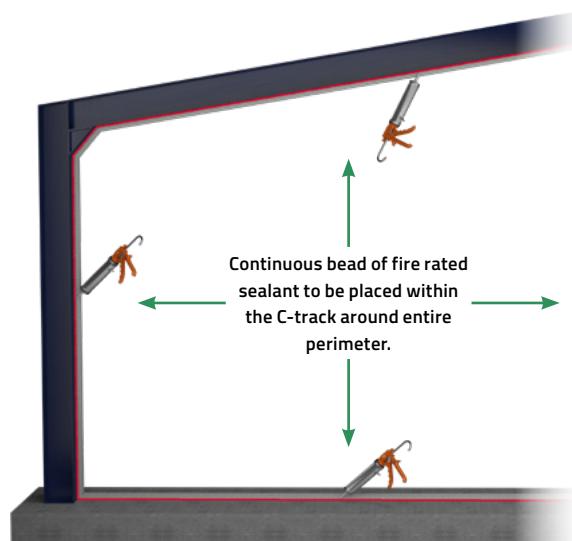
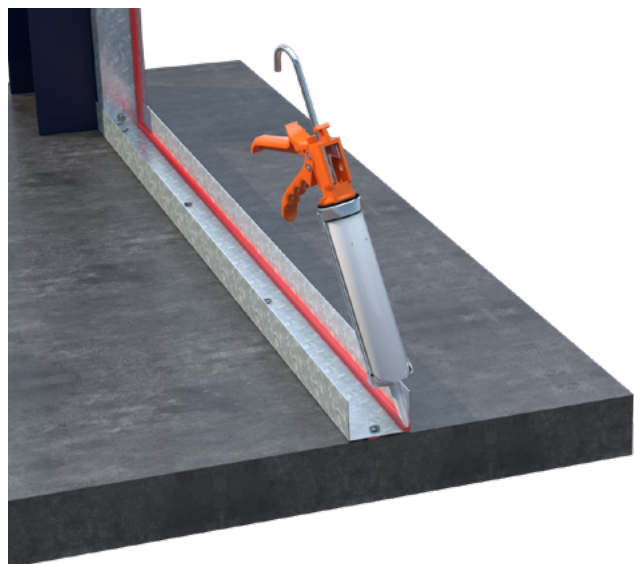


FIGURE 26

STEP 4 - 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].

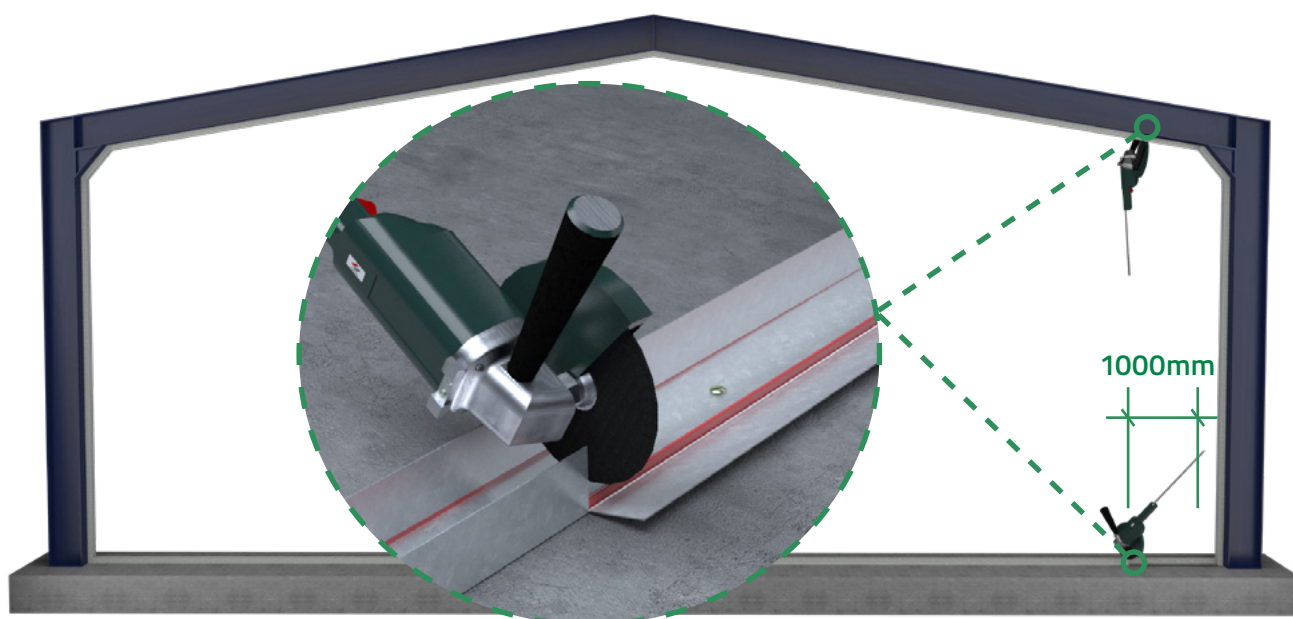


FIGURE 27

STEP 5 - INSTALL SPEEDPANEL® VERTICALLY

Remove plastic film. Before sliding panels into place, make sure the top panel is cut to match with the roof angle of the structural element that the track is installed into. Speedpanel® recommends to use one of the tools below to cut the panel:

- Sabre saw (also known as a reciprocating saw)
- Radial saw with dust extraction

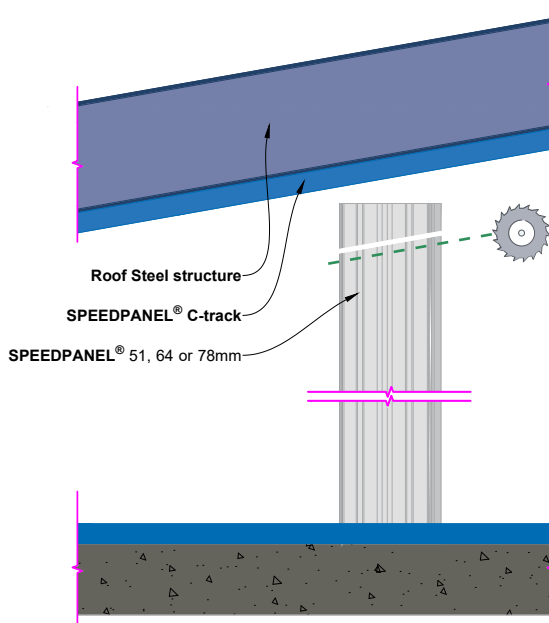


FIGURE 28

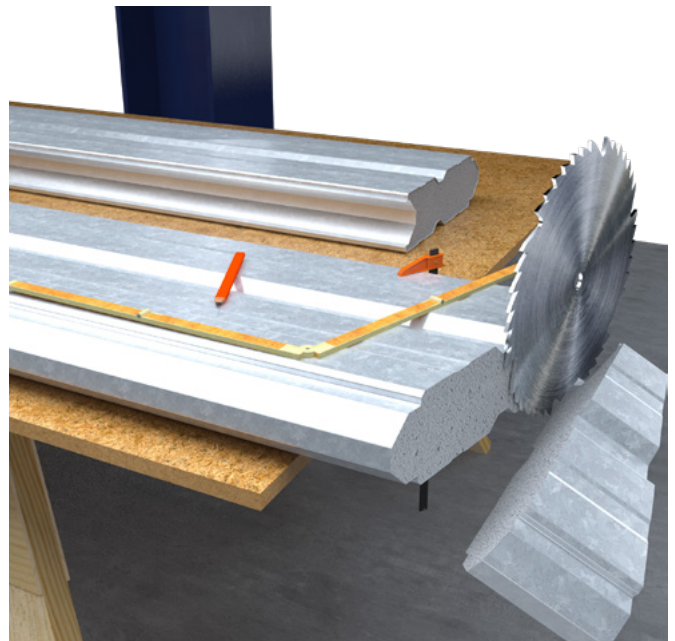


FIGURE 29

Slide each of your panels into the C-track, stopping at the folded C-track section. Panels should be a maximum of 20mm shorter than the tight dimension between structures to assist with fitting. (e.g. slab to steel portal frame = 4.0m, panel length will be 3.98m)

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

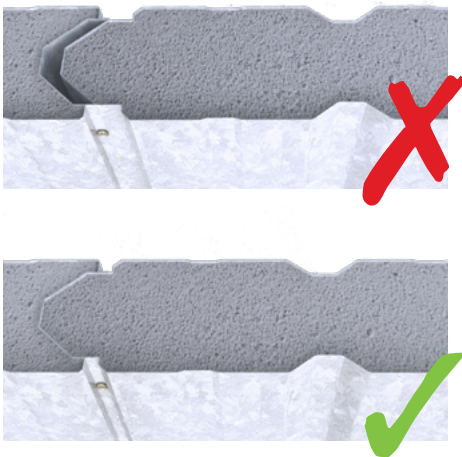


FIGURE 30

Speedpanel® products are typically manufactured with a protective plastic film to provide defence against staining and cosmetic damage during manufacturing, handling and transportation. In all applications the plastic film is required to be removed prior to installation. Please refer to page 5 for more information.



FIGURE 31

Vertical Installation

STEP 6 - FITTING FINAL PANELS

Install the last four panels by placing the panels in an arc, and in one movement, snapping them into place.

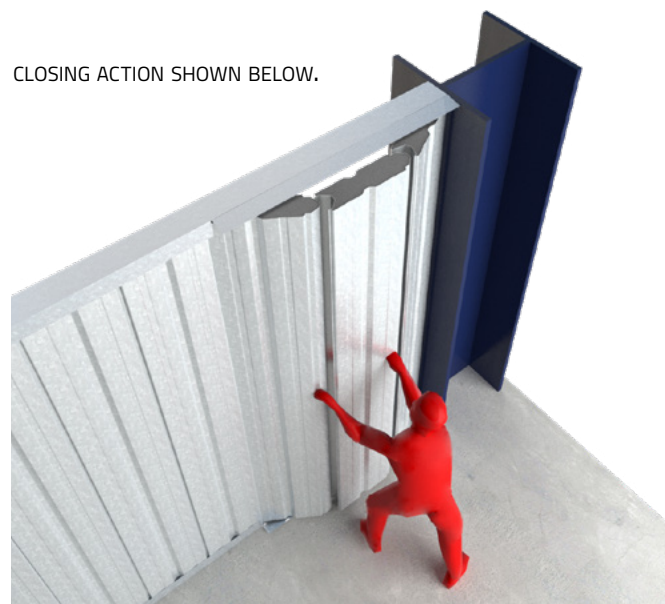


FIGURE 32

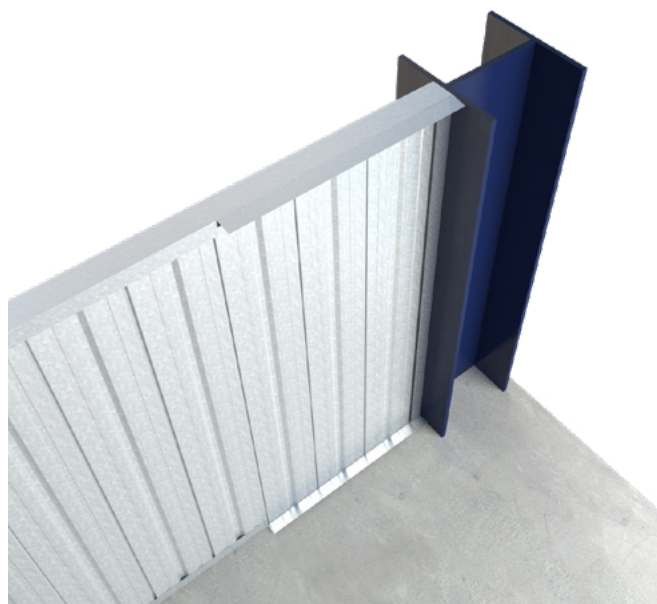


FIGURE 34

FOLD TRACK FLANGE BACK & PLACE SEALANT OVER NOTCHES

Once the wall is completed, fold back the track flange to its original location. Screw fix on both sides of the notch and seal well with fire rated sealant.

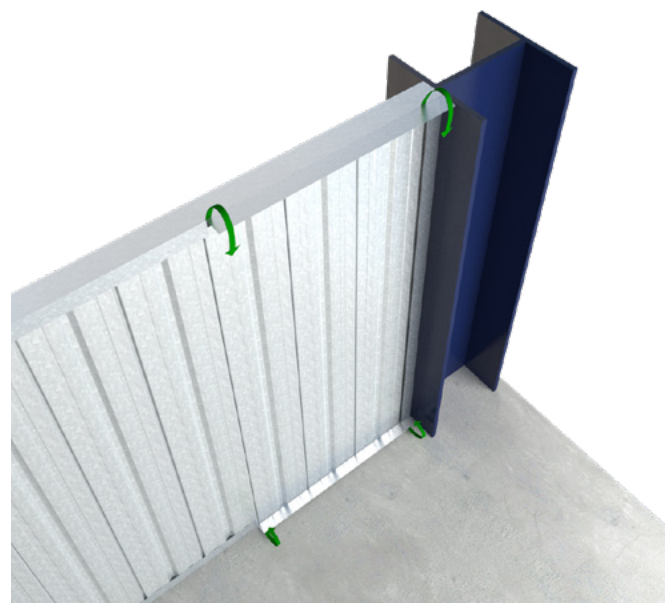


FIGURE 33



FIGURE 35

STEP 7 - 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

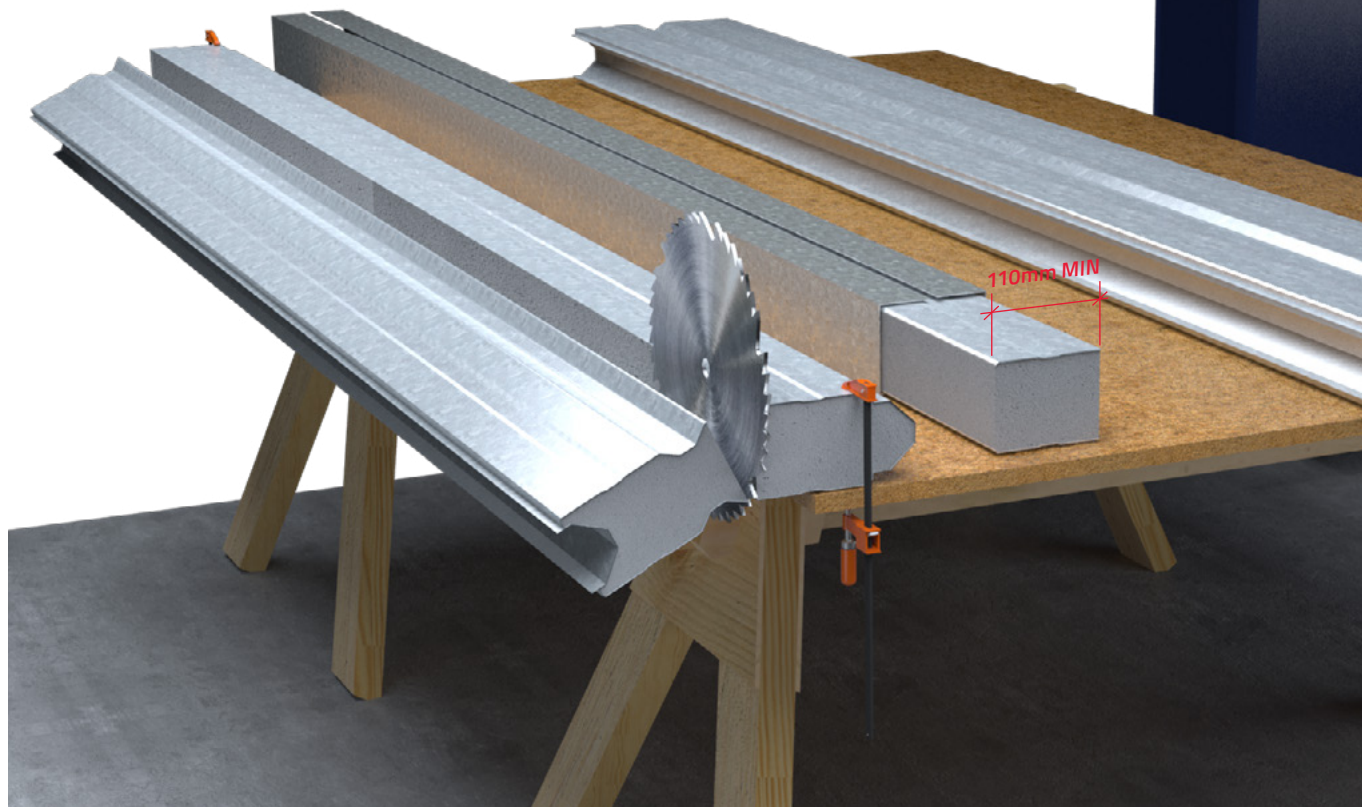


FIGURE 36

FITTING FINAL PANELS (RIPPED)

Using the snapping together method of finishing a wall. Outlined in step 6, 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 110mm.

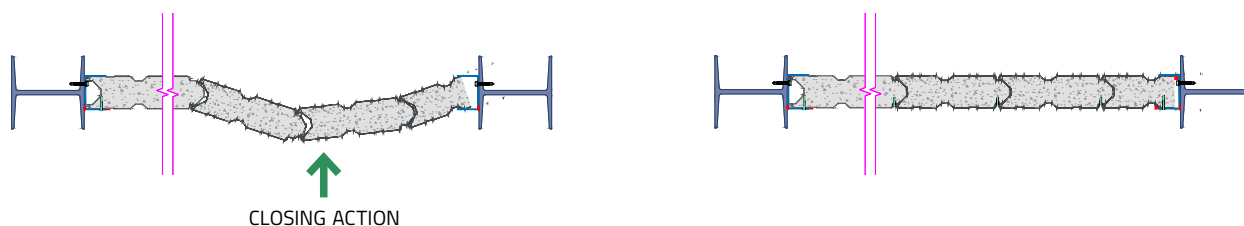


FIGURE 37

Vertical Installation

STEP 8 - STANDARD FIXINGS OF VERTICAL WALLS

A) WALLS UP TO 6.0m IN HEIGHT

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. All panels are screwed directly into the panel joints 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 as shown.

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

78

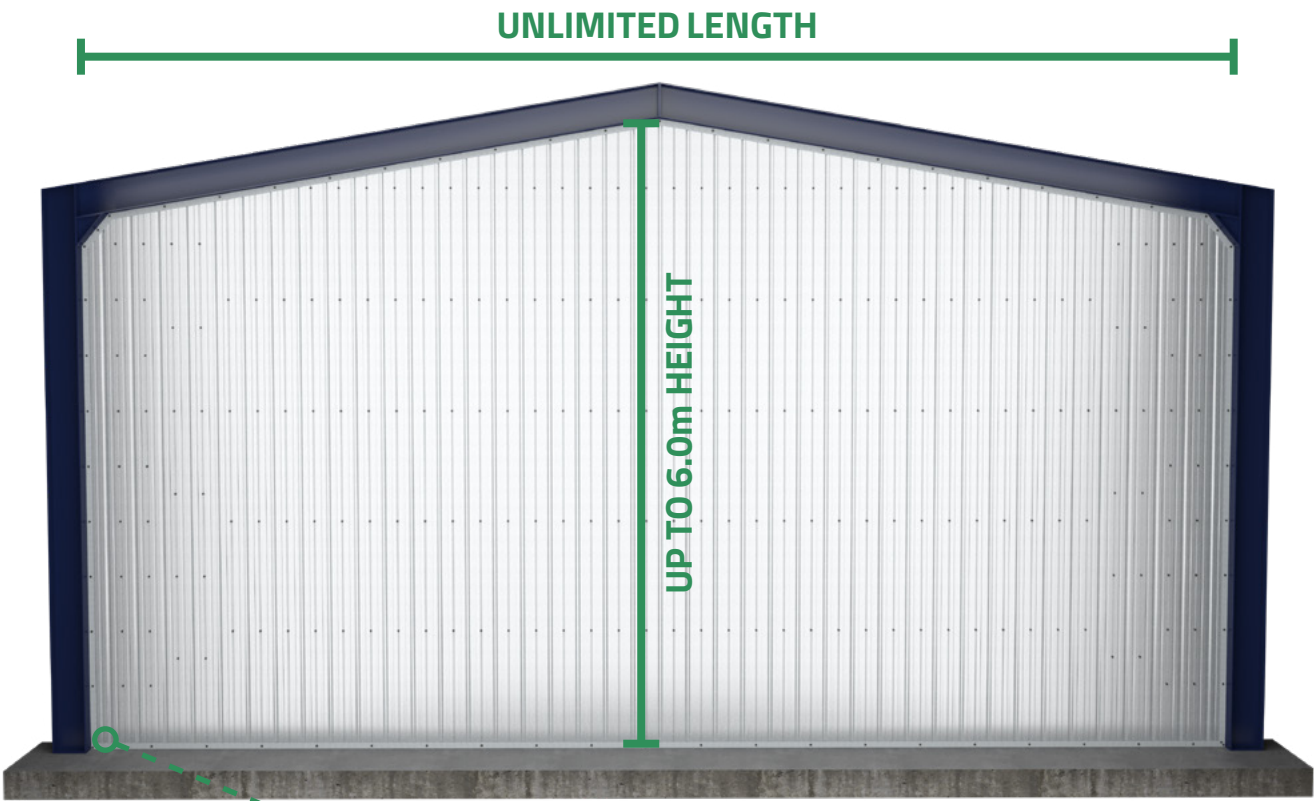
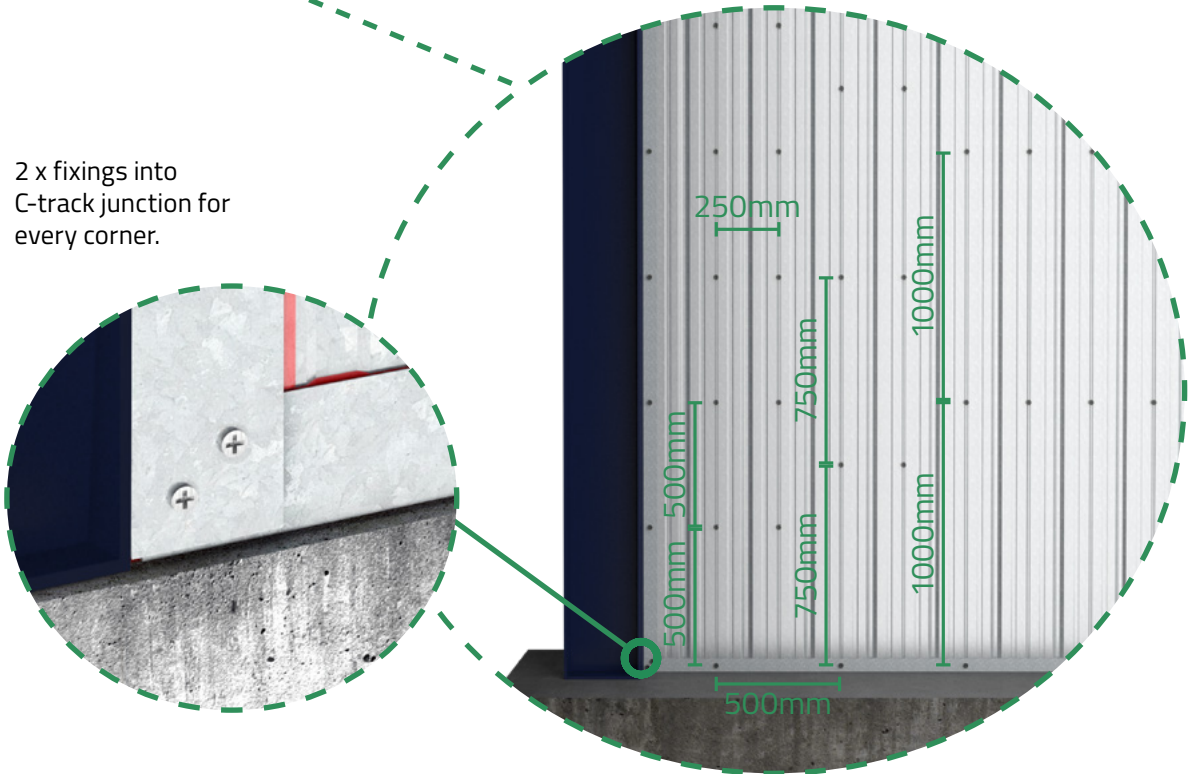


FIGURE 38

2 x fixings into C-track junction for every corner.



B) WALLS UP TO 8.0M IN HEIGHT - SITE SPECIFIC ENGINEERING

Walls up to 8.0m high require additional structure to withstand the extra load. Bracings should be used for walls greater than 6.0m in height as per Fire Assessment 31919000 - Table 4. Various types of bracings can be engineered. The type will depend on the location of the wall, other structural elements and any associated wind loads. Wall bracing and all related supporting elements may also require fire protection. For more specific information please contact our office on +61 3 9115 6666.

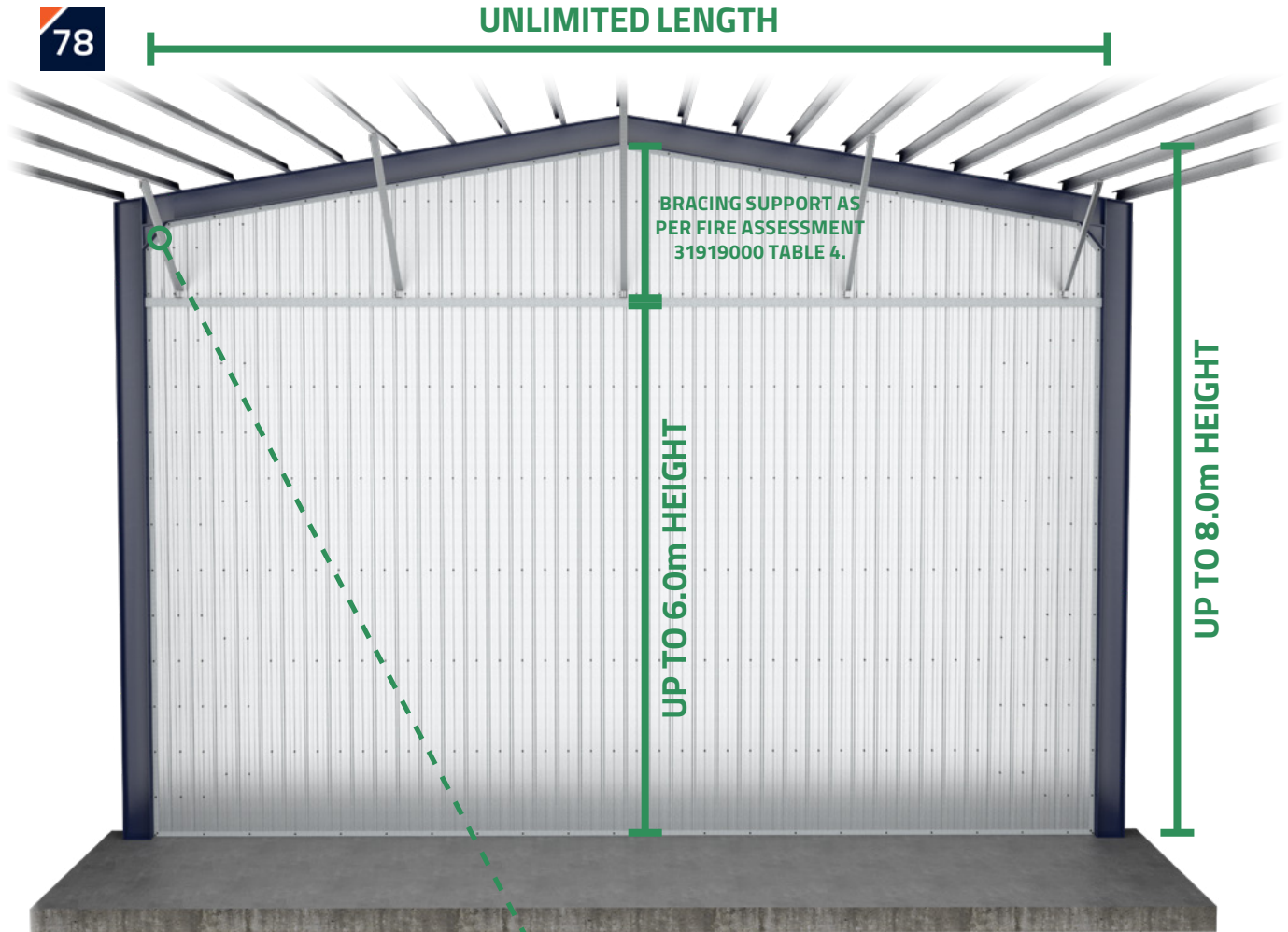
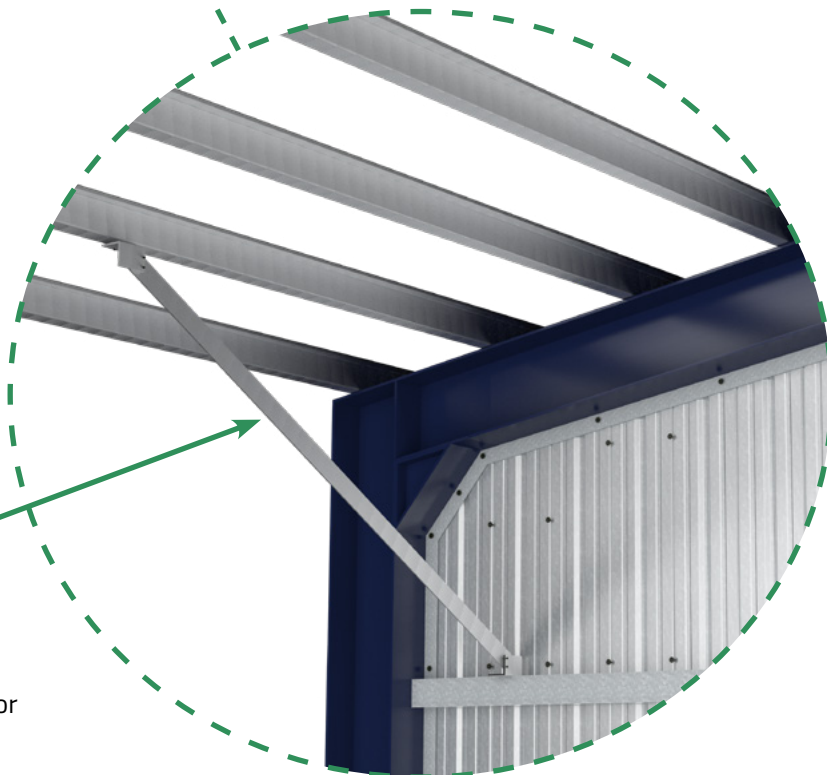


FIGURE 39

In some cases it may be necessary to add additional structural connections and/or bracing. These requirements are outside of our scope and are to be designed and/or engineered by others.



Vertical Installation

STEP 9 - PLACE SEALANT BEAD TO C-TRACK PERIMETER

Apply fire rated sealant along the borders of the wall - top, bottom, left and right - where C-track meets Speedpanel®. This should be applied to one side of the wall only.



FIGURE 40

STEP 10 - PROTECTION OF STRUCTURAL STEEL AND SPEEDPANEL®

OPTION 1 - PROMATECT® 250 BOARD

Apply Promatect® 250 Board on to steel structure in-line with manufacturer's and/or project engineer's specifications. Thickness of Promatect® 250 Board on structural steel elements must be as per manufacturer's and/or project engineer's specifications. Thickness of Promatect® 250 Board on Speedpanel system must be a minimum 15mm thick board with a 100mm overlap on fire rated sides.

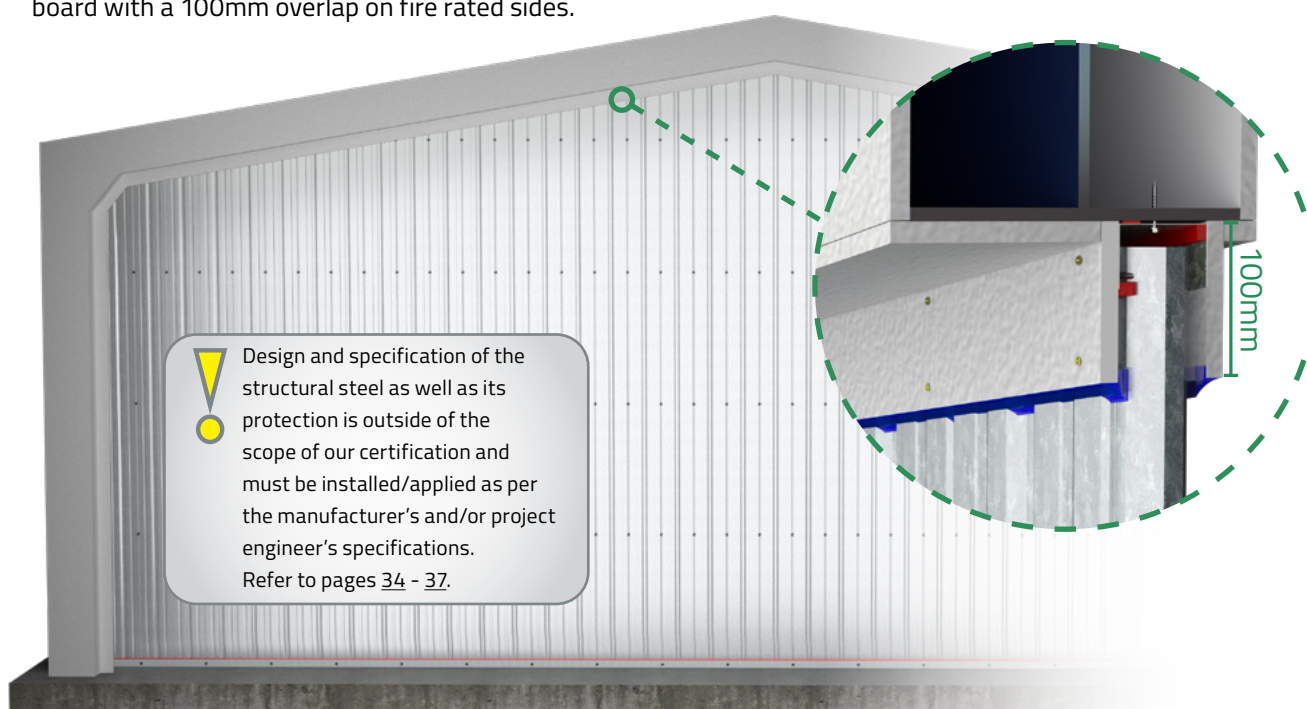


FIGURE 41

OPTION 2 - CAFCO® 300 VERMICULITE SPRAY

Apply Promat CAFCO® Vermiculite spray on to steel stucture in line with manufacturer's and or project engineer's specifications. Thickness of CAFCO® Vermiculite spray on structural steel elements must be as as per manufacturer's and/or project engineer's specifications. Thickness of CAFCO® Vermiculite spray on Speedpanel system must be a minimum 25mm thick with a 100mm overlap on fire rated sides.

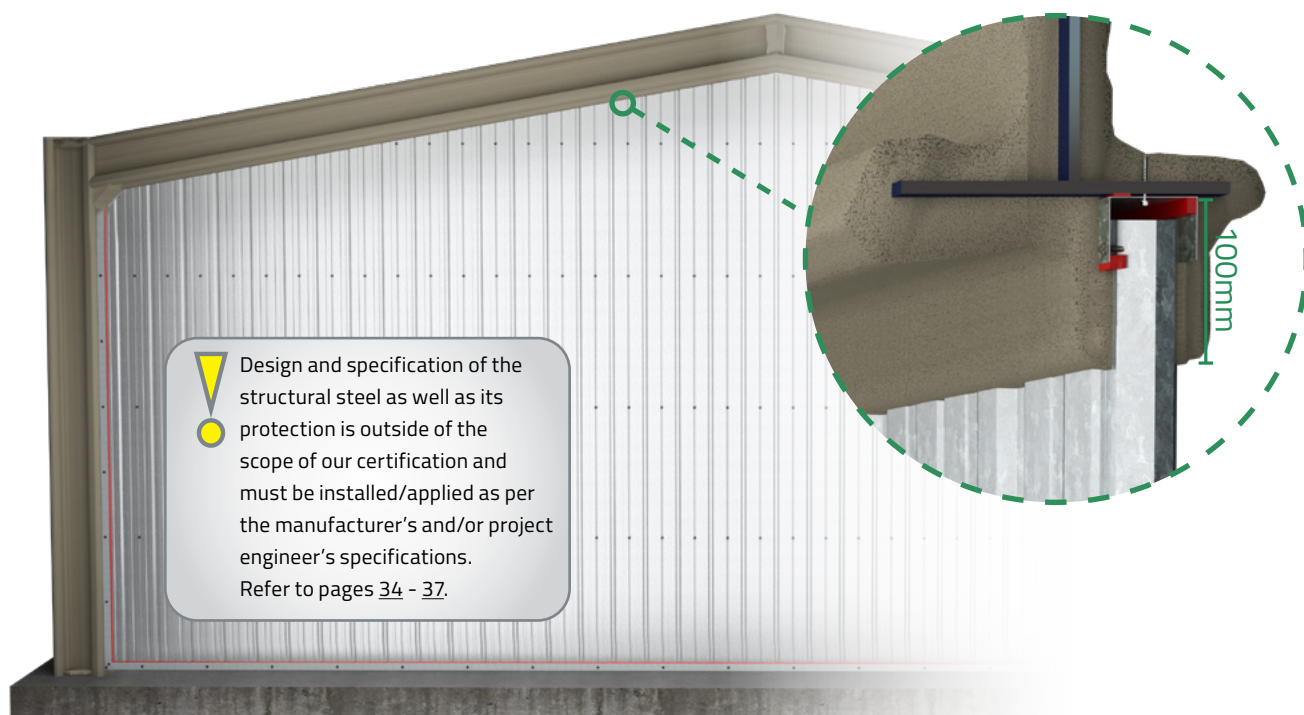


FIGURE 42

OPTION 3 - FENDOLITE® MII CEMENTITIOUS SPRAY

Apply Fendolite® MII Cementitious spray on to steel stucture in line with manufacturer's and or project engineer's specifications. Thickness of Fendolite® MII Cementitious spray on structural steel elements must be as as per manufacturer's and/or project engineer's specifications. Thickness of Fendolite® MII Cementitious spray on Speedpanel system must be a minimum 25mm thick with a 100mm overlap on fire rated sides.

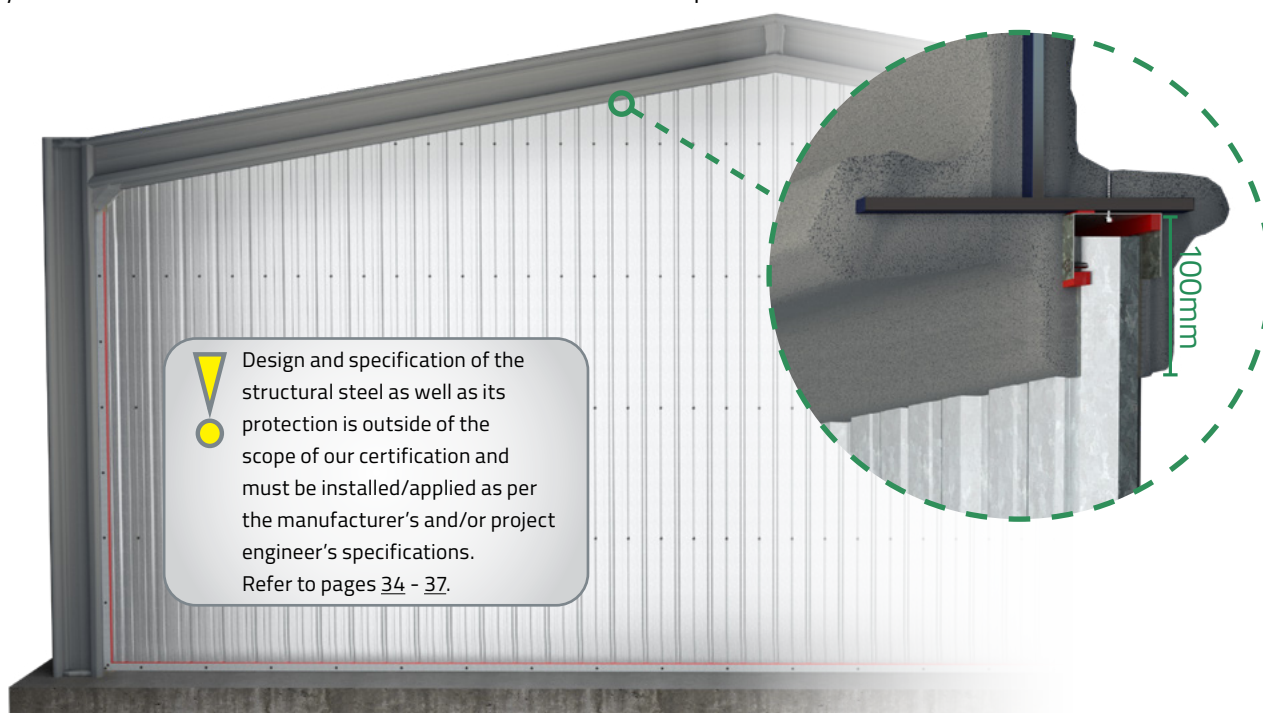


FIGURE 43

Head Details

PLASTERBOARD PROTECTED HEAD TRACK

120mm strip of 13mm fire rated plasterboard and appropriate sealant positions.

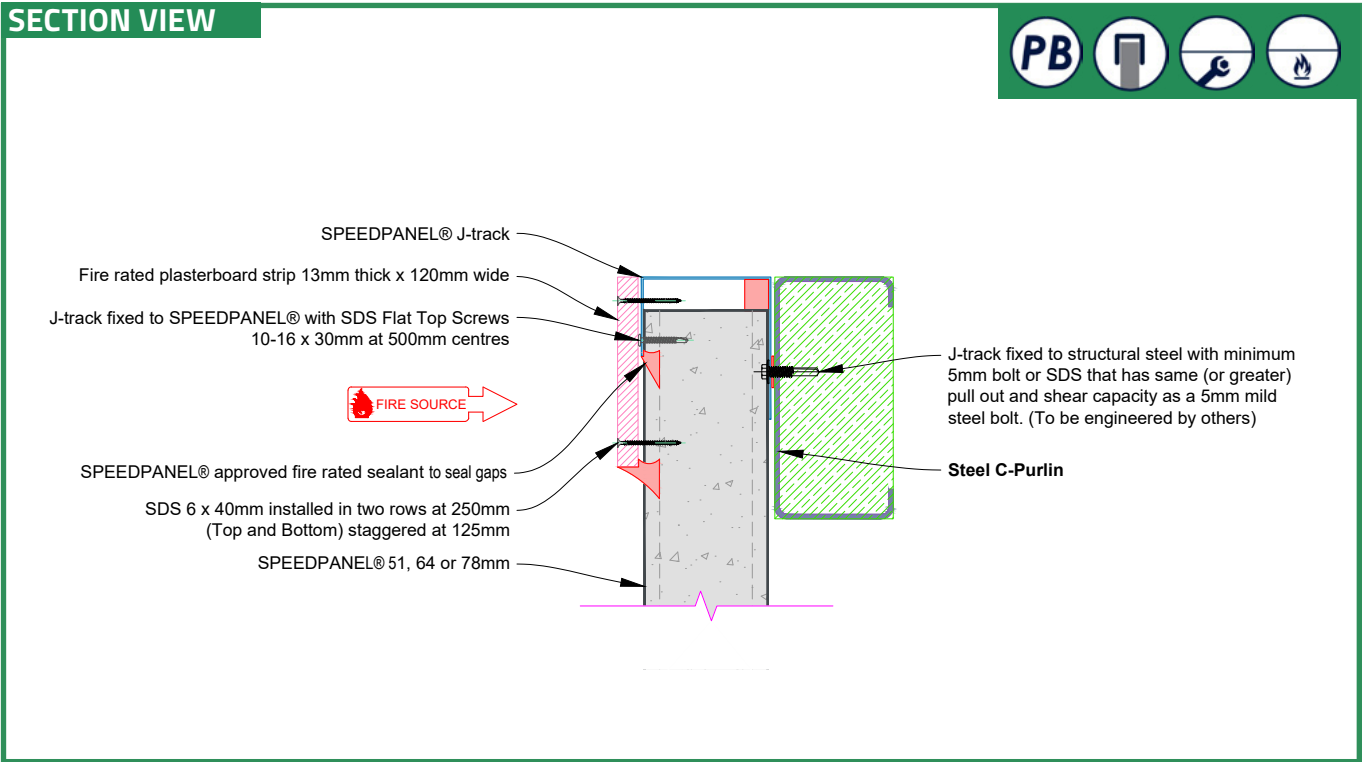


FIGURE 44 ³

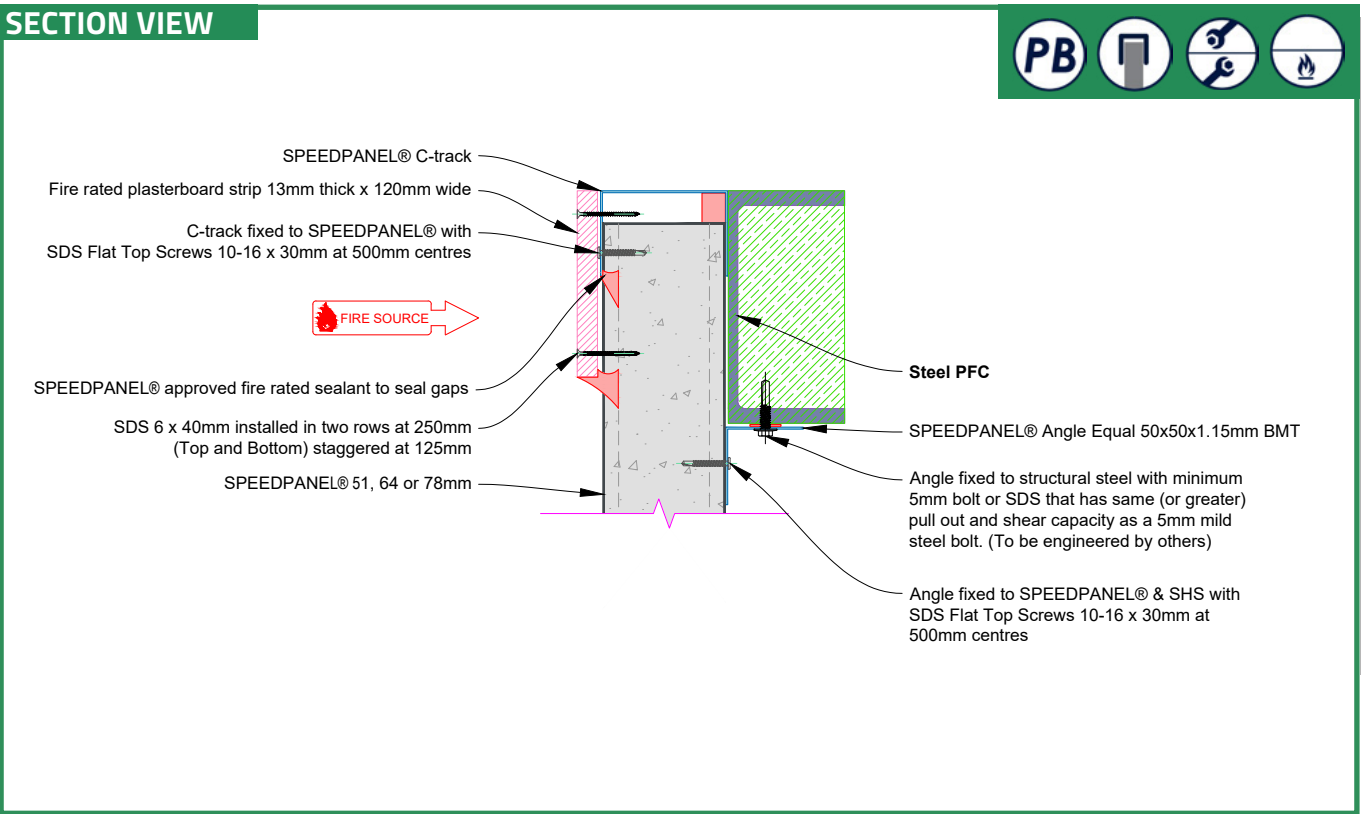


FIGURE 45 ³

SECTION VIEW

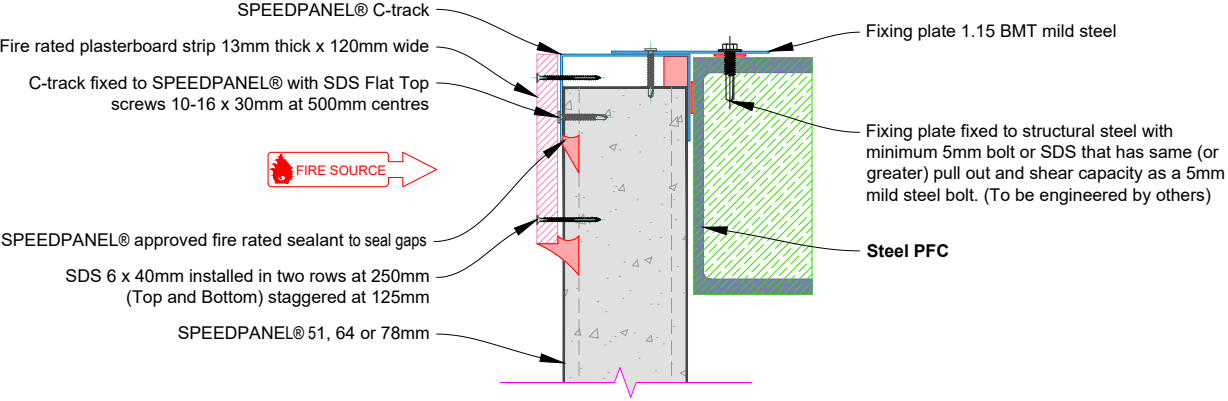


FIGURE 43 ³

PLASTERBOARD & PROMAT PROTECTED HEAD TRACK

120mm strip of 13mm fire rated plasterboard, appropriate sealant positions and Promat steel protection options.

SECTION VIEW

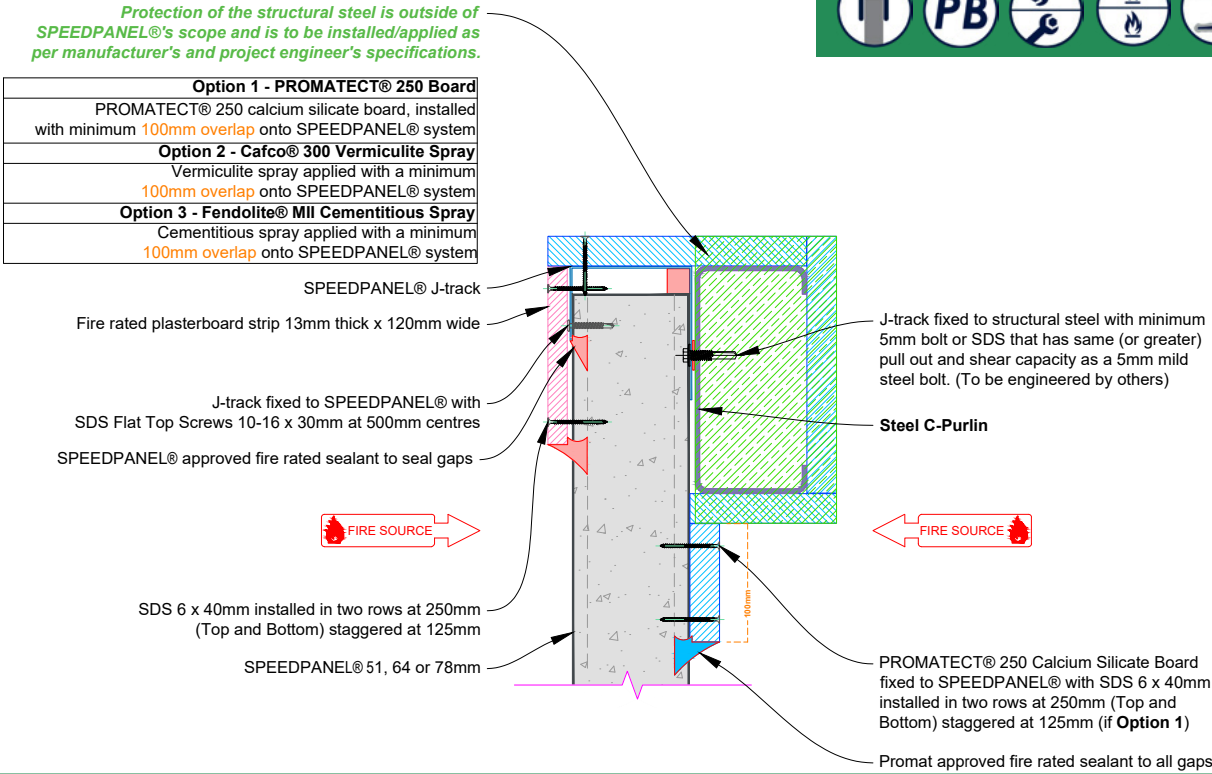


FIGURE 46 ³

Head Details - Continued

PLASTERBOARD & PROMAT PROTECTED HEAD TRACK

120mm strip of 13mm fire rated plasterboard, appropriate sealant positions and Promat steel protection options.

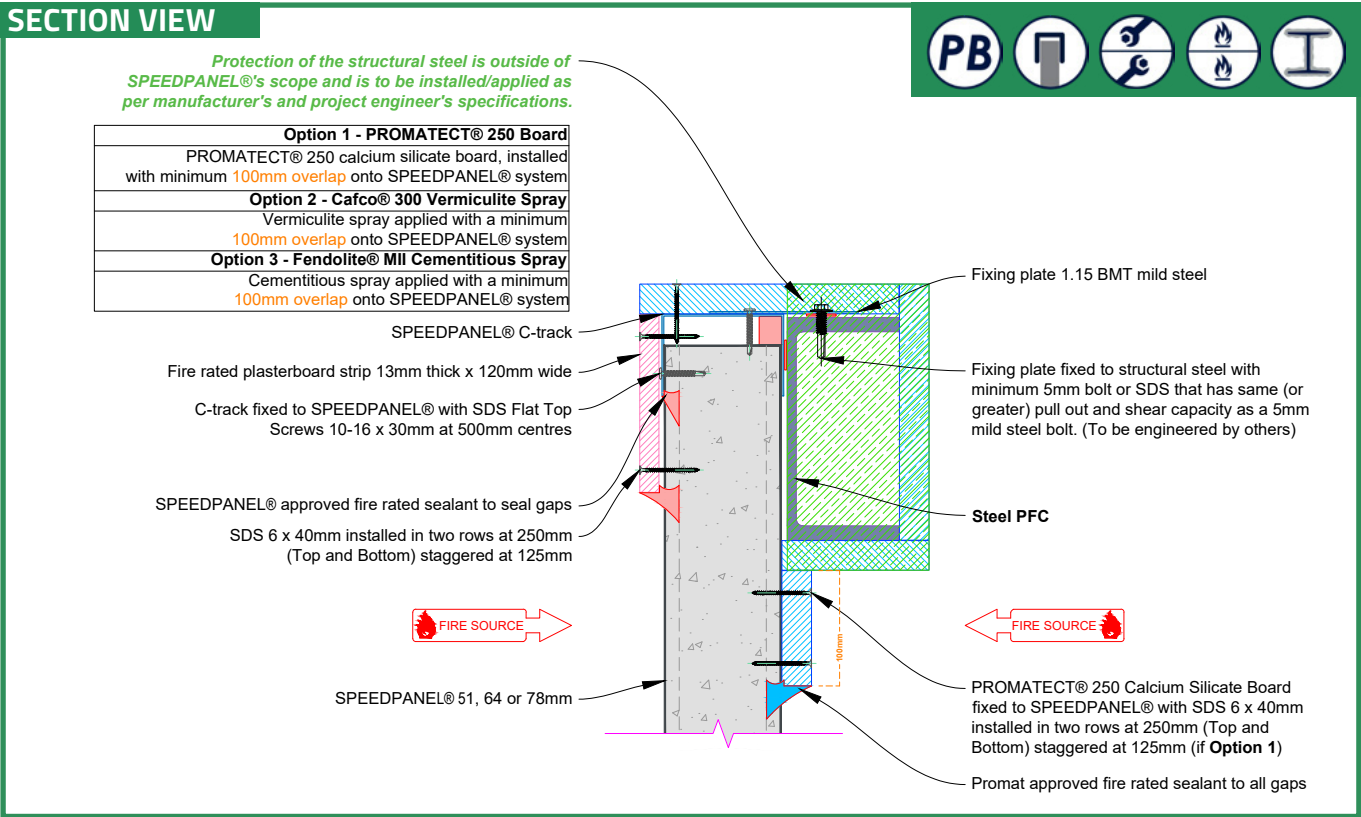


FIGURE 47 ³

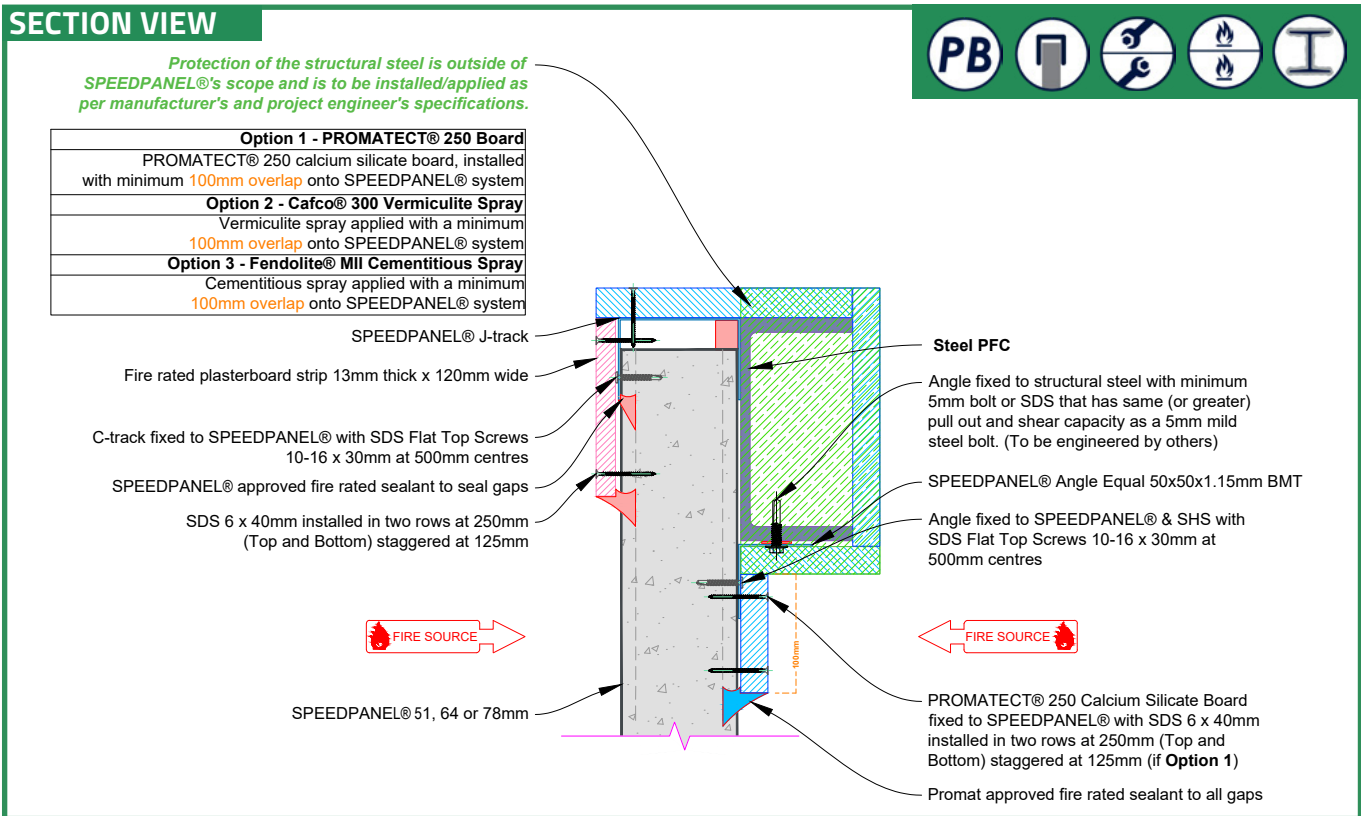


FIGURE 48 ³

PROMAT PROTECTED HEAD TRACK

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

SECTION VIEW

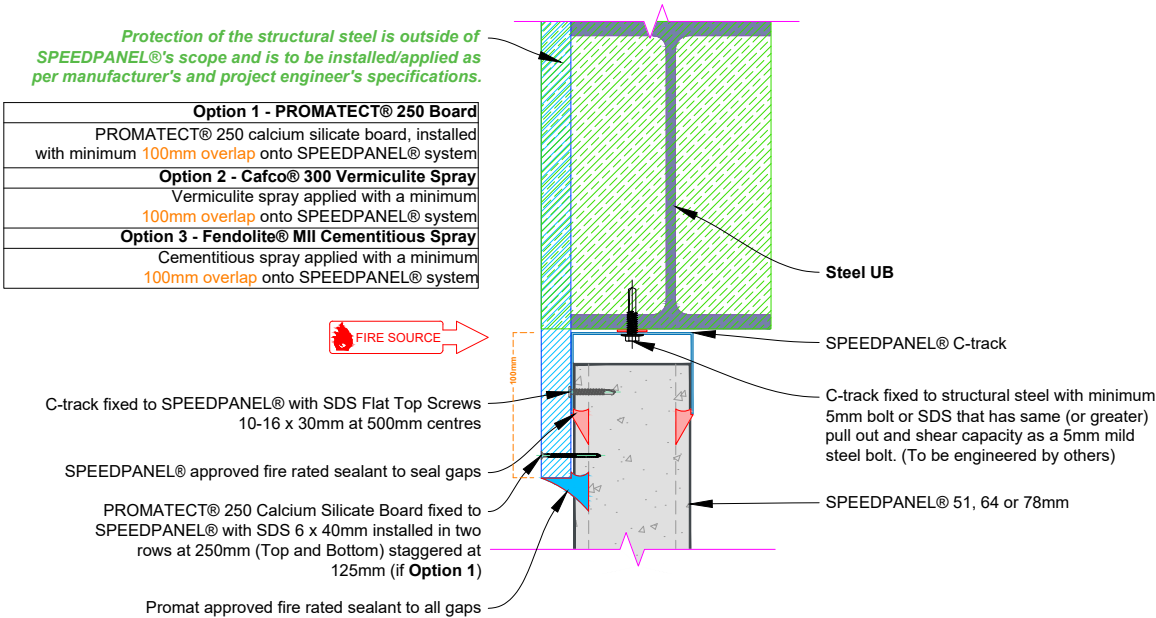


FIGURE 49 3

SECTION VIEW

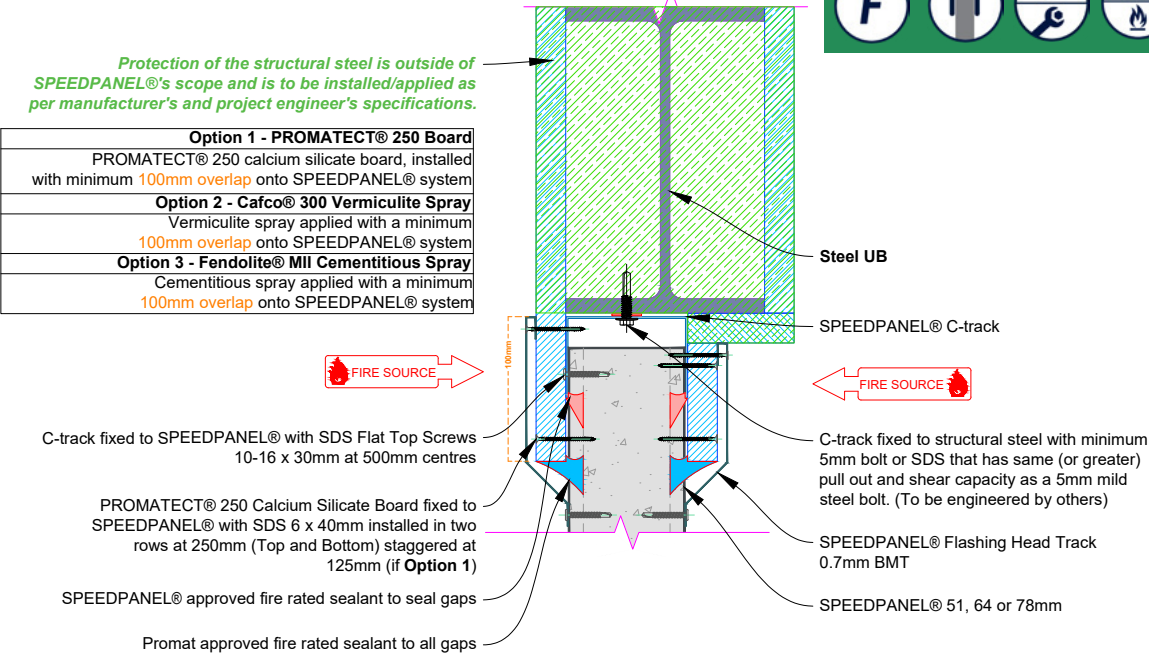


FIGURE 50 3

HEAD TRACK (EQUAL ANGLES)

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 one equal angle in line with wall position and then add the other angle when all of the panels are in place.

Note: Remember to apply sealant as explained previously in Chapter 2.3A “Vertical Installation”.

Note: Required 100mm overlap protection of Speedpanel® system connected to structural steel not shown for clarity purposes. Please refer to pages 34 to 37 for detailed information.

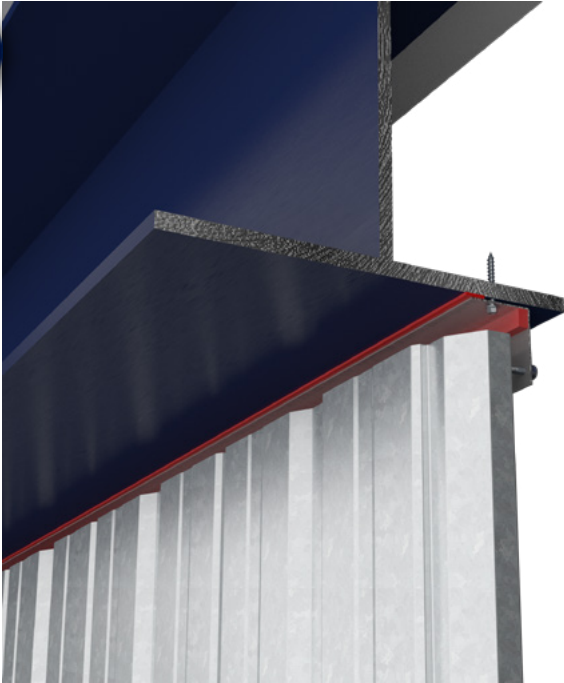


FIGURE 51

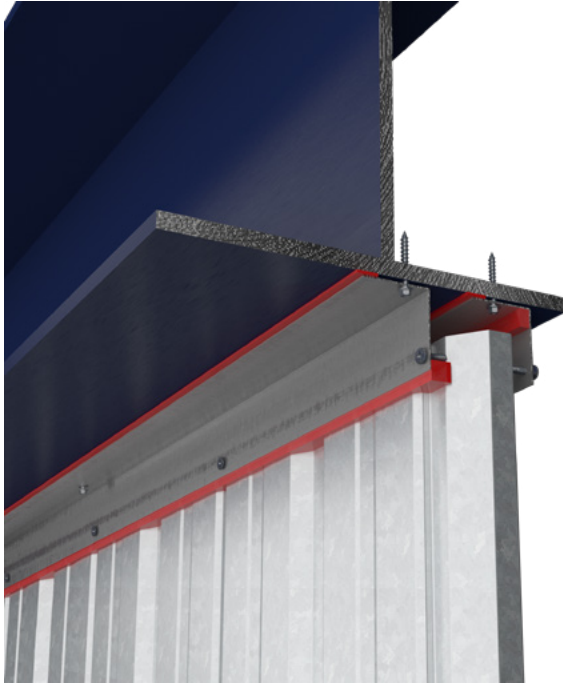


FIGURE 52

BOTTOM TRACK (EQUAL ANGLES)

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



FIGURE 53



FIGURE 54

Head Details Equal Steel Angle

PROMAT PROTECTED HEAD-TRACK

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

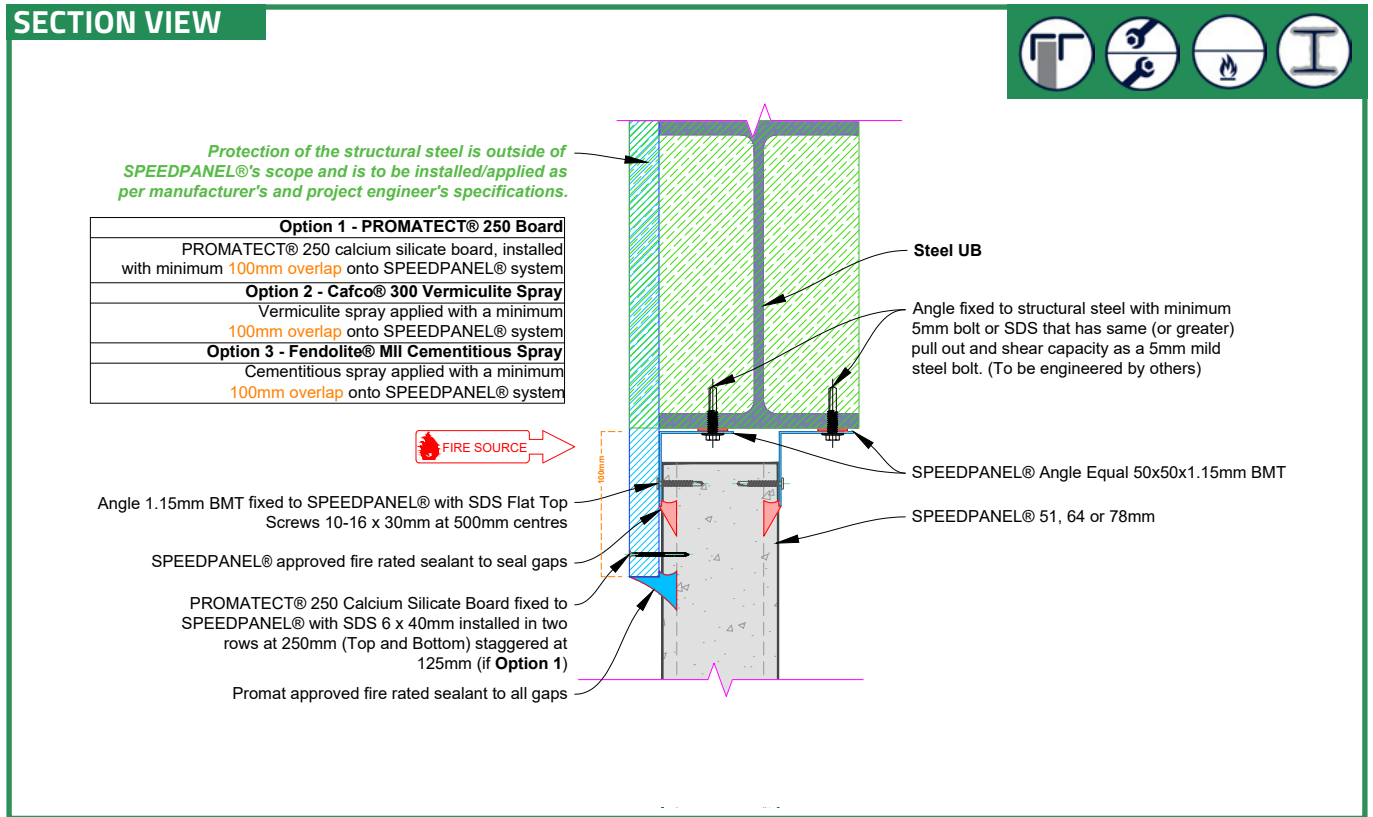


FIGURE 55³

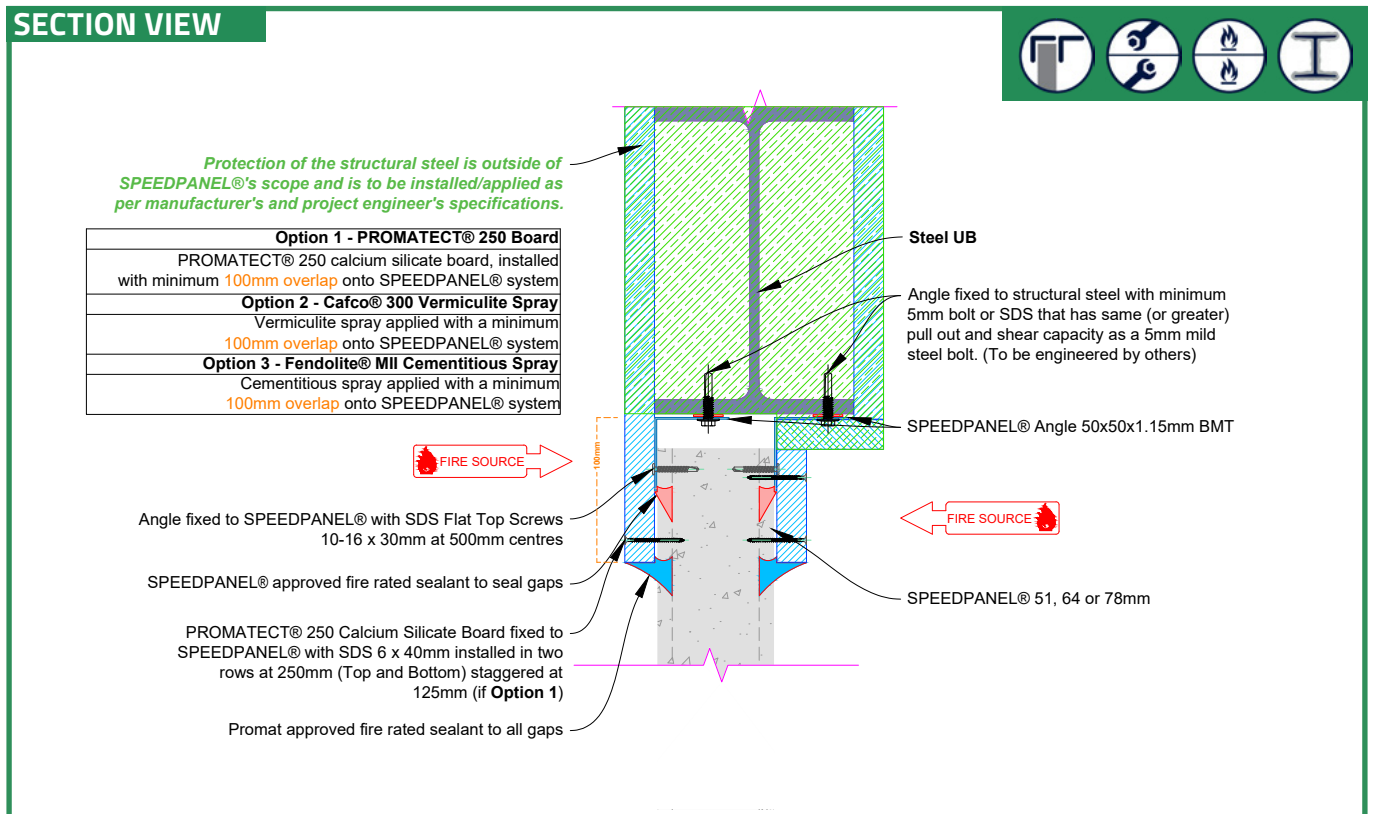


FIGURE 56³

Alternative Details

ROOF OVERHANG DETAIL

SECTION VIEW

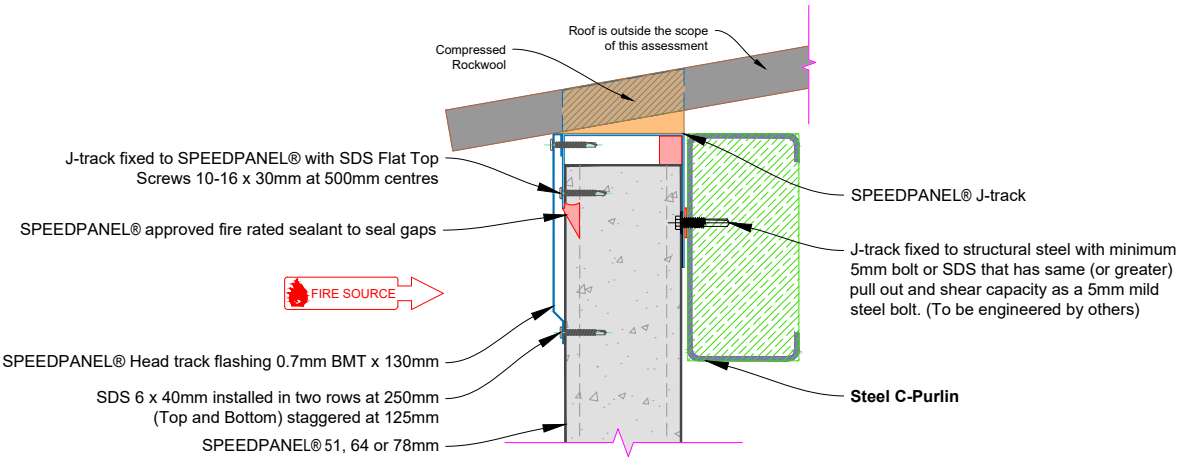


FIGURE 57³

ROOF GUTTER DETAIL

SECTION VIEW

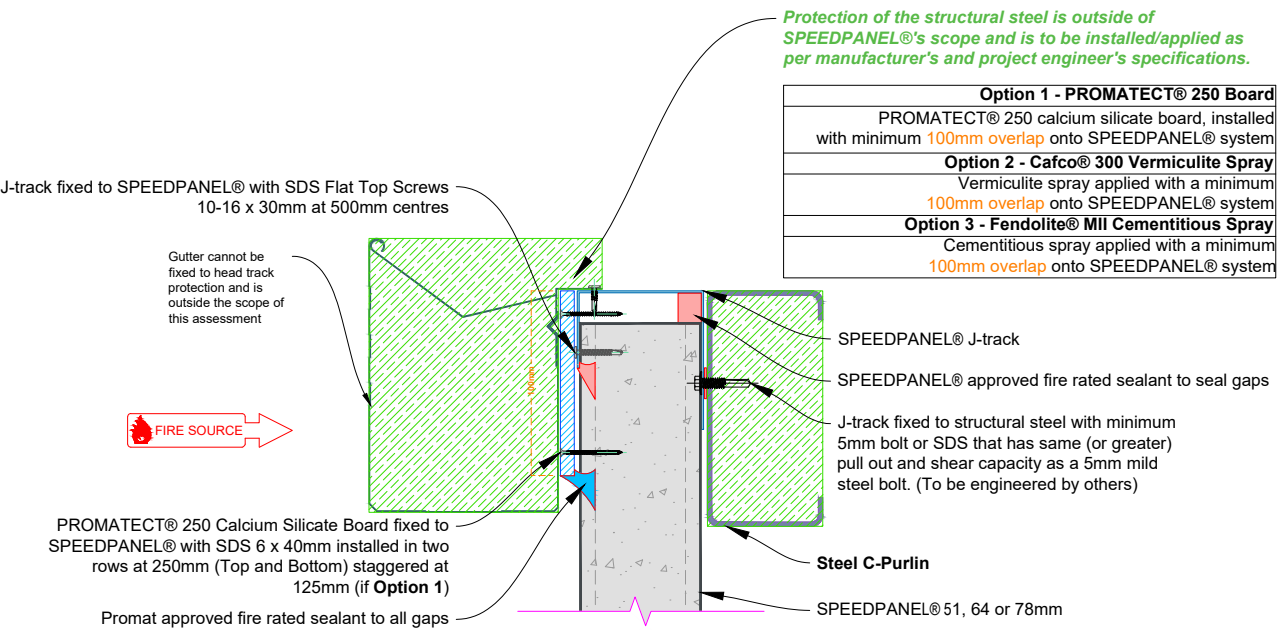


Figure 58³

BARGE FLASHING HEAD DETAIL

Using 0.7mm BMT Barge Flashing fixed to one side.

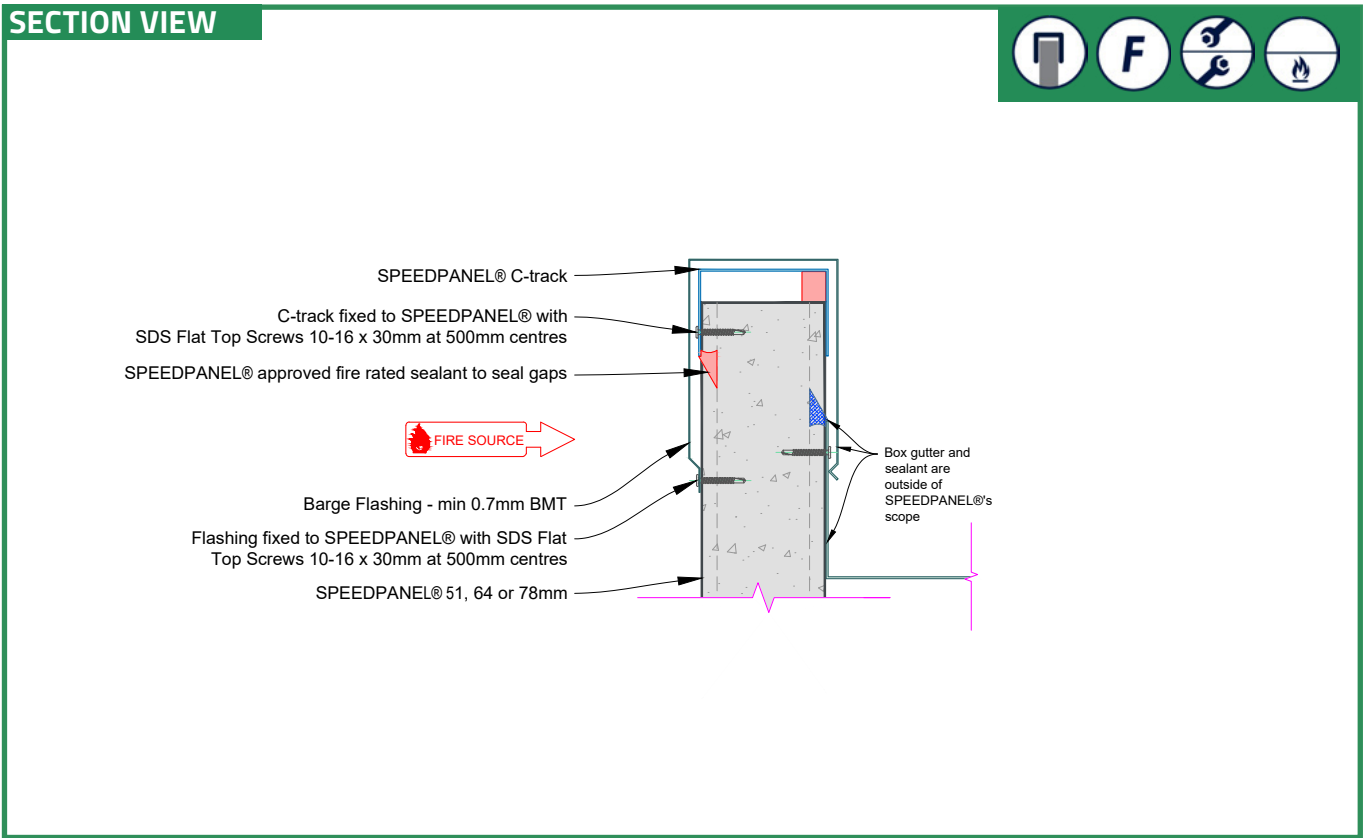


FIGURE 59 ³

Base Details

BASE DETAIL

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

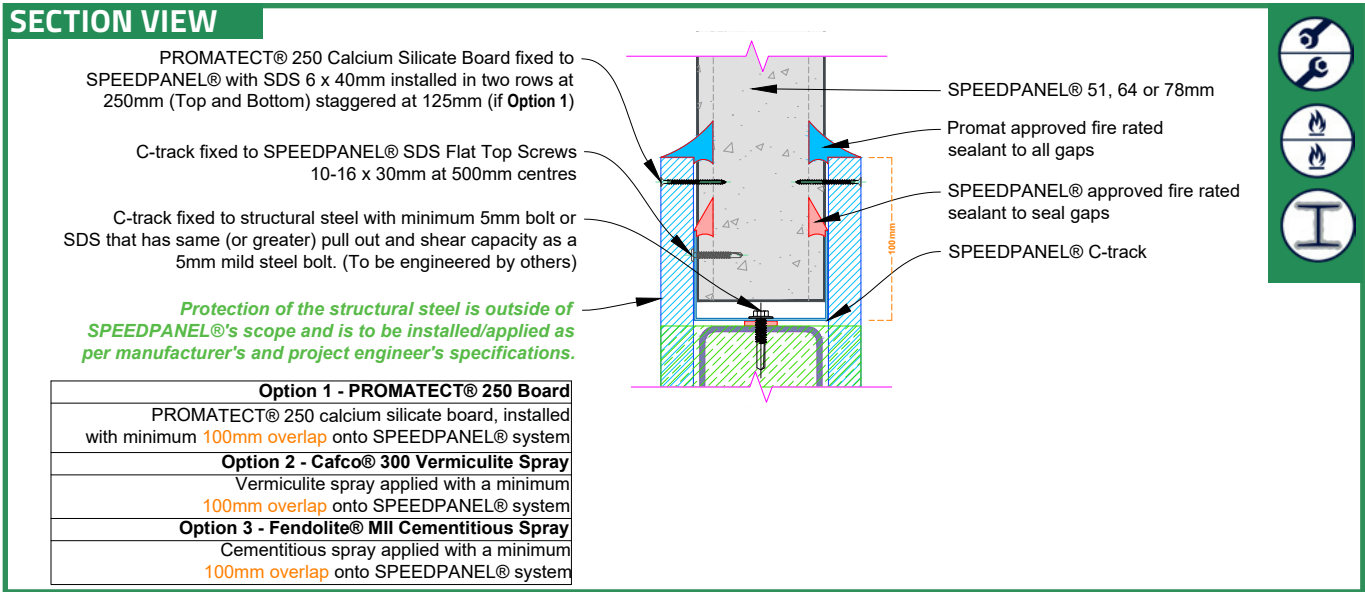


FIGURE 60 ³

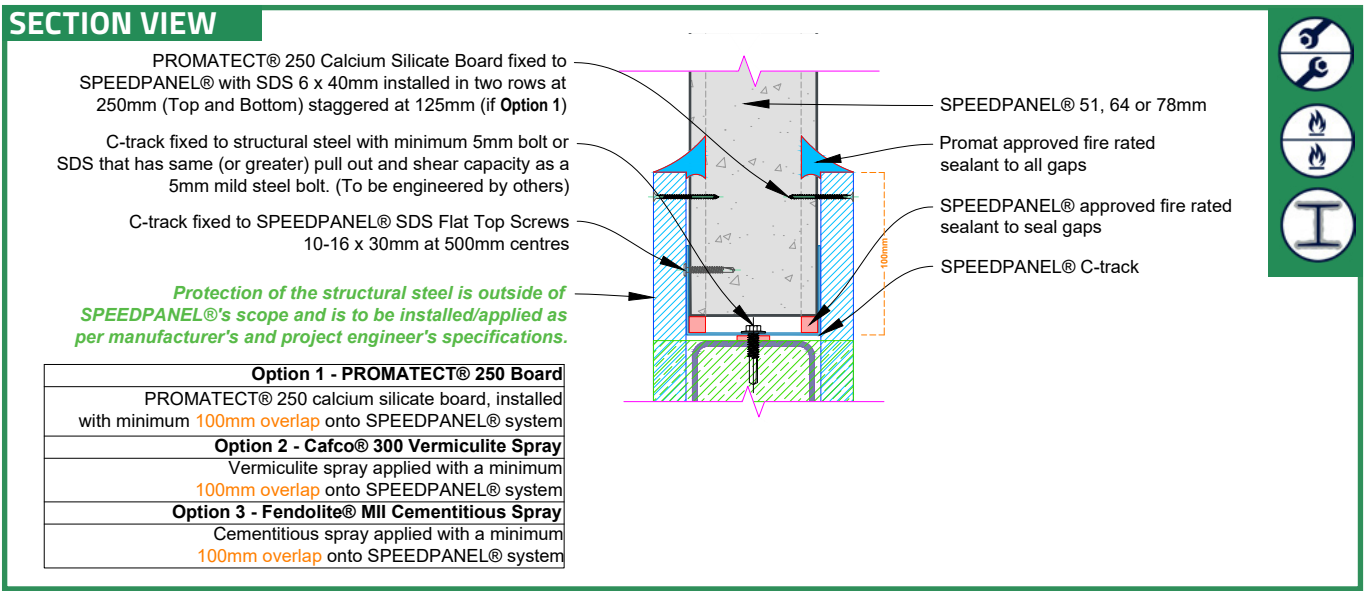


FIGURE 61 ³

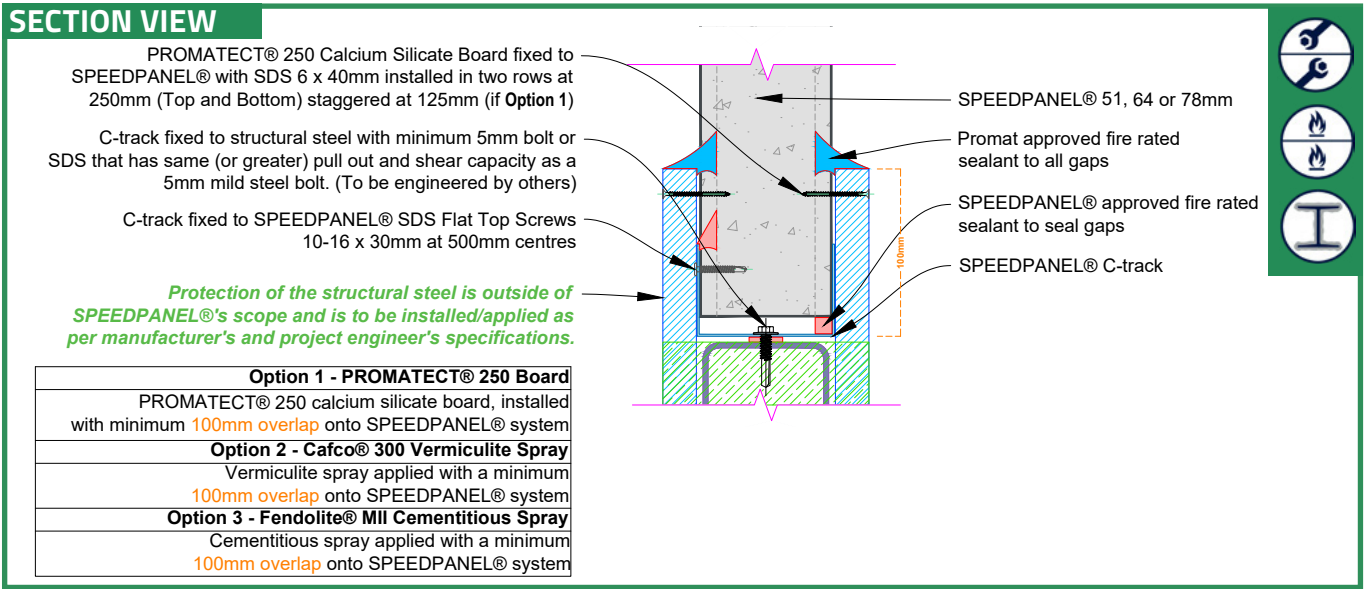


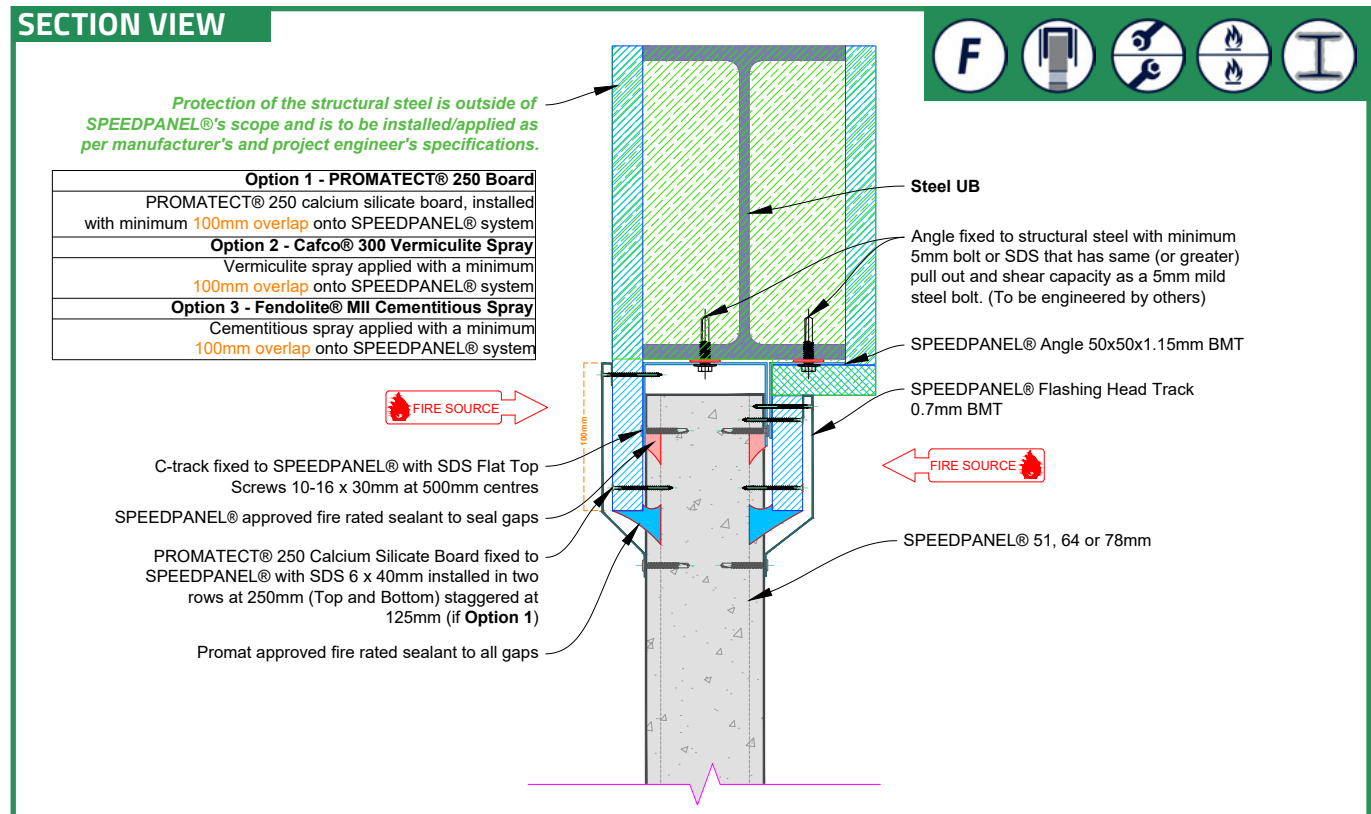
FIGURE 62 ³

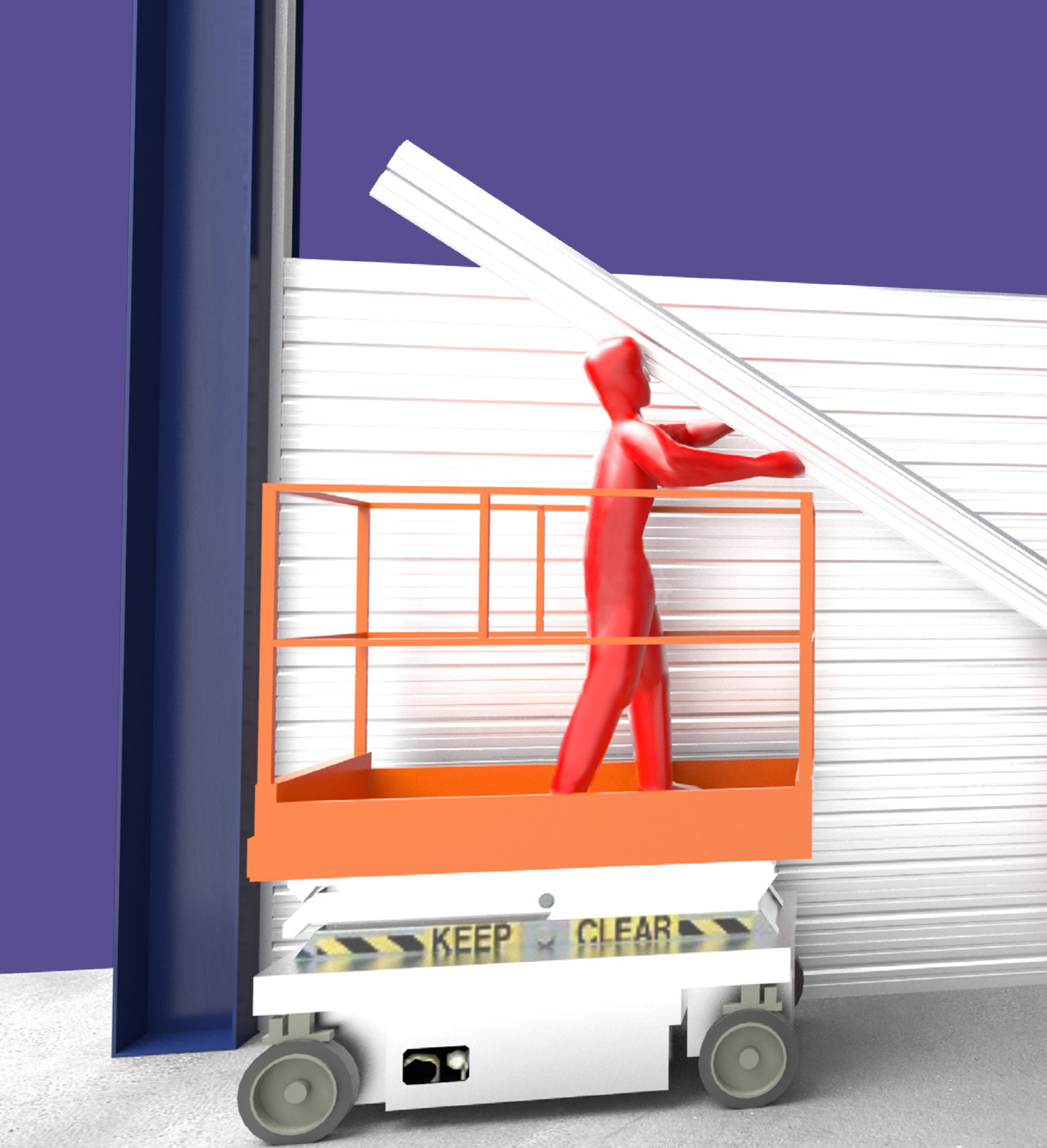
Suspended Head Track Details

SUSPENDED HEAD TRACK DETAIL

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

SECTION VIEW

FIGURE 63 ³



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



2 - REPORT 22551



3 - REPORT 31919000



4 - REPORT 28928

2.4



STEP BY STEP

HORIZONTAL INSTALLATION

2.4

HORIZONTAL INSTALLATION

KEY INFORMATION TO ASSIST IN ORDERING SPEEDPANEL®

1. Notify us of your fire and acoustic requirements.
2. Notify us of your wall spans - stock and custom sizes available.
3. Nominate: coloured steel or standard galvanised finish.
4. Determine how many panels you require.

WALL HEIGHT (MM)
PANEL LENGTH 250 (MM)

**AMOUNT OF
PANELS REQUIRED**
(ROUND UP TO
NEAREST UNIT OF 14,
17, OR 21 DEPENDING
ON THICKNESS)

HORIZONTAL SPEEDPANEL® SYSTEM

Note: Head protection (flashing or fire rated plasterboard) is not shown for clarity purposes.

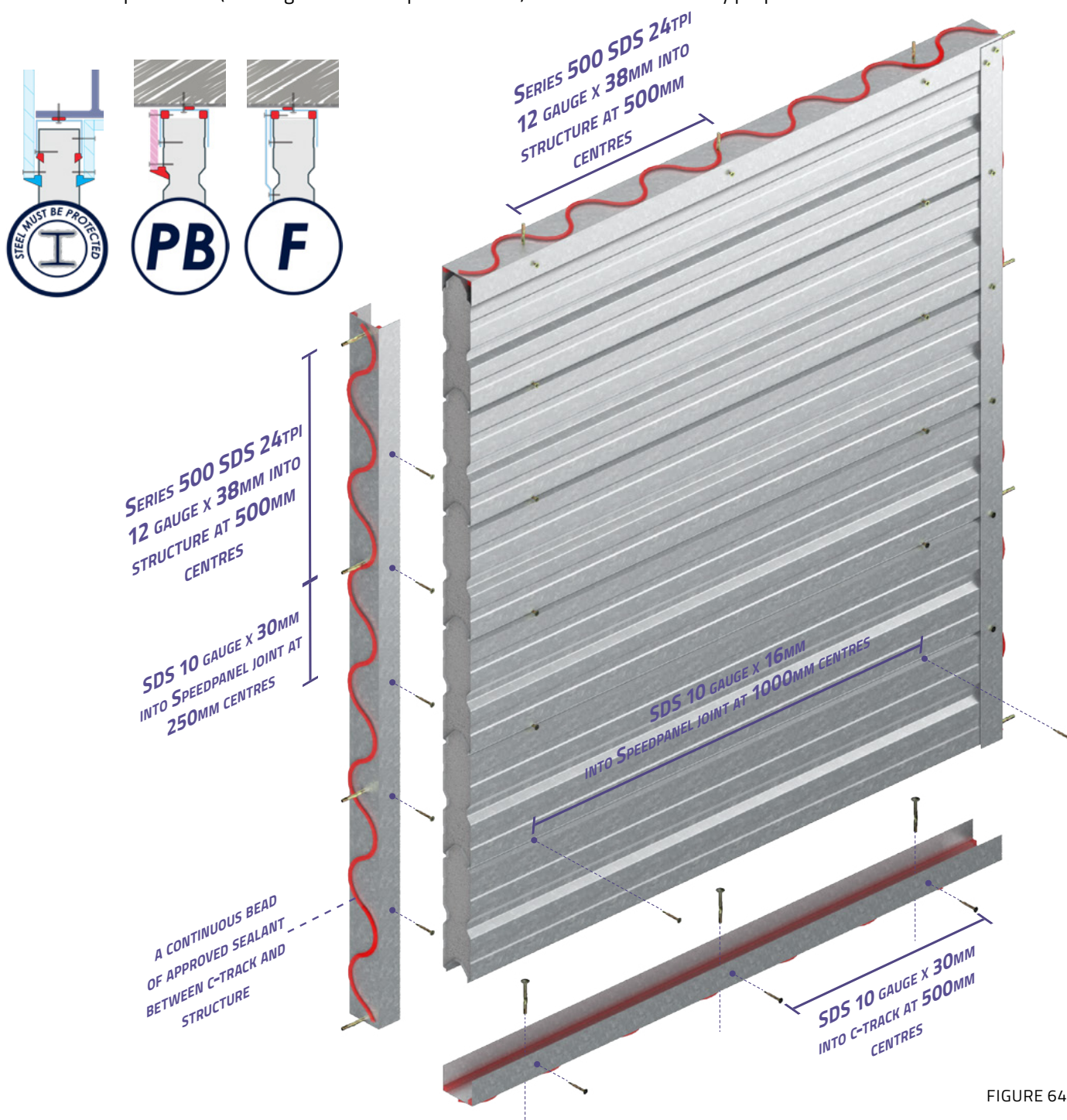


FIGURE 64

Horizontal Installation – Continued

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.

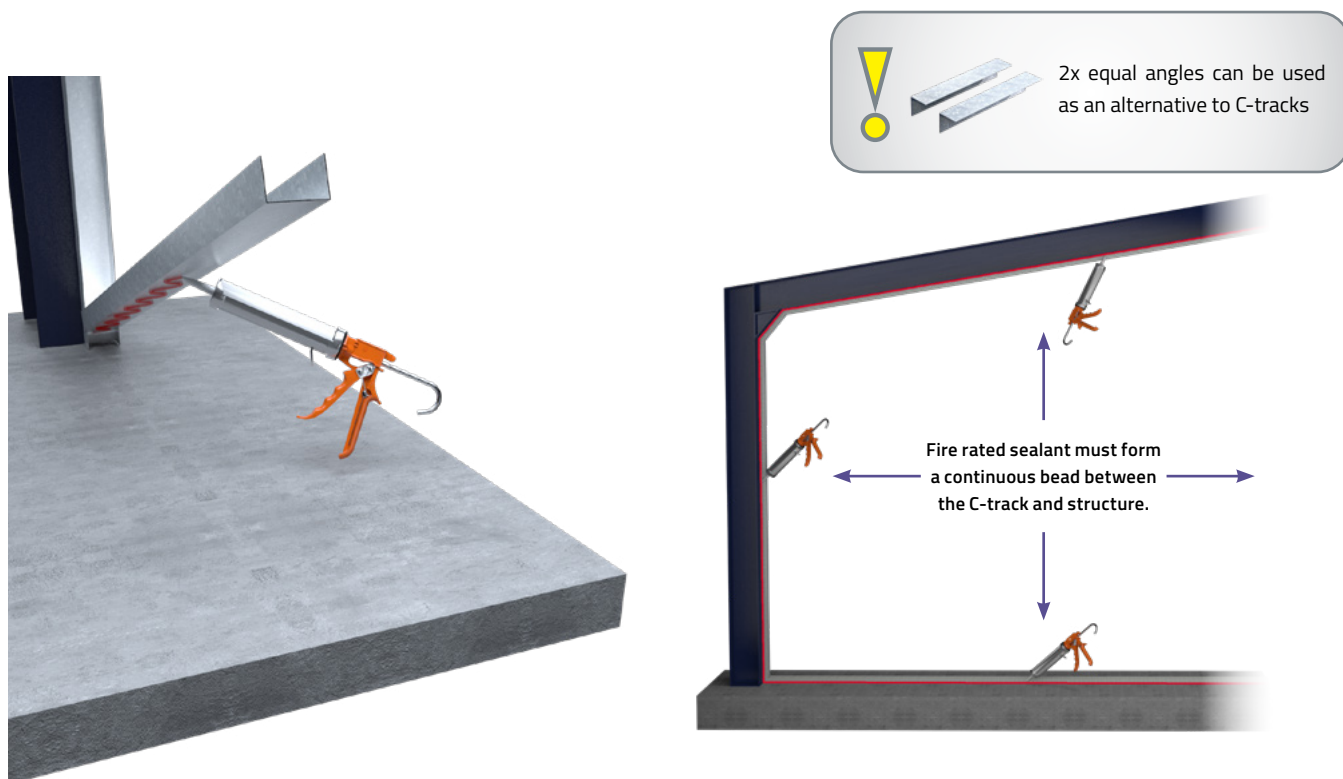


FIGURE 65

STEP 2 - DRILL & FIX C-TRACK TO STRUCTURE

Drill through C-track/angles into structure at 500mm centres and then fix the C-track/angles into structure using appropriate fixings.

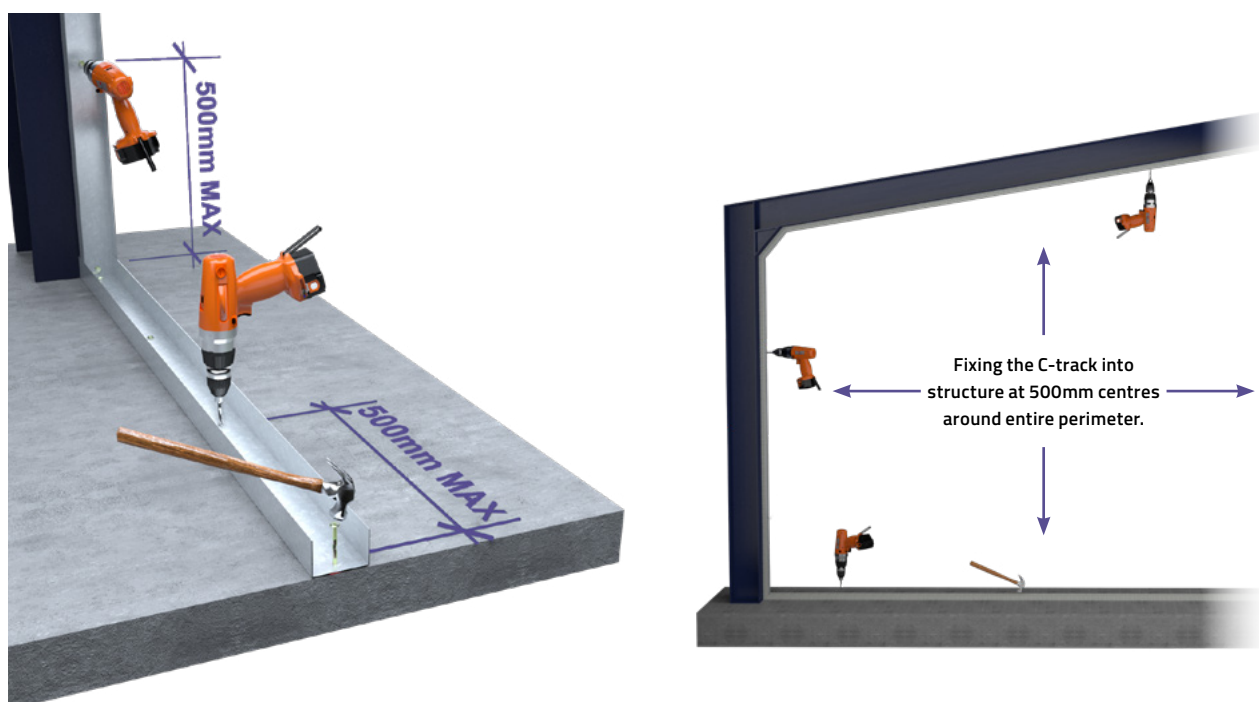


FIGURE 66

STEP 3 - 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.

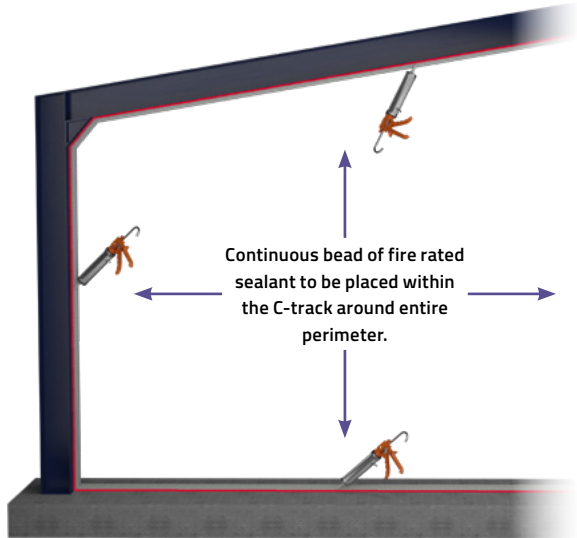
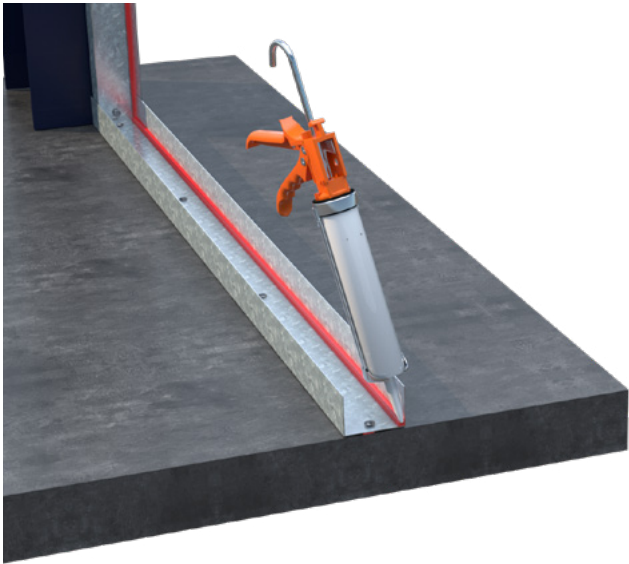


FIGURE 67

STEP 4 - INSTALL SPEEDPANEL® HORIZONTALLY

Remove panel plastic film and slide each of your panels within the C-track. To assist fitting panels, panels should be a maximum of 20mm shorter than the tight dimension between structures. (e.g. steel column to steel column = 4.0m Speedpanel® length will be: 3.98m) (Figure 69)

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

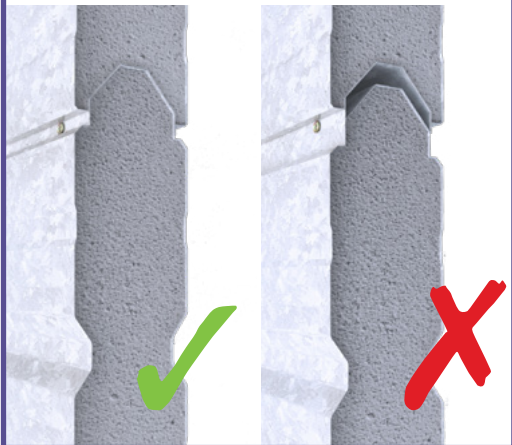


FIGURE 68

Speedpanel® products are typically manufactured with a protective plastic film to provide defence against staining and cosmetic damage during manufacturing, handling and transportation. In all applications the plastic film is required to be removed prior to installation. Please refer to page 5 for more information.



FIGURE 69

Horizontal Installation - Continued

STEP 5 - FIXING HORIZONTAL PANELS

Install horizontal panels. Each panel should be fixed off immediately after installation.

Vertical C-tracks: screwed through the C-track into every panel joint at 250mm centres. (Must be on both faces at both ends)

Panel joint screws: screwed at 1000mm centres horizontally into panel joint. (On one face only)

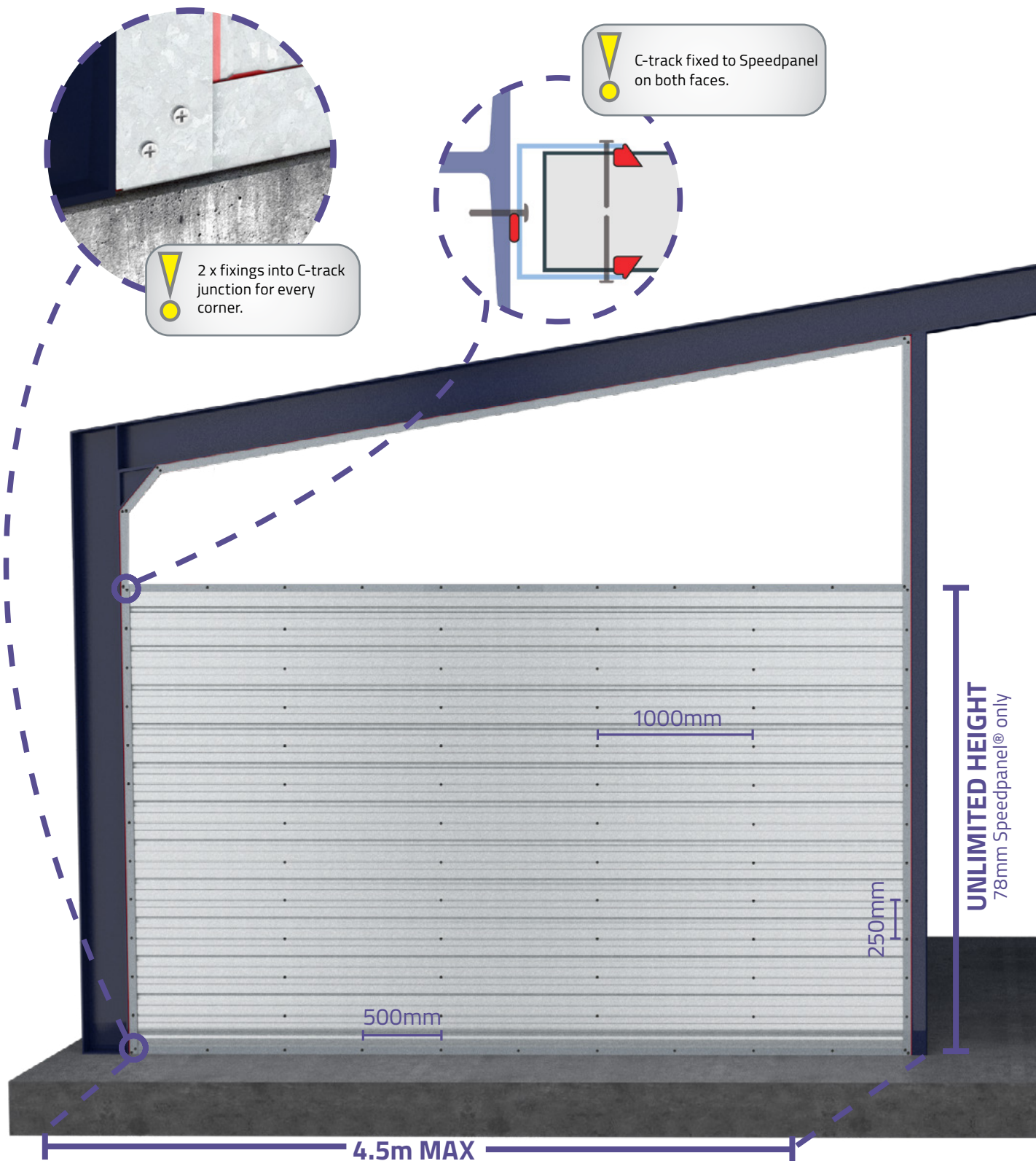


FIGURE 70

STEP 6 - INSTALLATION OF TOP VERTICAL WALL

Place a bead of fire rated sealant on top of the lower wall's head track (Figure 71).
Lay the bottom track of the top wall on top of the top track of the lower wall and fix it down at 500mm centres (Figure 72).

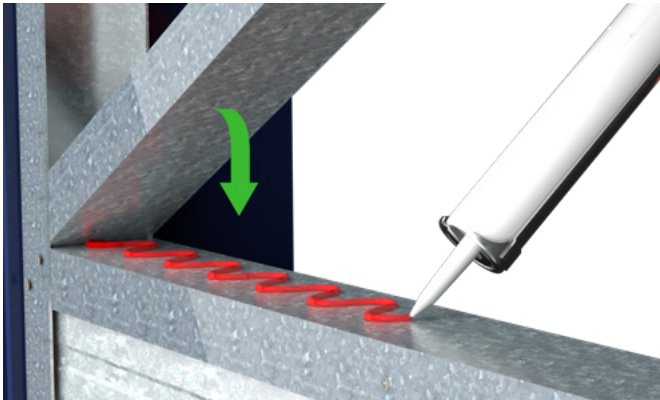


FIGURE 71

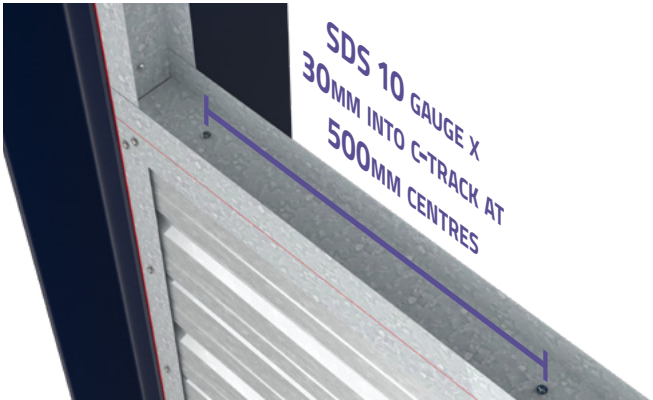


FIGURE 72

STEP 7 - INSTALL VERTICAL PANELS

Start installing vertical panels as per normal vertical installation (remember to cut the panels to match the angle of the top track). (Figure 73)




FIGURE 73


Horizontal Installation - Continued


STEP 8 - FIX VERTICAL PANELS

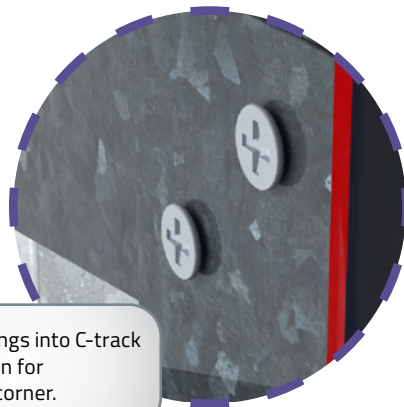
Vertical C-tracks; screwed through the C-tracks at 500mm centres. (on one face only)

Panel joint screws; screwed at 1000mm centres vertically into every panel joint. (on one face only)
At corner junctions where two C-tracks meet, there are to be two fixings. (Figure 74)

 Head track protection is a mandatory requirement. For further clarification please contact Speedpanel.

 78

 2 x fixings into C-track junction for every corner.



HORIZONTAL INSTALLATION



FIGURE 74

STEP 9 - PLACE SEALANT BEAD TO C-TRACK PERIMETER

Fire rated sealant applied along one side of the length of C-track only where the Speedpanel® meets C-track around the perimeter of the wall (Top, bottom, left and right). (Figure 76)



FIGURE 76

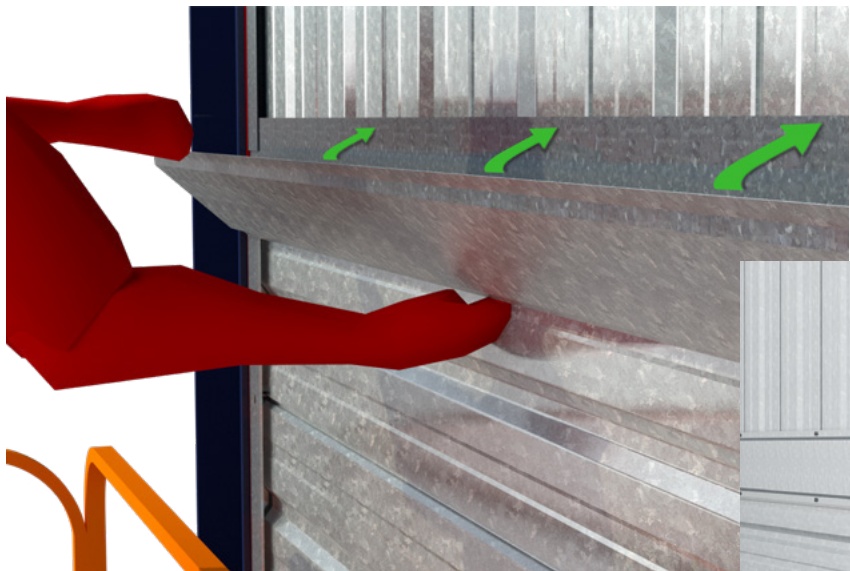


FIGURE 77

STEP 10 - INSTALL BACK TO BACK TRACK FLASHING

Following horizontal and vertical wall installation, install B2B track flashing and fix it to both vertical and horizontal wall at 500mm centres. (Figure 77)



STEP 11 - PROTECTION OF STEEL

Protect structural steel and related supporting elements as required. Refer to pages [56 -57](#) Step 10 .

Horizontal Construction Details

PROMAT PROTECTED HEAD TRACK

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

SECTION VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

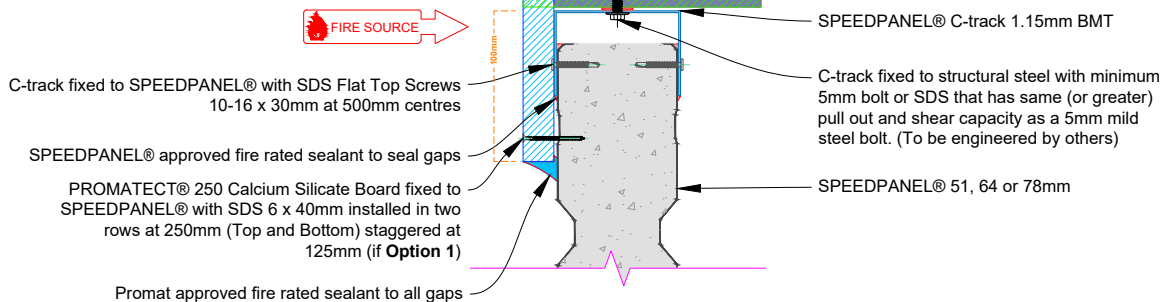


FIGURE 78 ³

SECTION VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

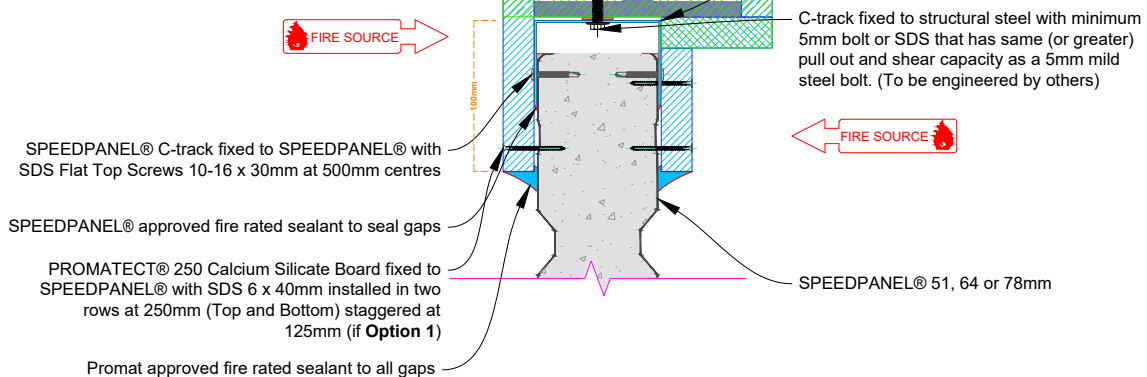


FIGURE 79 ³

Head Details Equal Steel Angle

PROMAT PROTECTED HEAD TRACK

Promat steel protection continuing with 100mm overlap onto Speedpanel® system.

SECTION VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

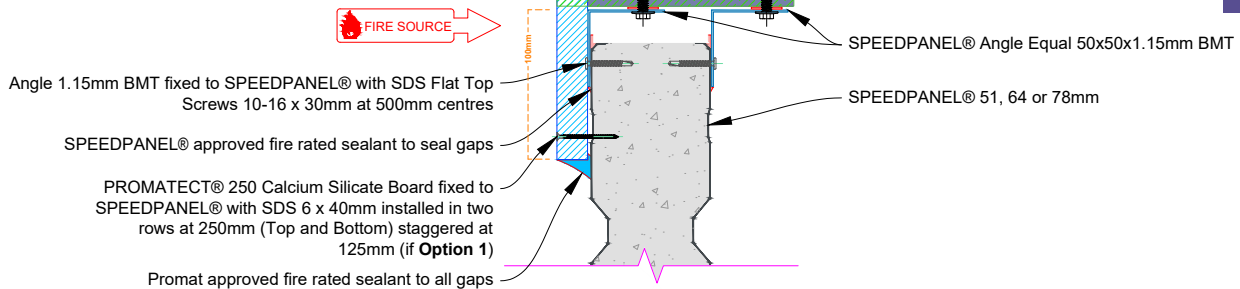


FIGURE 80 ³

SECTION VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

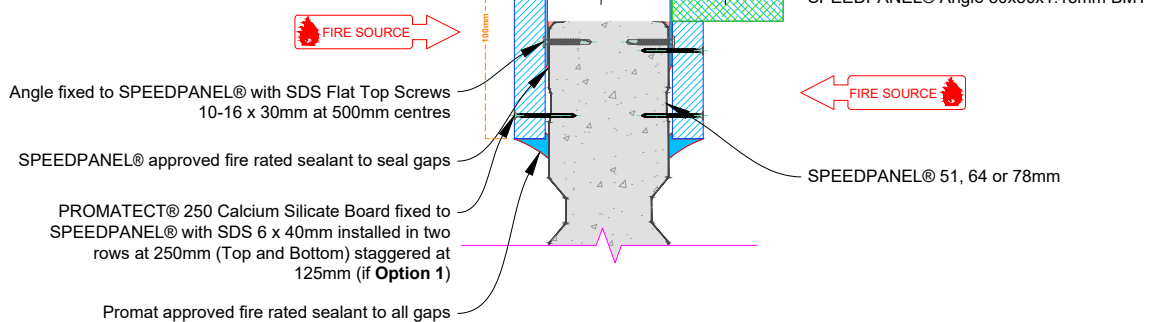


FIGURE 81 ³

Base Details

PROMAT PROTECTED BASE HORIZONTAL PANEL

Promat options with the appropriate sealant position and fixings on both sides.

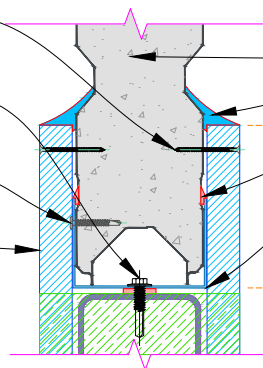
SECTION VIEW

PROMATECT® 250 Calcium Silicate Board fixed to SPEEDPANEL® with SDS 6 x 40mm installed in two rows at 250mm (Top and Bottom) staggered at 125mm (if **Option 1**)

C-track fixed to structural steel with minimum 5mm bolt or SDS that has same (or greater) pull out and shear capacity as a 5mm mild steel bolt. (To be engineered by others)

C-track fixed to SPEEDPANEL® SDS Flat Top Screws 10-16 x 30mm at 500mm centres

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.



SPEEDPANEL® 51, 64 or 78mm

Promat approved fire rated sealant to all gaps

SPEEDPANEL® approved fire rated sealant to seal gaps

SPEEDPANEL® C-track

Option 1 - PROMATECT® 250 Board

PROMATECT® 250 calcium silicate board, installed with minimum **100mm overlap** onto SPEEDPANEL® system

Option 2 - Cafco® 300 Vermiculite Spray

Vermiculite spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system

Option 3 - Fendolite® MII Cementitious Spray

Cementitious spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system



FIGURE 82³

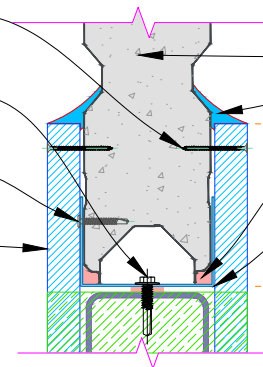
SECTION VIEW

PROMATECT® 250 Calcium Silicate Board fixed to SPEEDPANEL® with SDS 6 x 40mm installed in two rows at 250mm (Top and Bottom) staggered at 125mm (if **Option 1**)

C-track fixed to structural steel with minimum 5mm bolt or SDS that has same (or greater) pull out and shear capacity as a 5mm mild steel bolt. (To be engineered by others)

C-track fixed to SPEEDPANEL® SDS Flat Top Screws 10-16 x 30mm at 500mm centres

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.



SPEEDPANEL® 51, 64 or 78mm

Promat approved fire rated sealant to all gaps

SPEEDPANEL® approved fire rated sealant to seal gaps

SPEEDPANEL® C-track

Option 1 - PROMATECT® 250 Board

PROMATECT® 250 calcium silicate board, installed with minimum **100mm overlap** onto SPEEDPANEL® system

Option 2 - Cafco® 300 Vermiculite Spray

Vermiculite spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system

Option 3 - Fendolite® MII Cementitious Spray

Cementitious spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system



FIGURE 83³

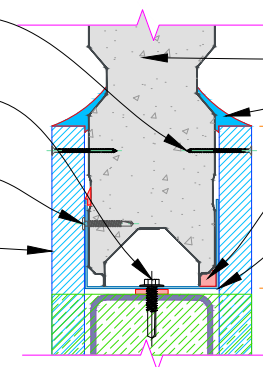
SECTION VIEW

PROMATECT® 250 Calcium Silicate Board fixed to SPEEDPANEL® with SDS 6 x 40mm installed in two rows at 250mm (Top and Bottom) staggered at 125mm (if **Option 1**)

C-track fixed to structural steel with minimum 5mm bolt or SDS that has same (or greater) pull out and shear capacity as a 5mm mild steel bolt. (To be engineered by others)

C-track fixed to SPEEDPANEL® SDS Flat Top Screws 10-16 x 30mm at 500mm centres

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.



SPEEDPANEL® 51, 64 or 78mm

Promat approved fire rated sealant to all gaps

SPEEDPANEL® approved fire rated sealant to seal gaps

SPEEDPANEL® C-track

Option 1 - PROMATECT® 250 Board

PROMATECT® 250 calcium silicate board, installed with minimum **100mm overlap** onto SPEEDPANEL® system

Option 2 - Cafco® 300 Vermiculite Spray

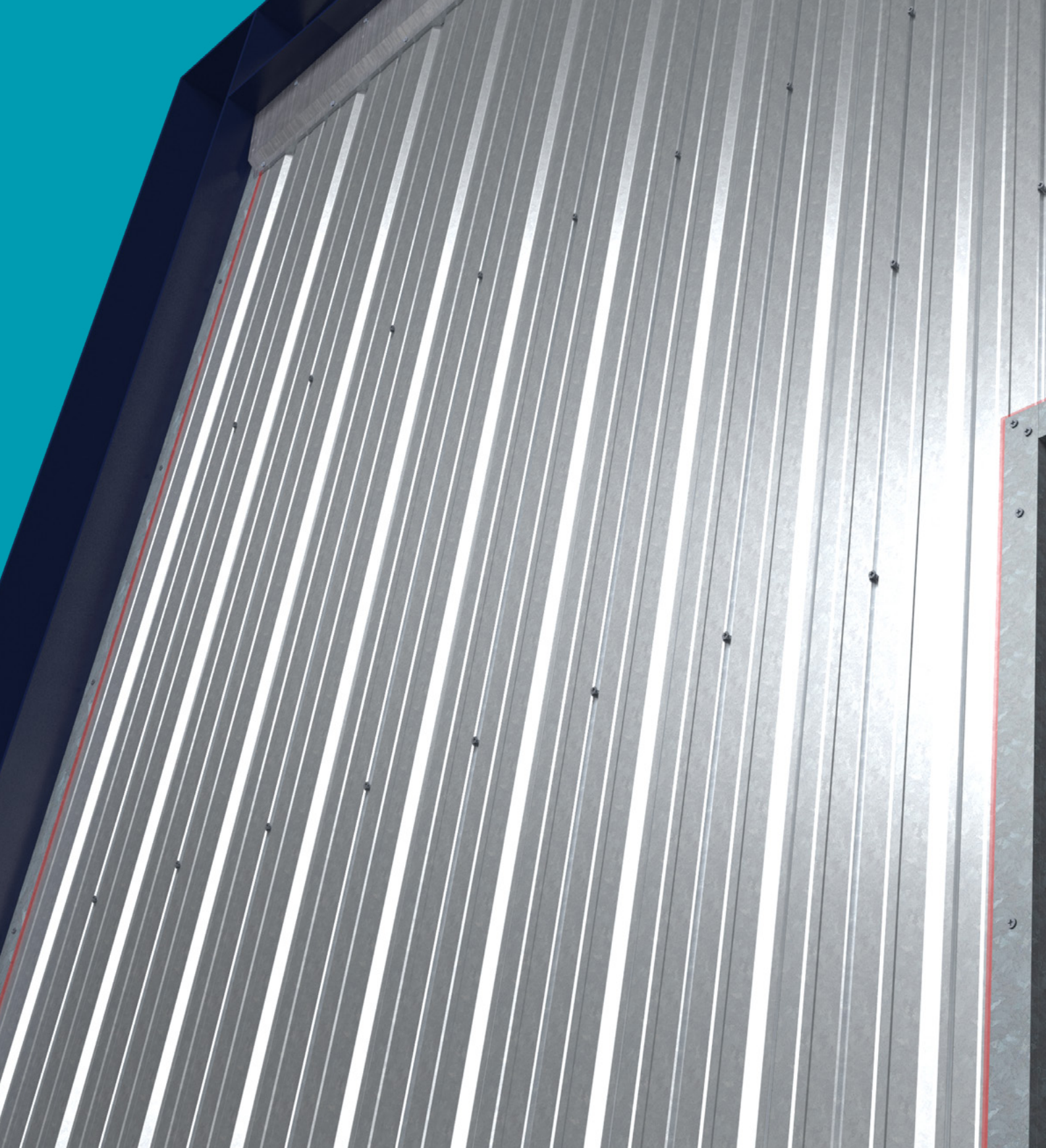
Vermiculite spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system

Option 3 - Fendolite® MII Cementitious Spray

Cementitious spray applied with a minimum **100mm overlap** onto SPEEDPANEL® system



FIGURE 84³



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



1 - REPORT 21622



3 - REPORT 31919000

A photograph of a building's exterior corner, showing a dark metal frame and a corrugated metal roof. A large teal triangle is overlaid on the right side of the image, pointing towards the top right corner.

2.5

APERTURES

2.5

APERTURES

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, fixed at each corner and at 500mm centres around the perimeter fixing to the Speedpanel®.

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

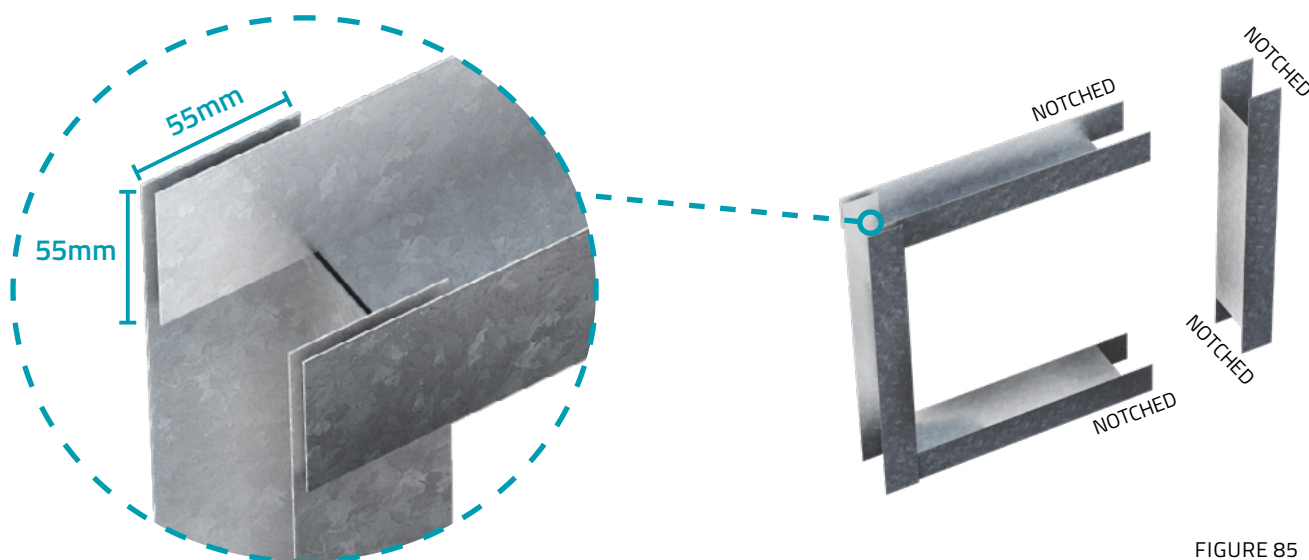


FIGURE 85

APERTURES CORNER FIXING

Use 10 gauge self drilling screws and fix into corners as shown.

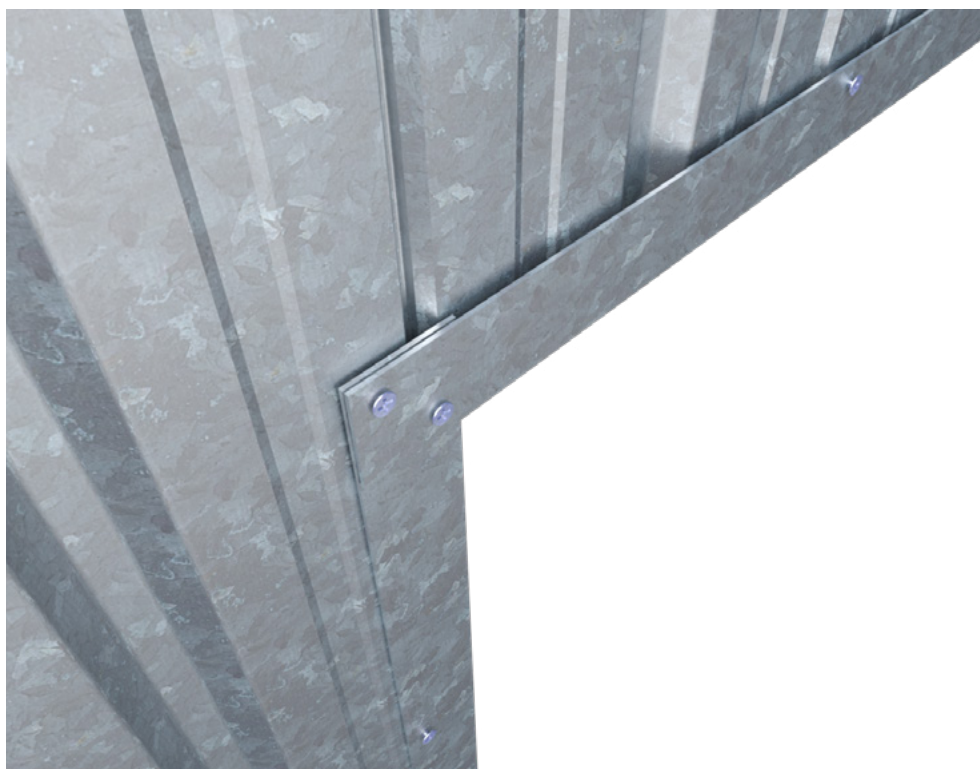


FIGURE 86

CUTTING PANELS

If the Speedpanel® wall is already installed a panel may need to be cut to create apertures in the wall.

The recommended tools to use to cut a Speedpanel are:

- Sabre saw (also known as a reciprocating saw)
- Radial saw with dust extraction



FIGURE 87

General Apertures

DOORS IN SPEEDPANEL® SYSTEMS

Various doors can be installed 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 on +61 9115 6666.

SHUTTER DOOR

In this example, the shutter door must be connected to the structural steel members on top and both sides to carry the loads. This type of door can not be connected directly to Speedpanel®.

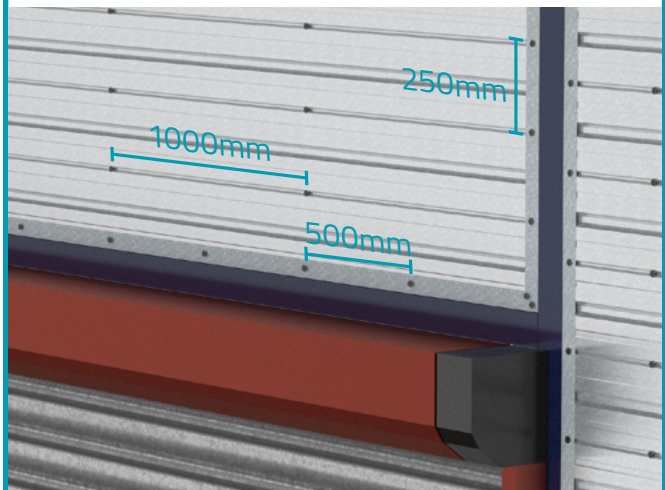


FIGURE 88

SINGLE DOOR

In this example, the single door is connected to the vertically installed Speedpanel® system on the sides and the horizontal Speedpanel system at the top. No additional structure is needed in this case.



The aperture for the door must be encapsulated in Speedpanel® C-track

FIGURE 89



FIGURE 90

Please refer to:

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

Disclaimer: For illustration purposes only.

VERTICAL SPEEDPANEL® SYSTEMS - SINGLE APERTURE

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

51mm Panel	64mm Panel	78mm Panel	Max. area A x B	Max. A and B (mm)	Max. Y (mm)	Head detail
Wall Height						
3000	-	-	4m²	2000	110*-1000	Figures 50 & 63
-	5000	-	4m²	2200	110*-1000	Figures 50 & 63
-	-	5000	4m²	2400	110*-1000	Figures 50 & 63
5000	-	-	4m²	2400	>1000	Figures 50 & 63
-	5000	-	4m²	2400	>1000	Figures 50 & 63
-	-	6000	4m²	2400	>1000	Figures 50 & 63

*Note: Head protection must remain intact and **completely unimpeded**.

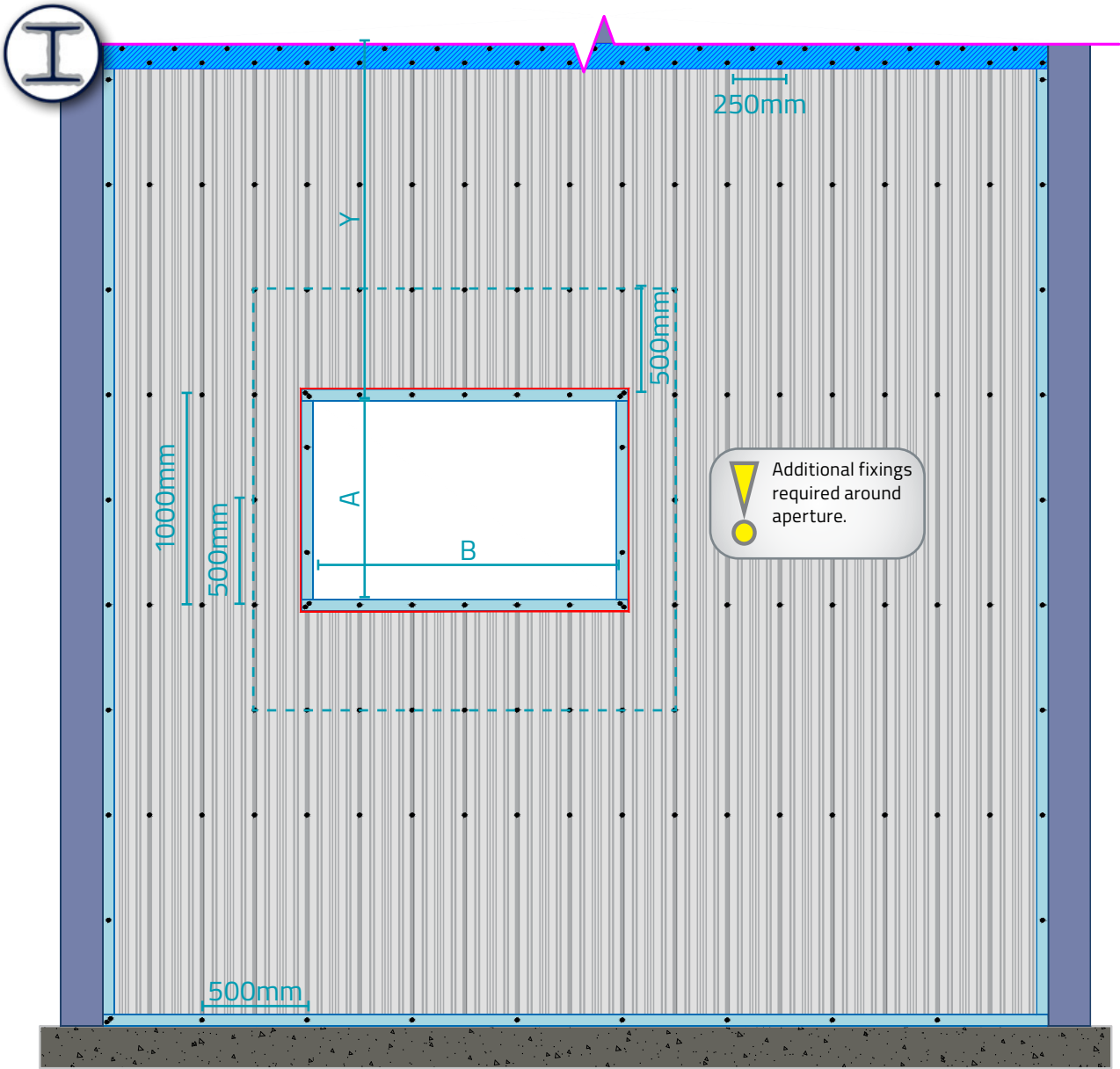


FIGURE 91¹

Disclaimer: For illustration purposes only.

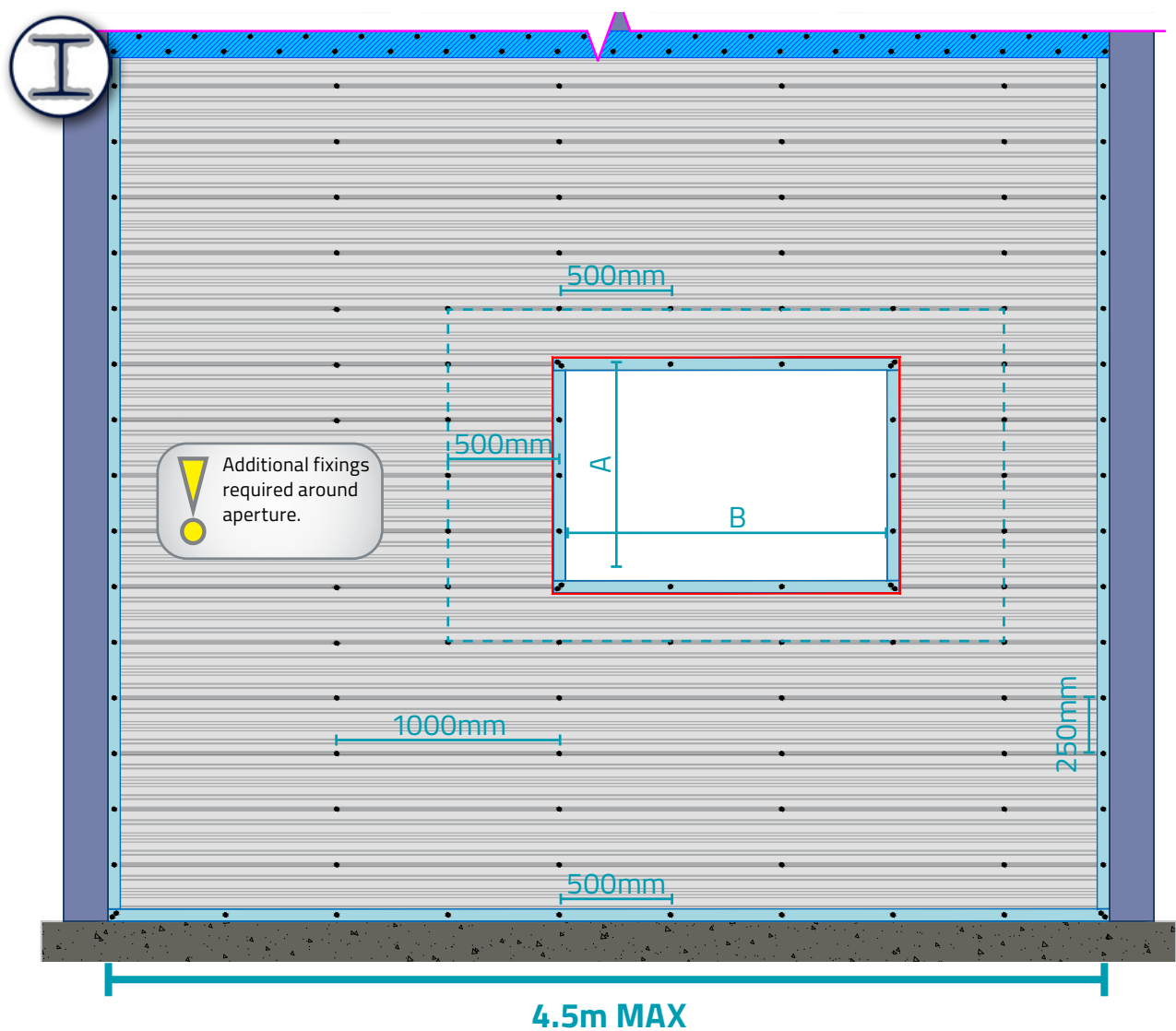
General Apertures

HORIZONTAL SPEEDPANEL® SYSTEMS - SINGLE APERTURE

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

51mm Panel	51	64mm Panel	64	78mm Panel	78	Max. area A x B	Max. A and B (mm)	Head detail
Wall Height								
3000	-	-	-	-	-	4m²	2444	Figure 81
-	5000	-	-	-	-	4m²	2444	Figure 81
-	-	5000	-	-	-	4m²	2444	Figure 81
5000	-	-	-	-	-	4m²	2444	Figure 81
-	5000	-	-	-	-	4m²	2444	Figure 81
-	-	6000	-	-	-	4m²	2444	Figure 81

Note: Head protection must remain intact and **completely unimpeded**.



Disclaimer: For illustration purposes only.

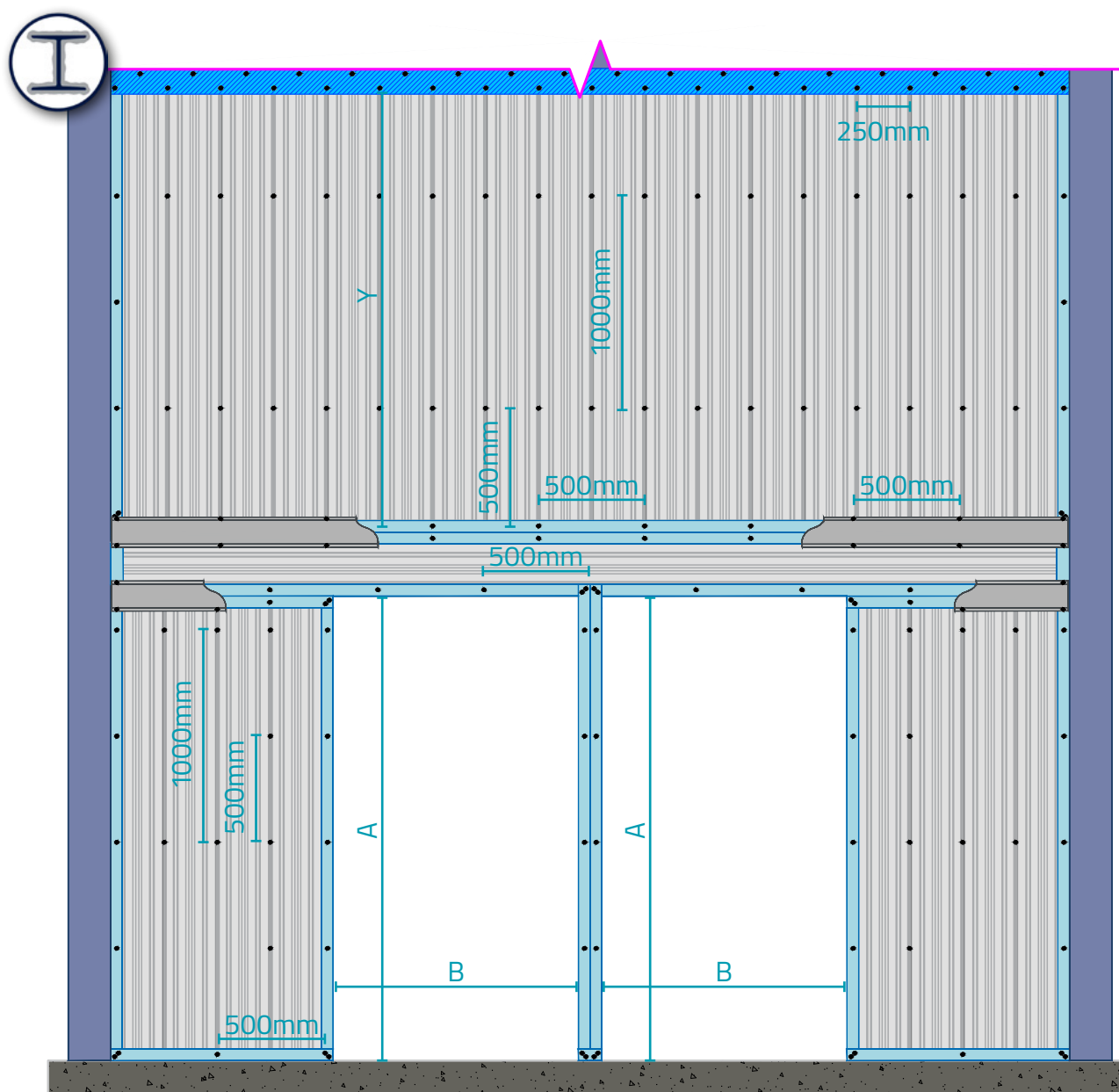
FIGURE 92'

VERTICAL AND HORIZONTAL SPEEDPANEL® SYSTEMS - COMBINATION APERTURES

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.

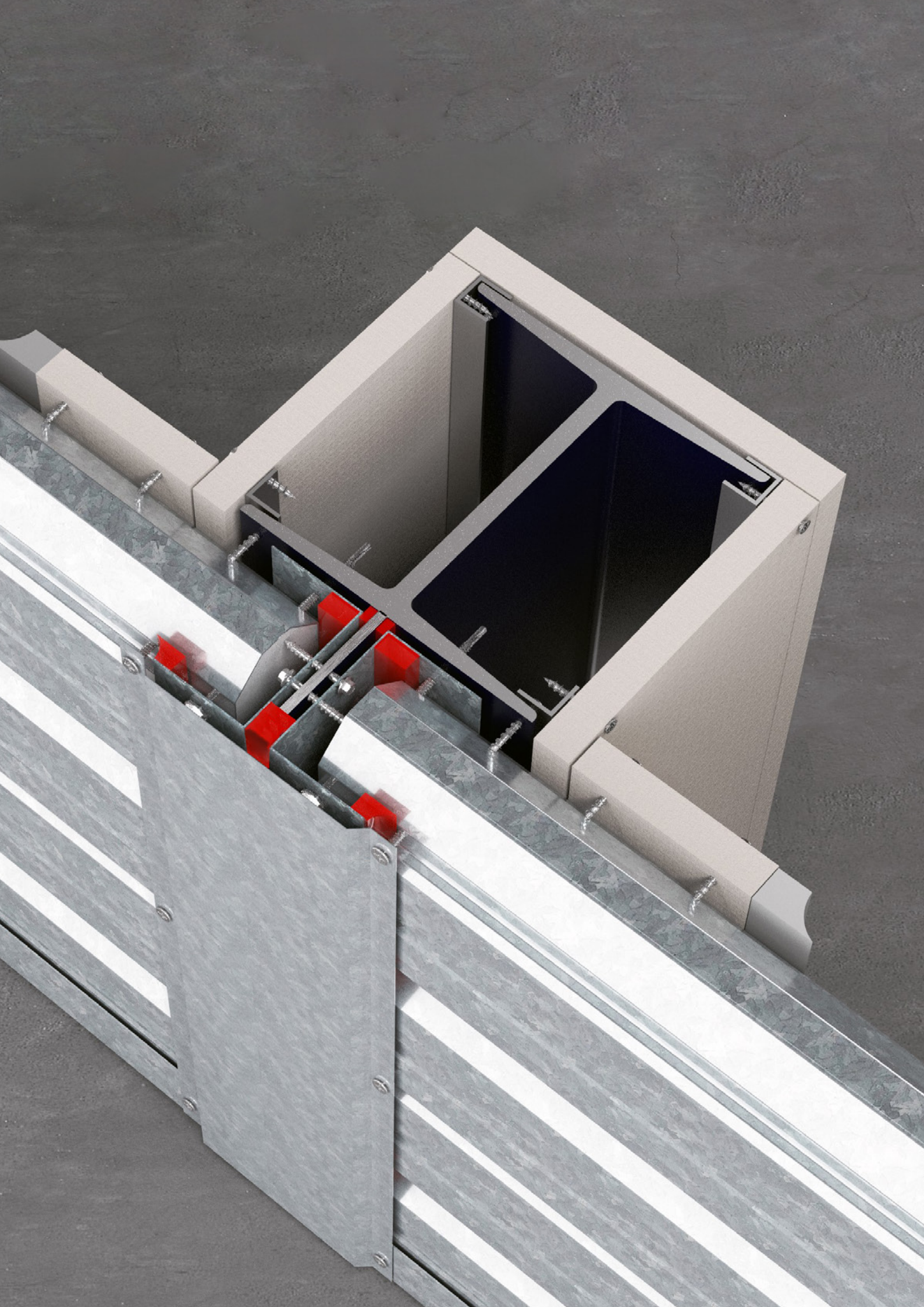
51mm Panel 51	64mm Panel 64	78mm Panel 78	Max. area A x B	Max. A and B (mm)	Max. Y (mm)	Head detail
Wall Height						
3000	-	-	4m ²	2444	110*-1000	Figures 50 & 63
-	5000	-	4m ²	2444	110*-1000	Figures 50 & 63
-	-	5000	4m ²	2444	110*-1000	Figures 50 & 63
5000	-	-	4m ²	2444	>1000	Figures 50 & 63
-	5000	-	4m ²	2444	>1000	Figures 50 & 63
-	-	6000	4m ²	2444	>1000	Figures 50 & 63

***Note:** Head protection must remain intact and **completely unimpeded**.



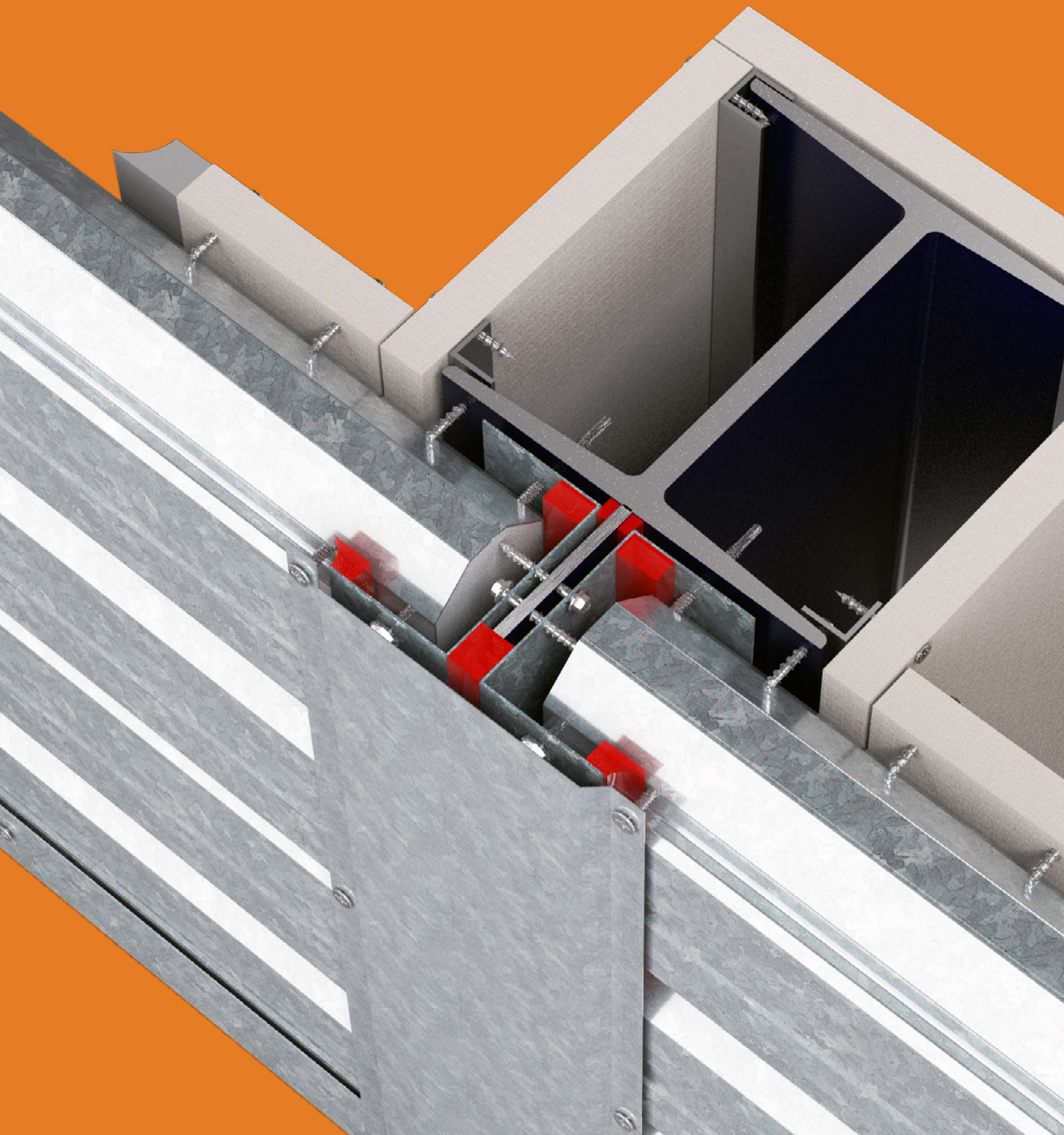
Disclaimer: For illustration purposes only.

FIGURE 93'



03

SPEEDPANEL® DETAILS



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3 - REPORT 31919000

3.1



CORNERS & INTERSECTIONS

3.1

CORNERS & INTERSECTIONS

Right Angles

VERTICAL WALL 90° CORNER DETAILS

PLAN VIEW

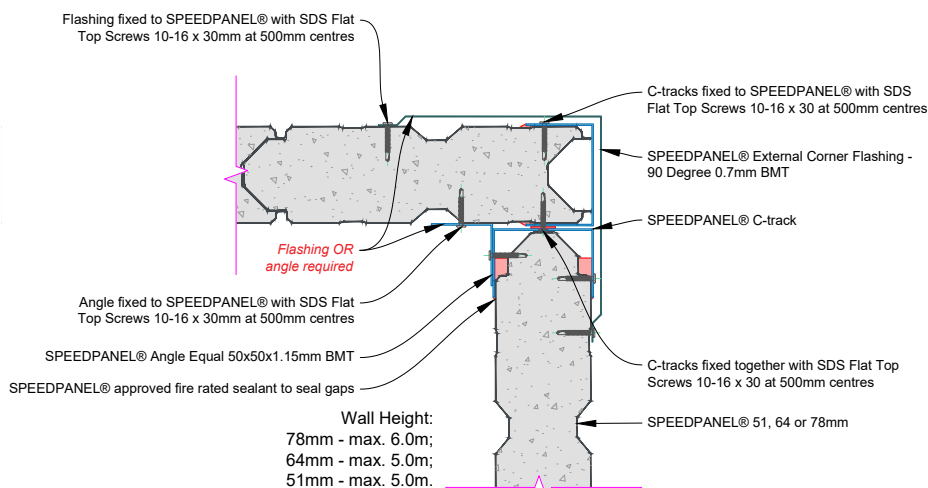


FIGURE 94³

PLAN VIEW

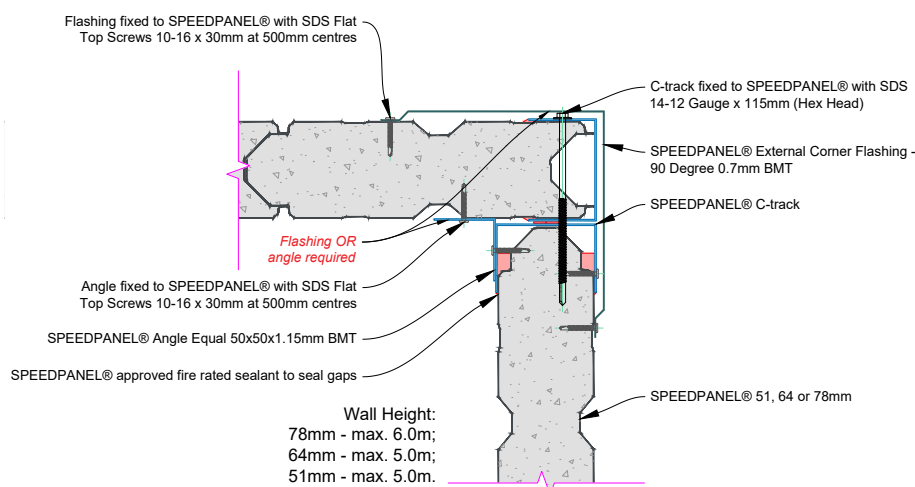


FIGURE 95³

PLAN VIEW

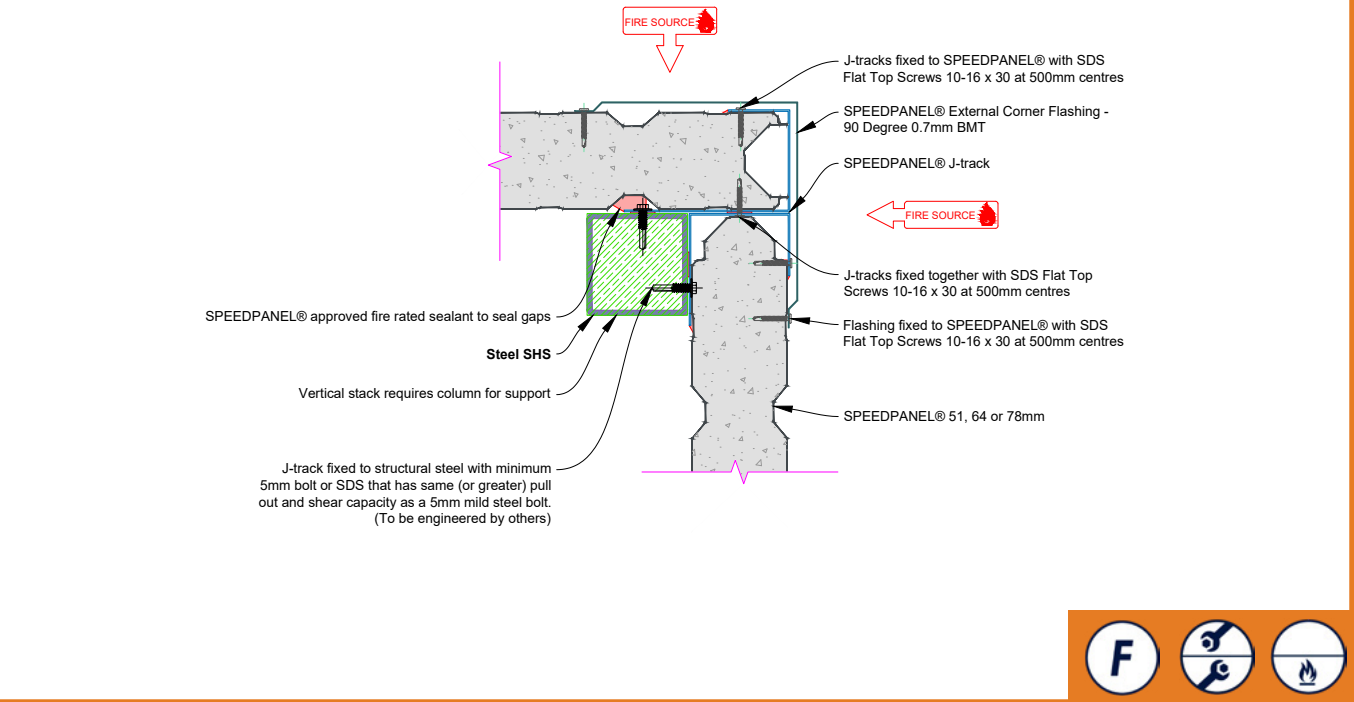


FIGURE 96³

PROMAT PROTECTED VERTICAL WALL 90° CORNER DETAILS

PLAN VIEW

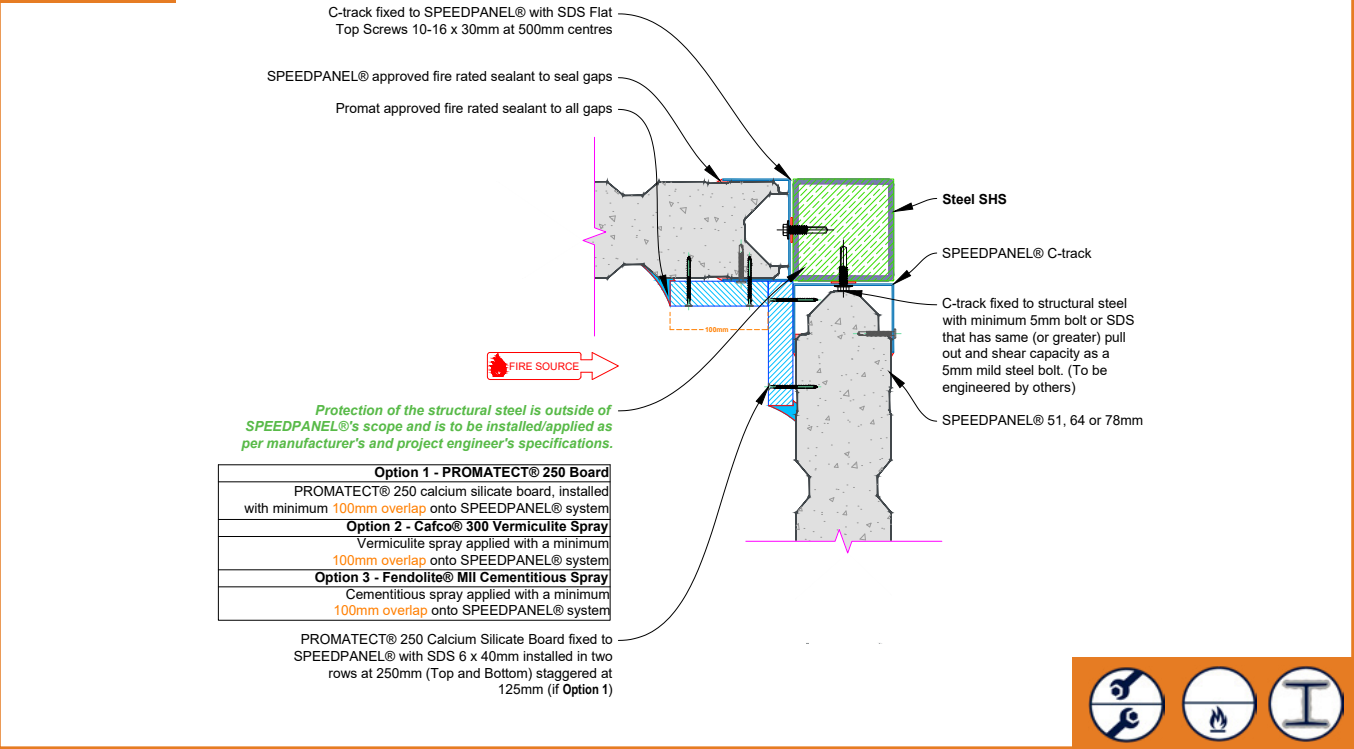
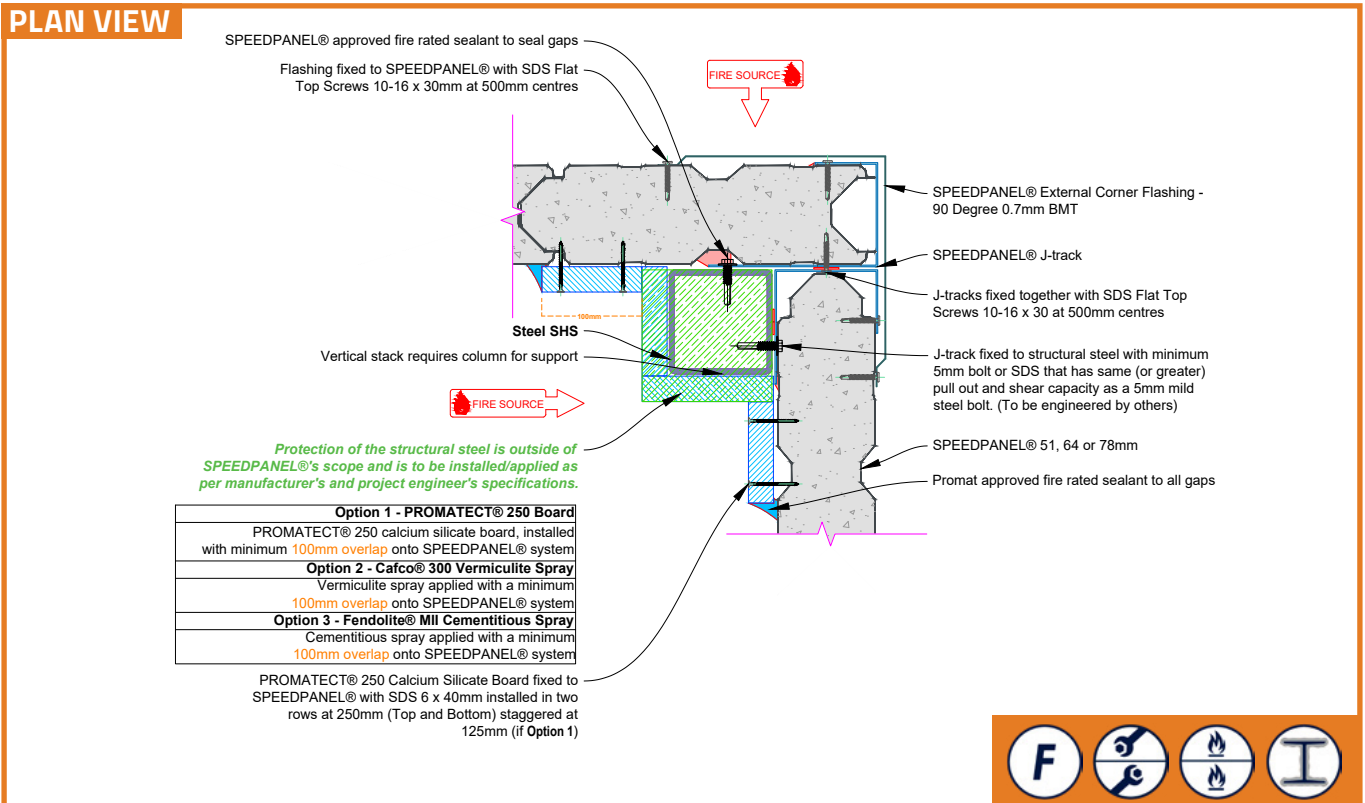
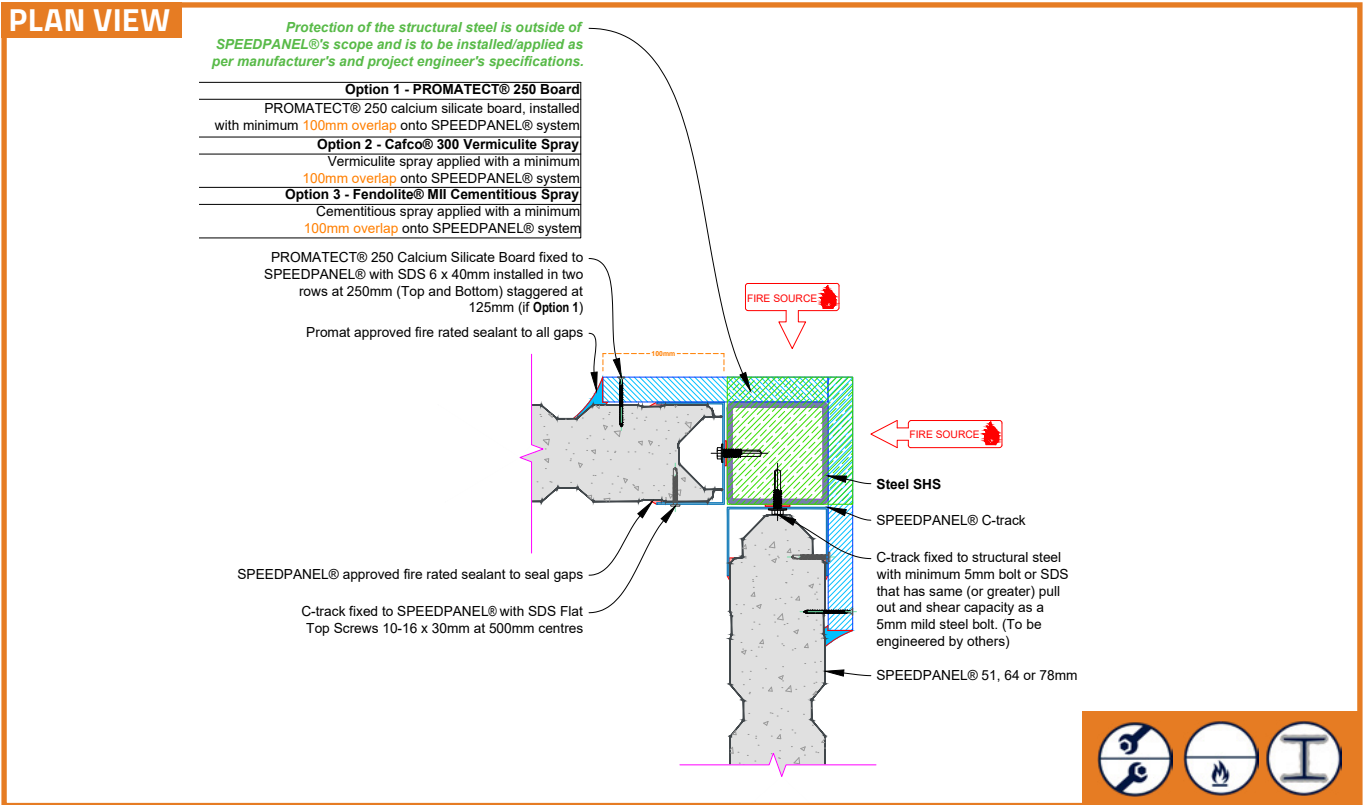


FIGURE 97³

Right Angles - Continued

PROMAT PROTECTED VERTICAL WALL 90° CORNER DETAILS

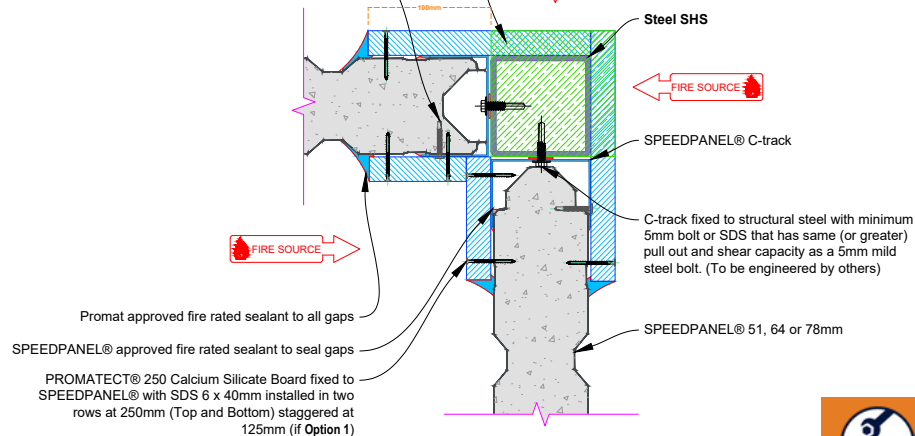


PLAN VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

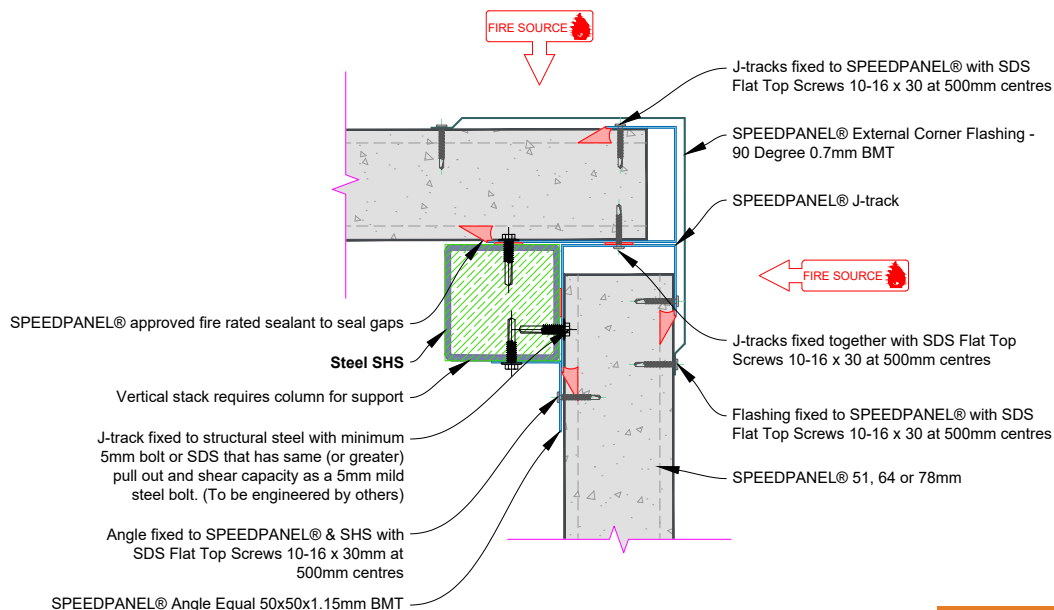
Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

C-track fixed to SPEEDPANEL® with SDS Flat Top Screws 10-16 x 30mm at 500mm centres

FIGURE 100³

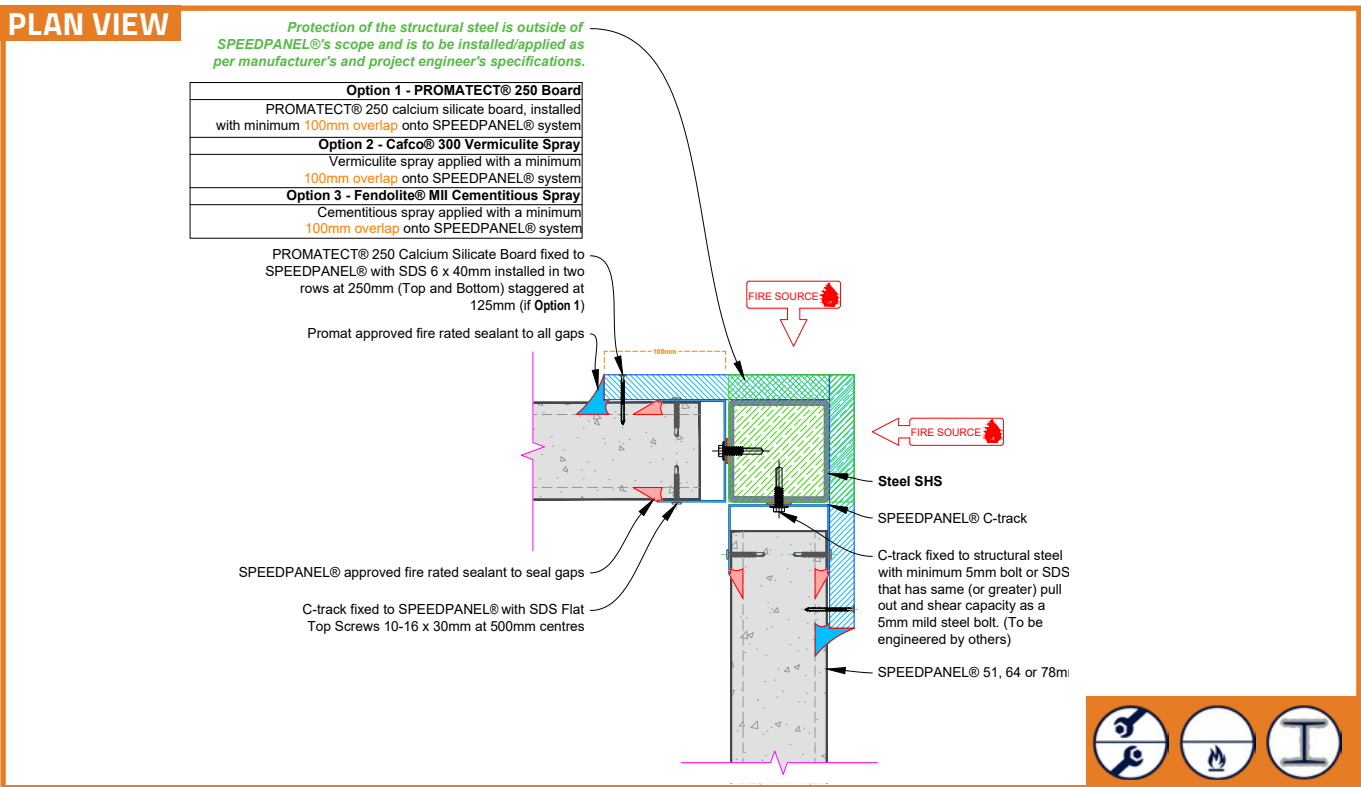
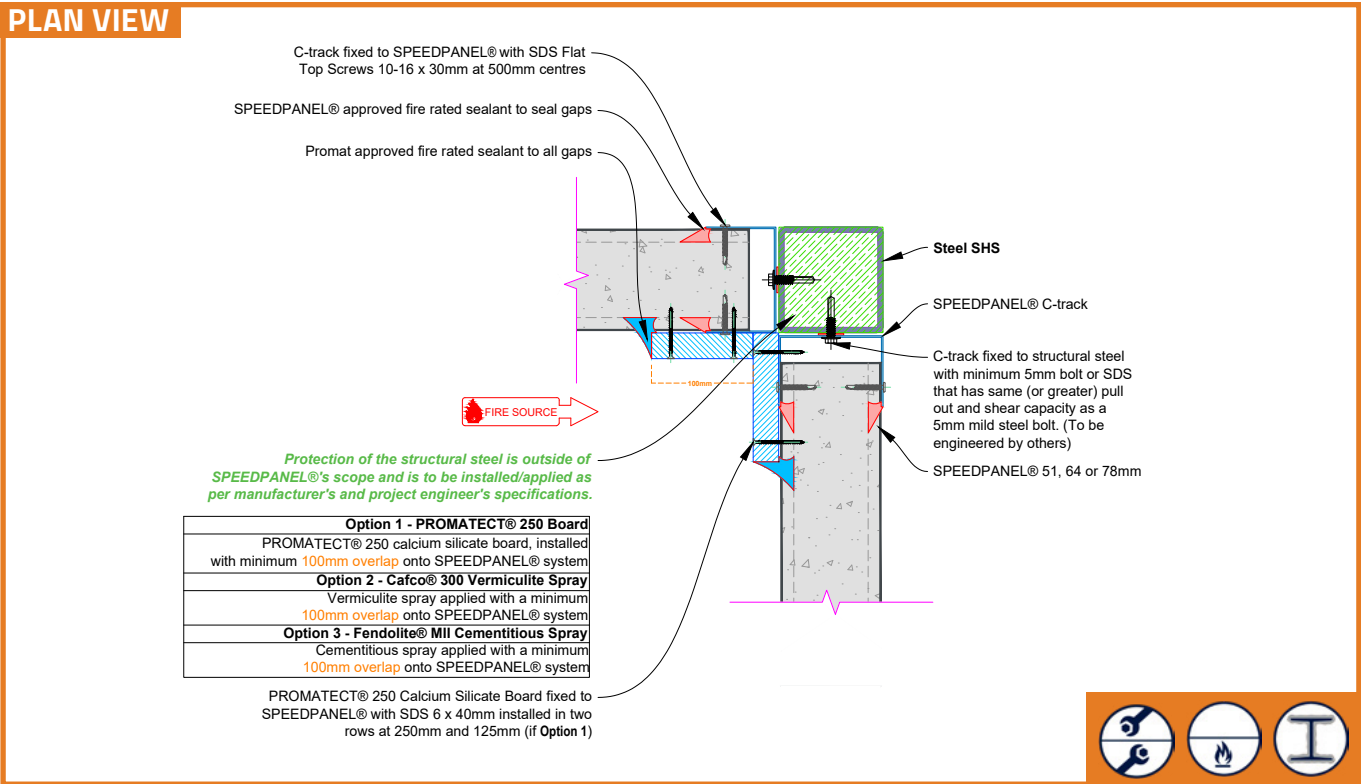
HORIZONTAL WALL 90° CORNER DETAILS

PLAN VIEW

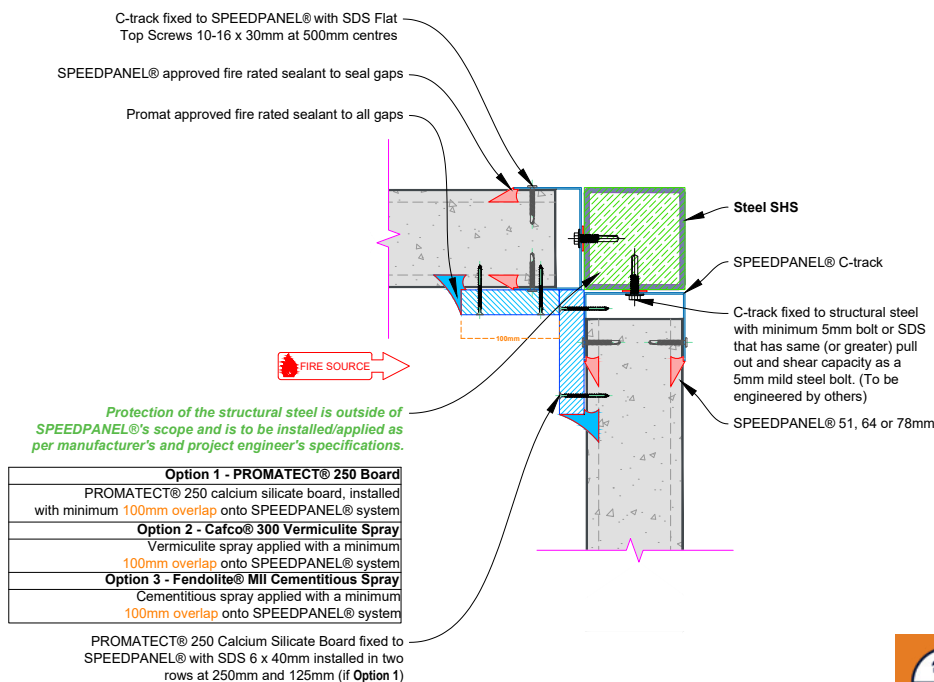
FIGURE 101³

Right Angles - Continued

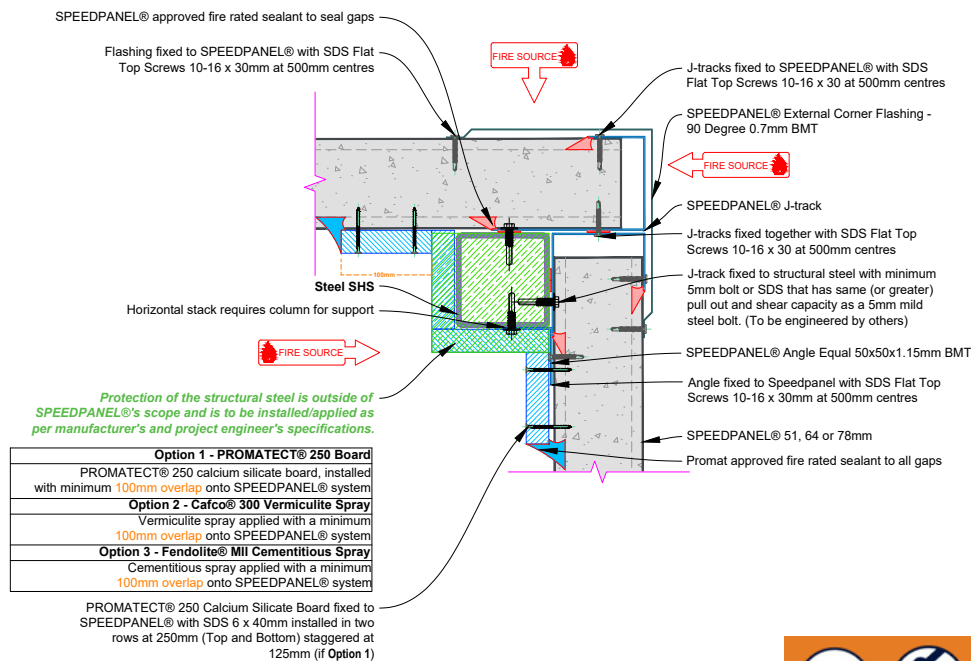
PROMAT PROTECTED HORIZONTAL WALL 90° CORNER DETAILS



PLAN VIEW

FIGURE 104³

PLAN VIEW

FIGURE 105³

Right Angles - Continued

PROMAT PROTECTED HORIZONTAL WALL 90° CORNER DETAILS

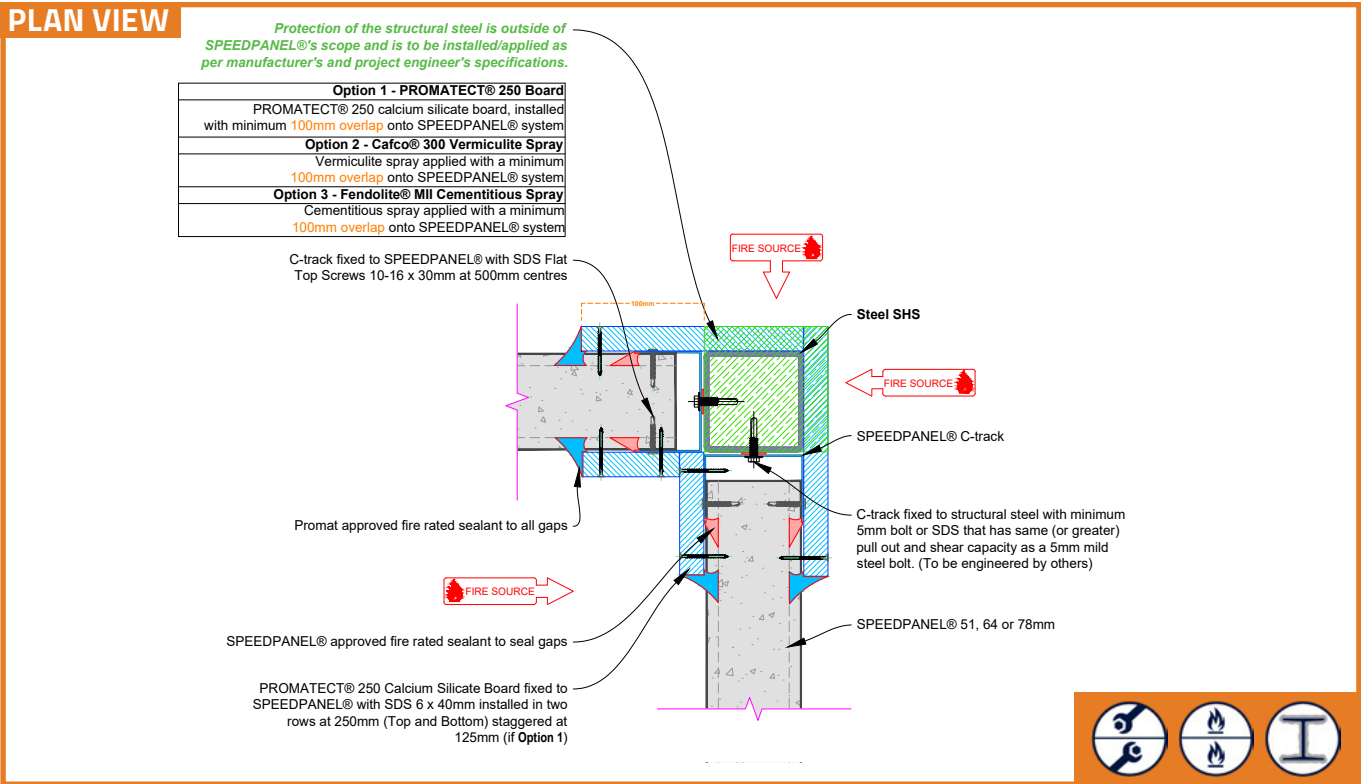


FIGURE 106³

T-Junction details

PROMAT PROTECTED T-JUNCTION WITH VERTICAL SPEEDPANEL®

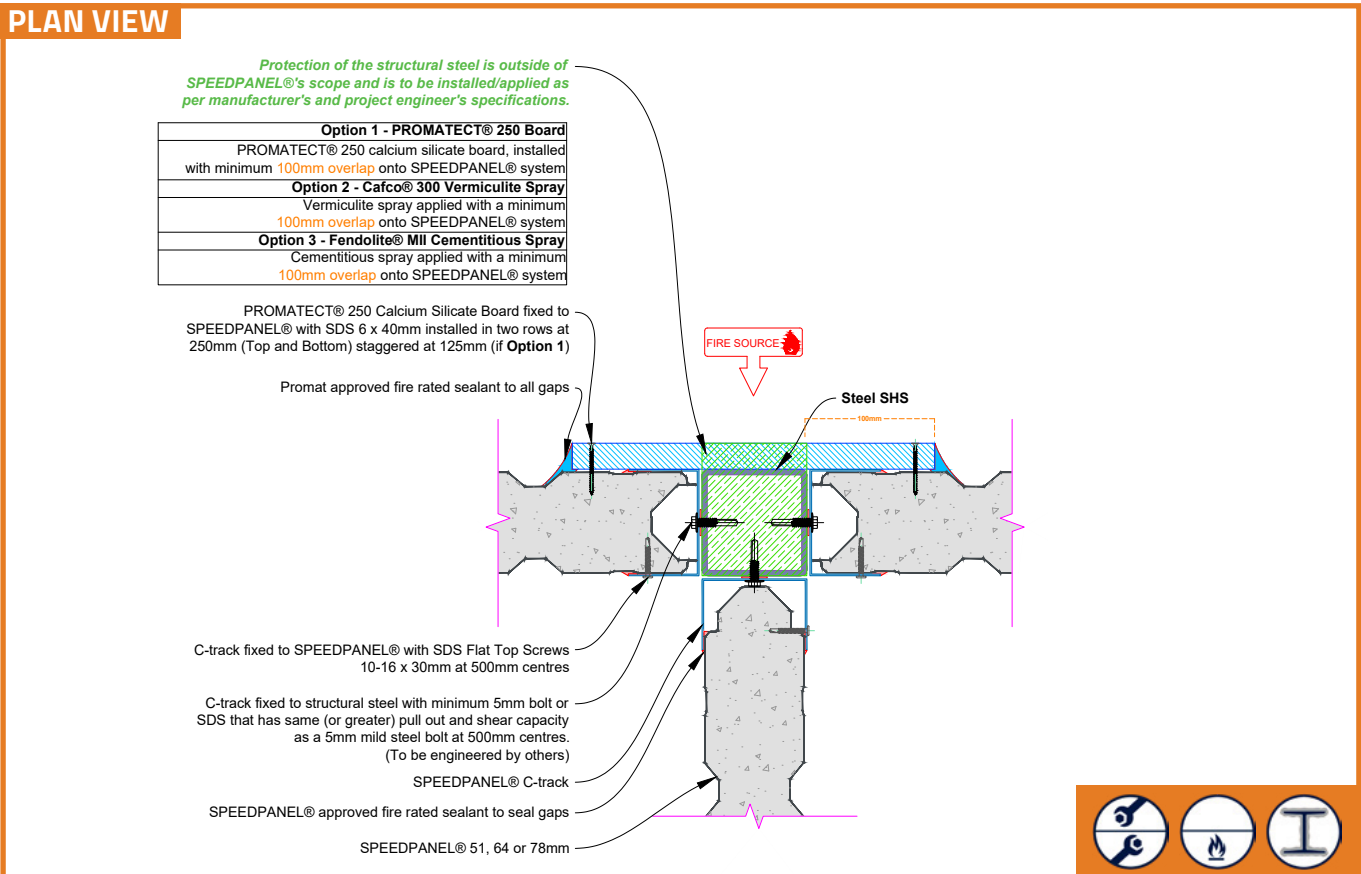


FIGURE 107³

PLAN VIEW

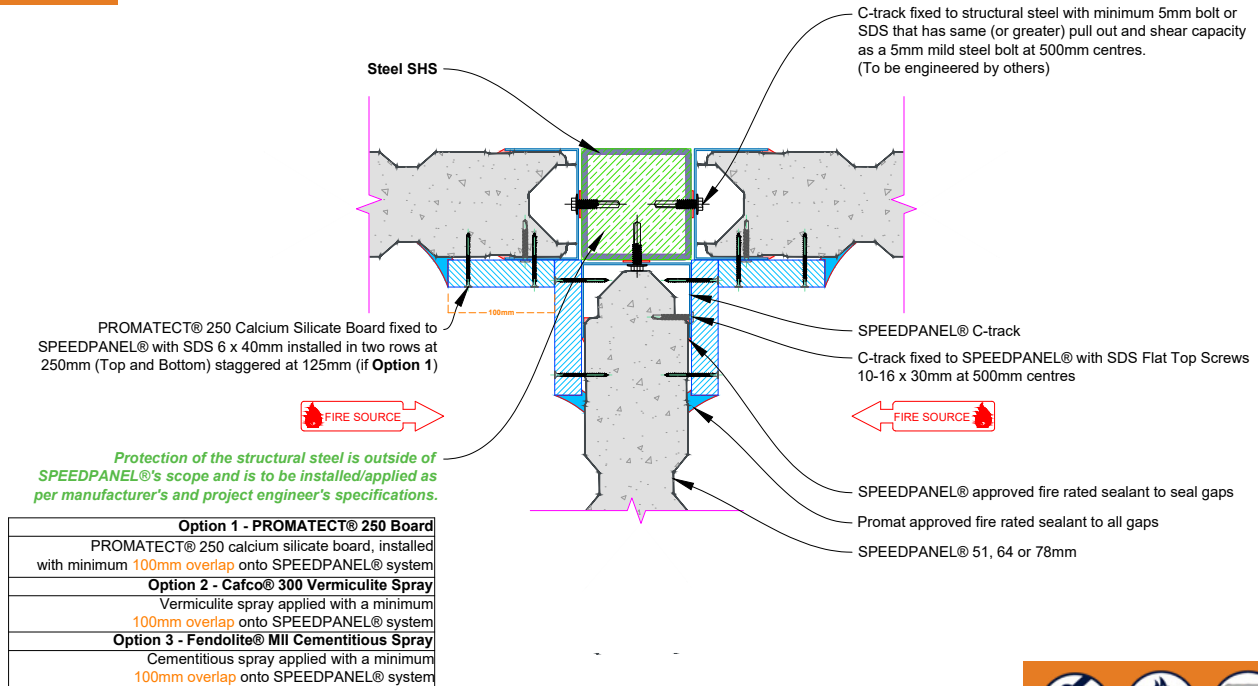


FIGURE 108³

PLAN VIEW

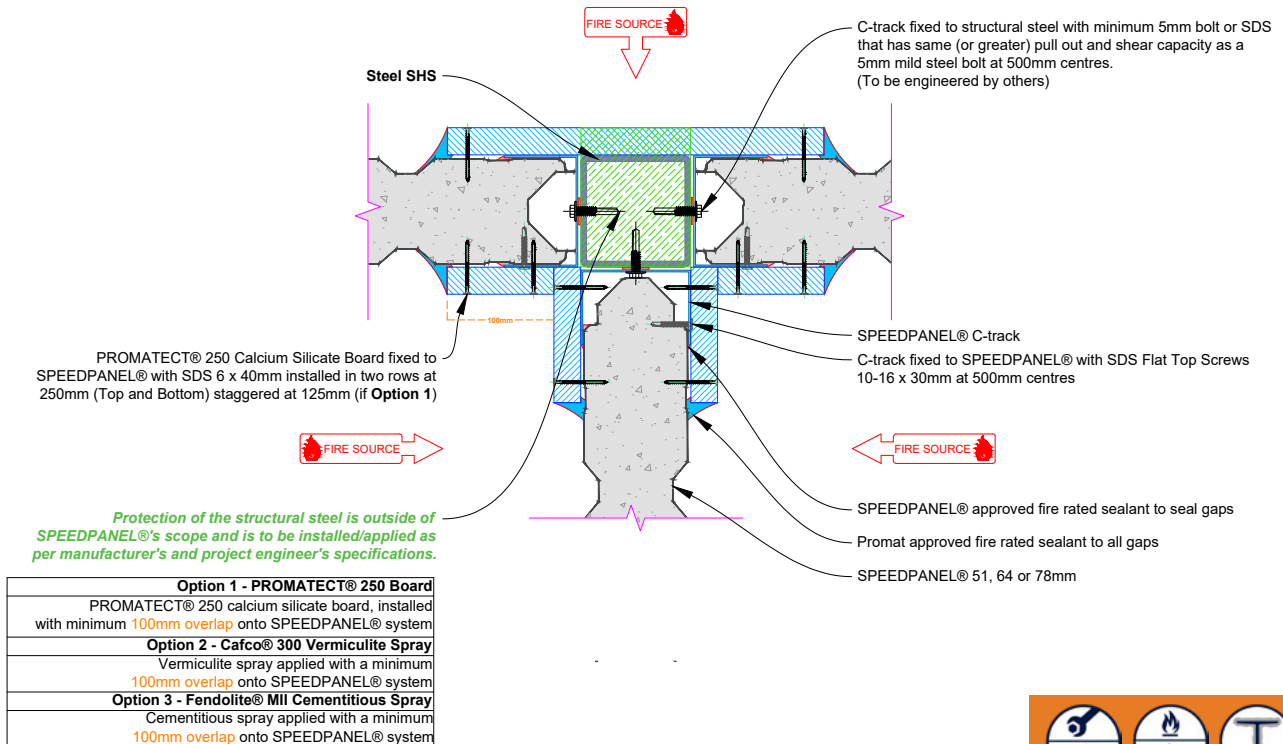


FIGURE 109³

T-Junction details - Continued

PROMAT PROTECTED T-JUNCTION WITH HORIZONTAL SPEEDPANEL®

PLAN VIEW

Protection of the structural steel is outside of SPEEDPANEL®'s scope and is to be installed/applied as per manufacturer's and project engineer's specifications.

Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system

PROMATECT® 250 Calcium Silicate Board fixed to SPEEDPANEL® with SDS 6 x 40mm installed in two rows at 250mm (Top and Bottom) staggered at 125mm (if Option 1)

Promat approved fire rated sealant to all gaps

C-track fixed to SPEEDPANEL® with SDS Flat Top Screws 10-16 x 30mm at 250mm centres on both sides

C-track fixed to structural steel with minimum 5mm bolt or SDS that has same (or greater) pull out and shear capacity as a 5mm mild steel bolt at 500mm centres. (To be engineered by others)

SPEEDPANEL® C-track

SPEEDPANEL® approved fire rated sealant to seal gaps

SPEEDPANEL® 51, 64 or 78mm

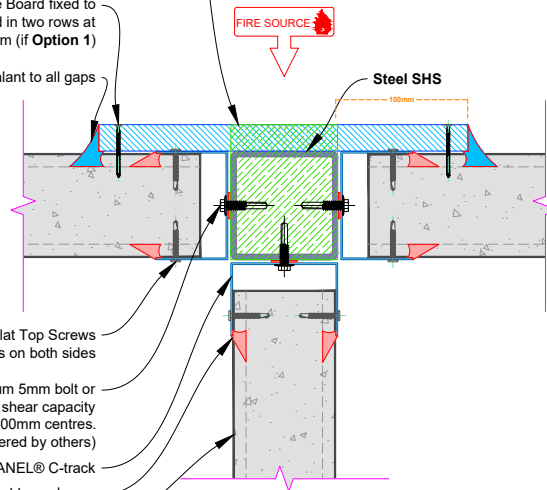
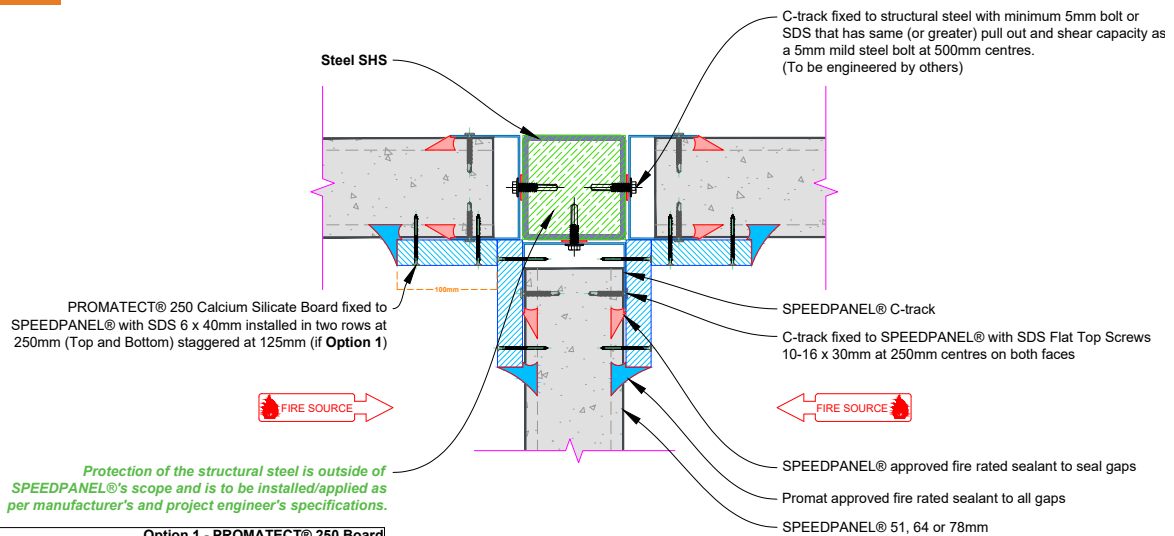


FIGURE 110³

PLAN VIEW

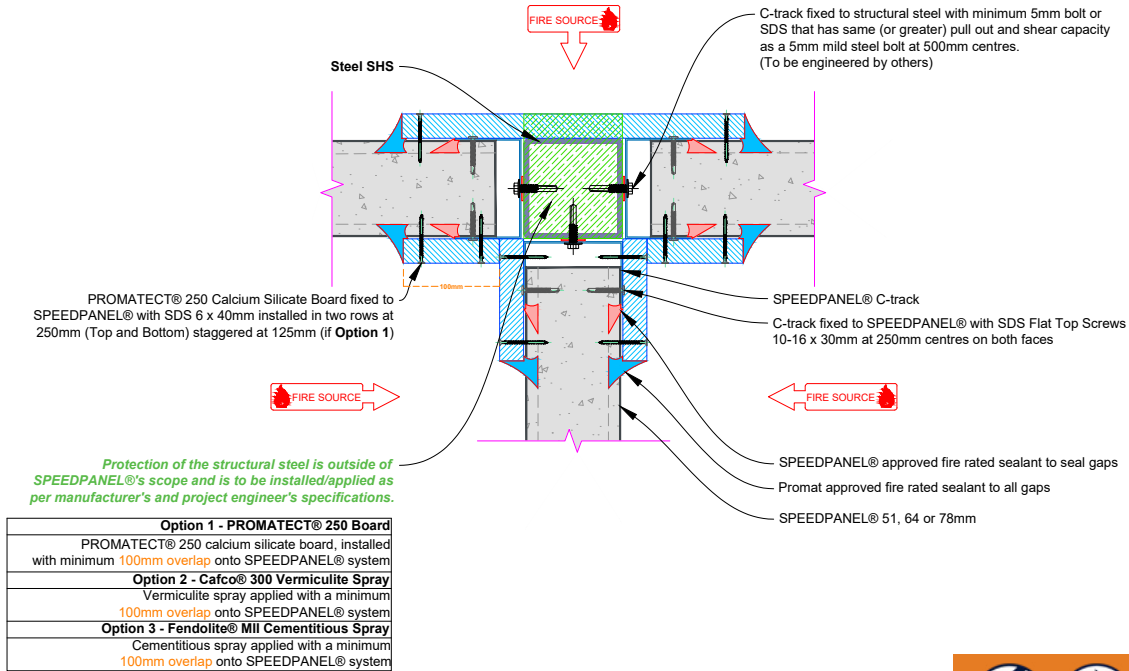


Option 1 - PROMATECT® 250 Board
PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system
Option 2 - Cafco® 300 Vermiculite Spray
Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system
Option 3 - Fendolite® MII Cementitious Spray
Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system



FIGURE 111³

PLAN VIEW



Horizontal stack details

FIGURE 112³

HORIZONTAL STACK WITH UNIVERSAL COLUMN

PLAN VIEW

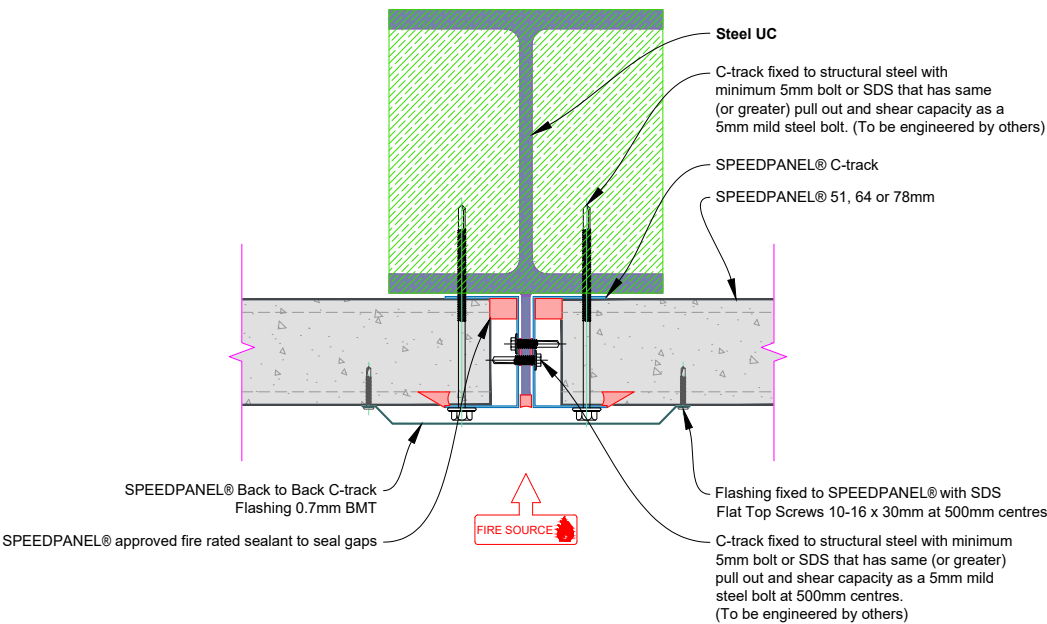


FIGURE 113³

Horizontal stack details - Continued

HORIZONTAL STACK WITH UNIVERSAL COLUMN

PLAN VIEW

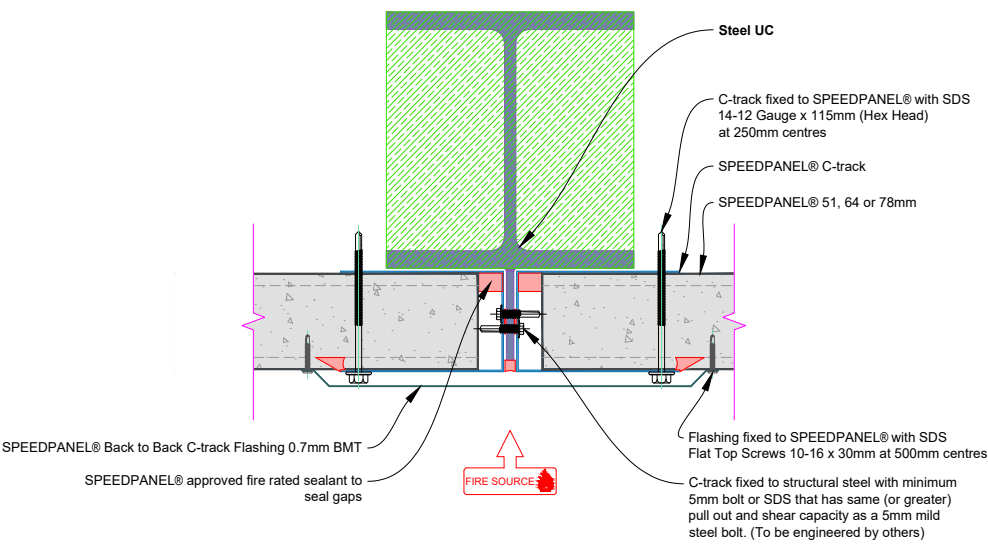


FIGURE 114³

PLAN VIEW

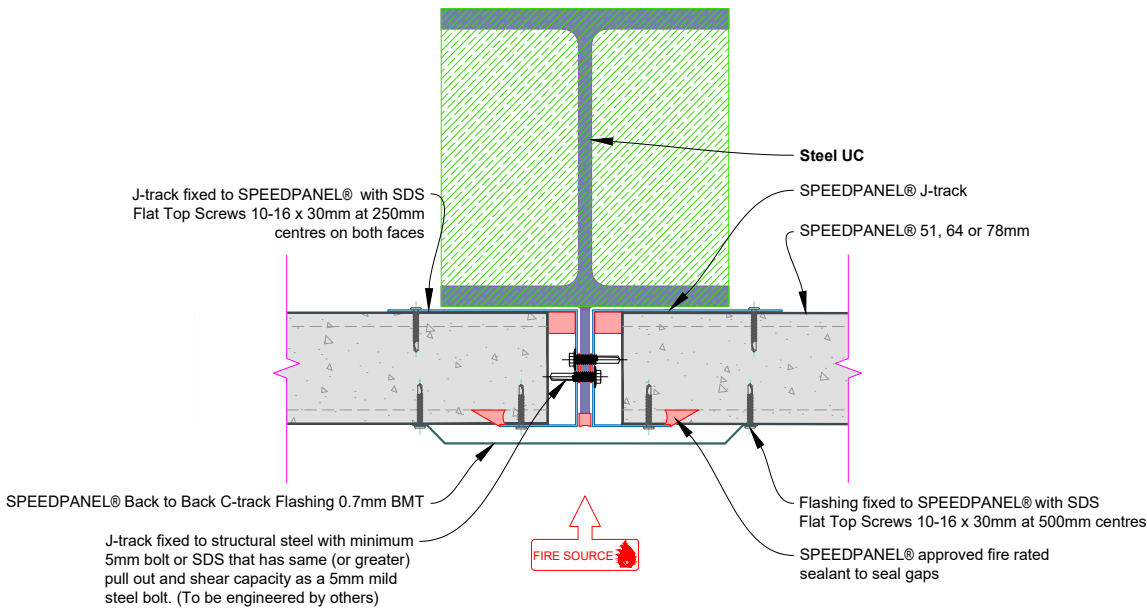


FIGURE 115³

PROMAT PROTECTED HORIZONTAL STACK WITH UNIVERSAL COLUMN

PLAN VIEW

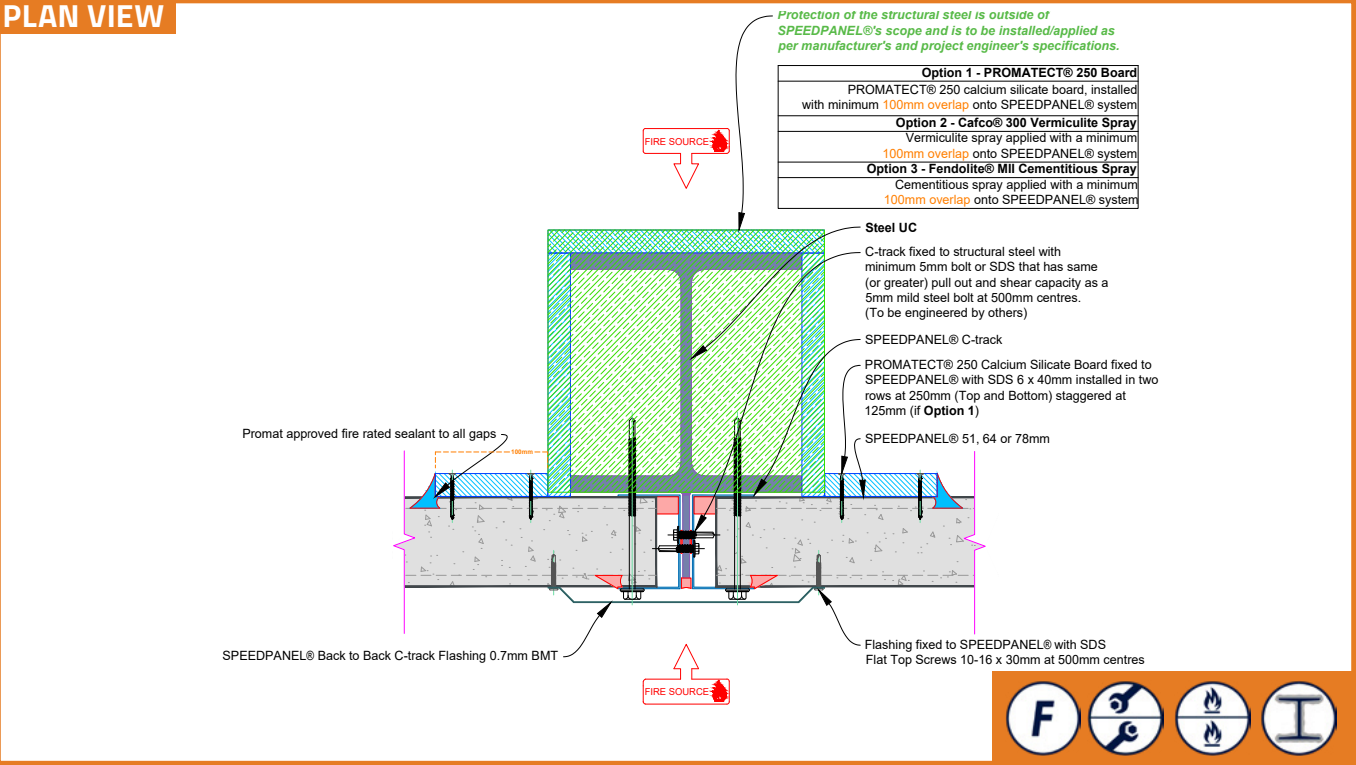


FIGURE 116³

PLAN VIEW

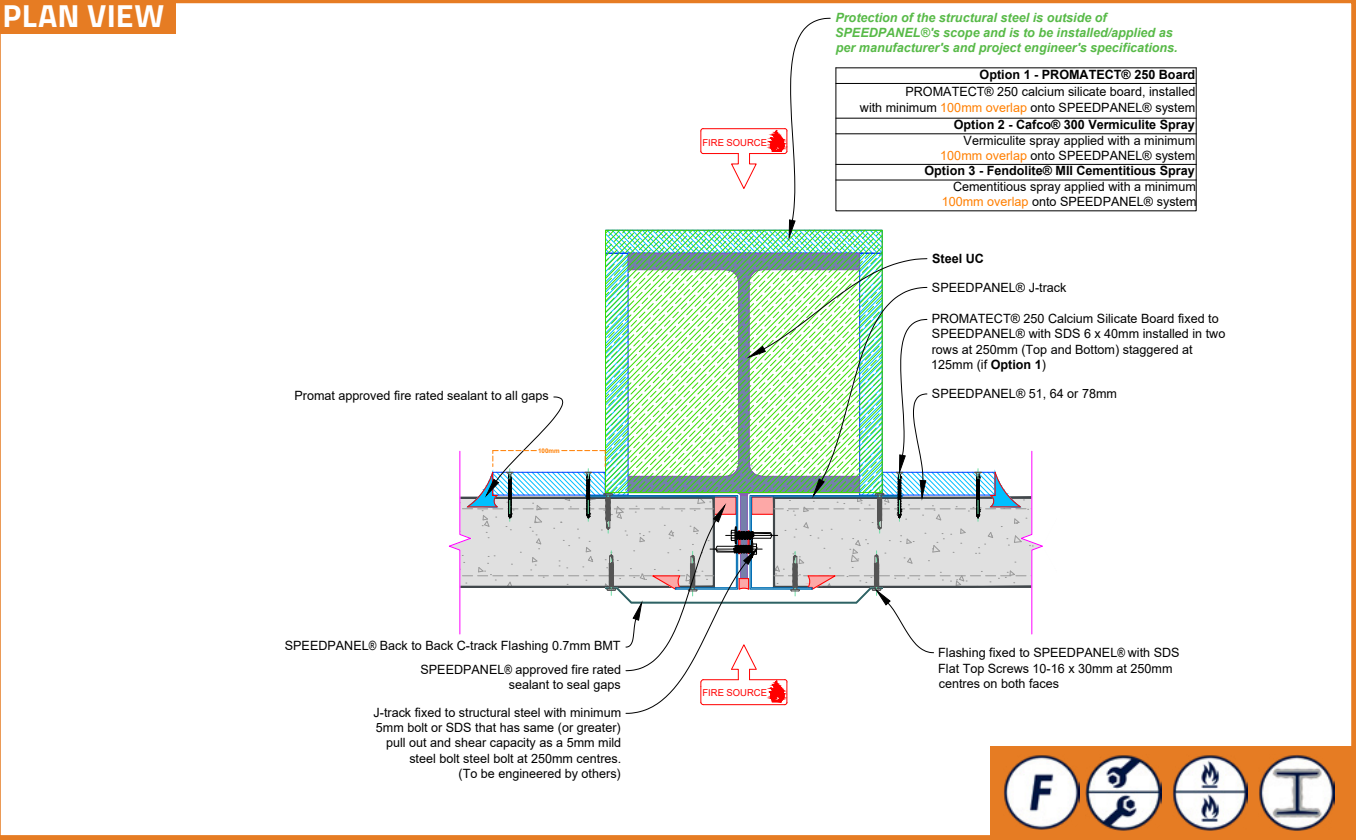


FIGURE 117³

Horizontal stack details - Continued

PROMAT PROTECTED HORIZONTAL STACK WITH UNIVERSAL COLUMN

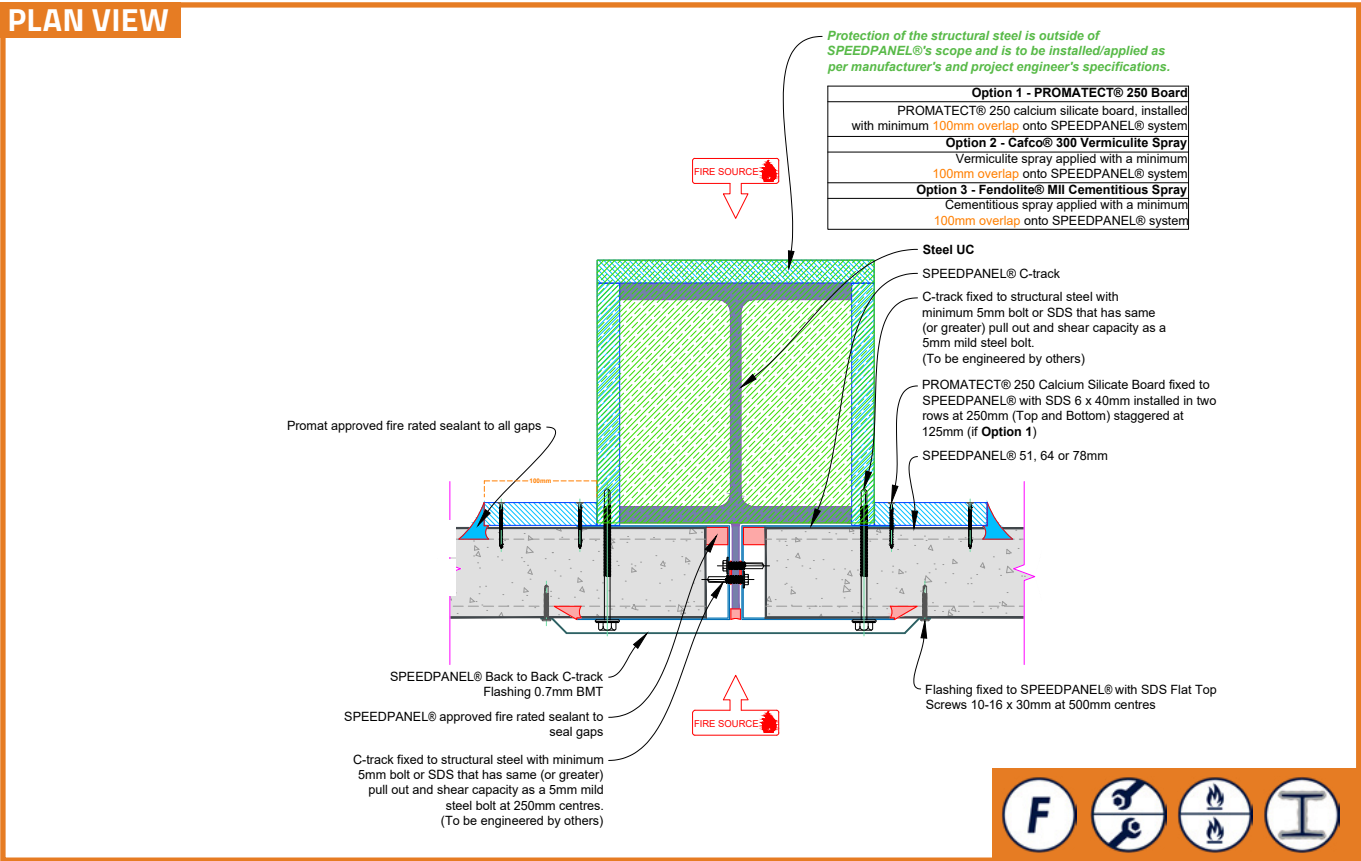


FIGURE 118³

PROMAT PROTECTED HORIZONTAL STACK WITH STEEL RECTANGULAR HOLLOW SECTION

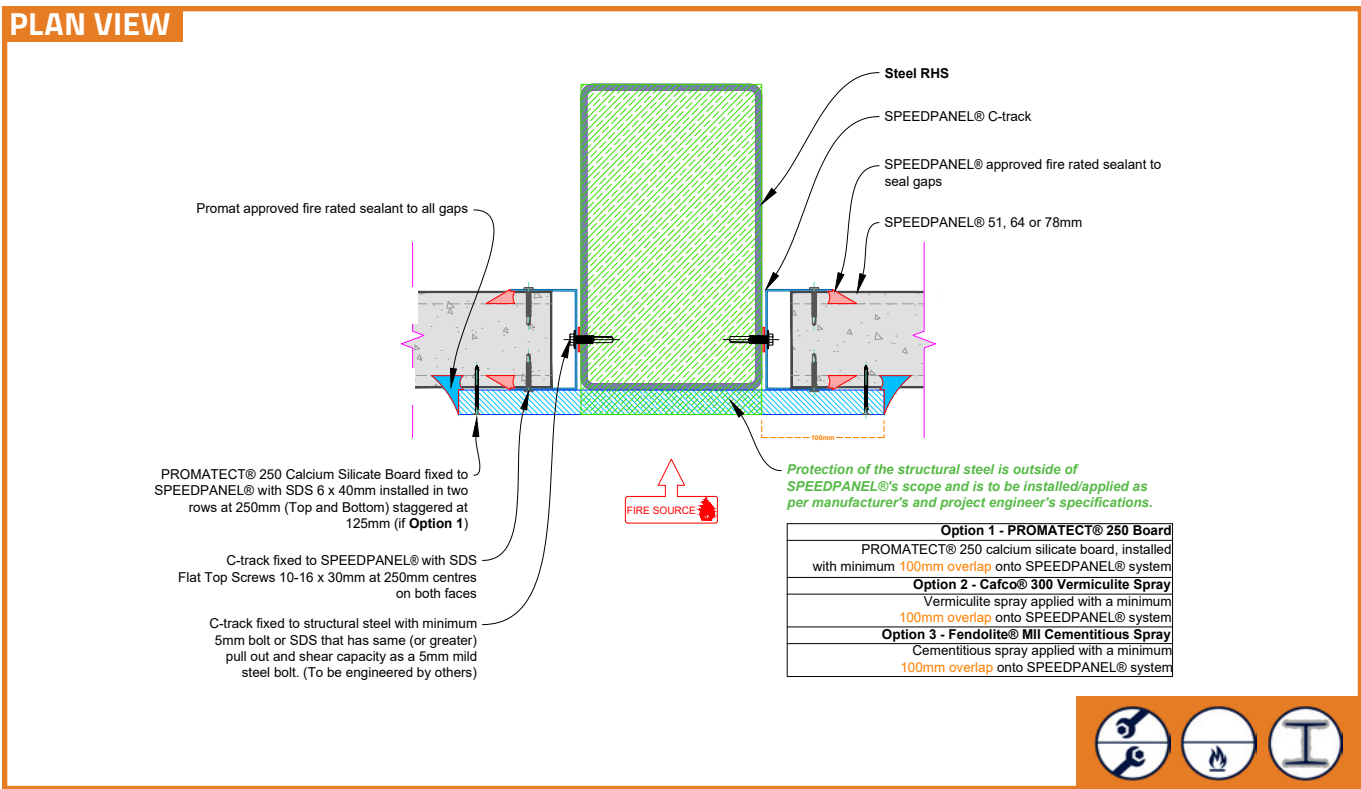
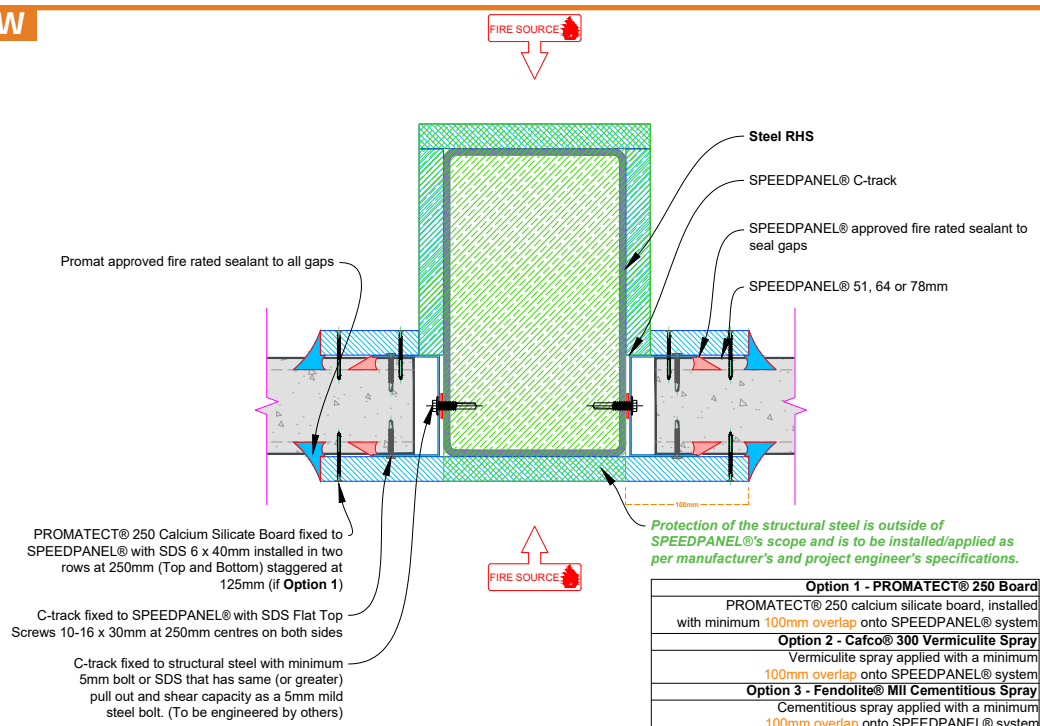


FIGURE 119³

PLAN VIEW



<p>Option 1 - PROMATECT® 250 Board</p> <p>PROMATECT® 250 calcium silicate board, installed with minimum 100mm overlap onto SPEEDPANEL® system</p> <p>Option 2 - Cafco® 300 Vermiculite Spray</p> <p>Vermiculite spray applied with a minimum 100mm overlap onto SPEEDPANEL® system</p> <p>Option 3 - Fendolite® MII Cementitious Spray</p> <p>Cementitious spray applied with a minimum 100mm overlap onto SPEEDPANEL® system</p>

FIGURE 120³

Notes



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



2 - REPORT 22551



3 - REPORT 31919000



4 - REPORT 28928

3.2



**SPEEDPANEL® EXTERNAL WALL
SYSTEMS REQUIRING FP1.4 (NCC 2019)**



**FP1.4 (NCC 2019)
CERTIFICATE**

FOR FURTHER INFORMATION ON
SPECIFIC CONSTRUCTION DETAILS AND/
OR TREATMENT REQUIREMENTS PLEASE
CONTACT OUR OFFICE ON +61 3 9115 6666.

EXTERNAL WALLS

SPEEDPANEL® EXTERNAL WALLS - HORIZONTAL

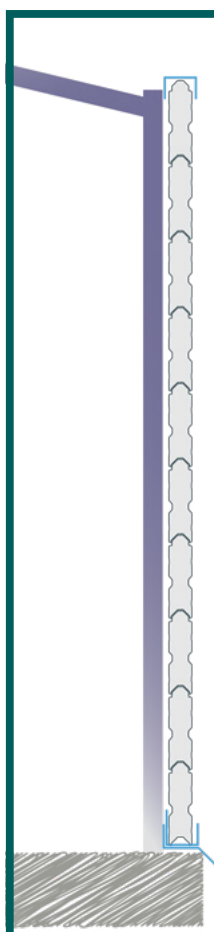
Speedpanel® can be installed as an external wall as it only needs support and connection to structure from one side. Horizontally oriented Speedpanel can continuously stack to unlimited height, however must be connected to structure at 4.5m (maximum spans).



Max spans are for fire rating. Design professional should consider additional factors such as wind loading which may reduce the maximum allowable span.



FIGURE 121

HORIZONTAL STACK

- Speedpanel® can be the finished façade element.
- Can be installed to unlimited heights.
- Maximum 4.5m horizontal spans. Must be connected to structure.



3.2_B

EXTERNAL WALLS

PART B (VERTICAL ORIENTATION)

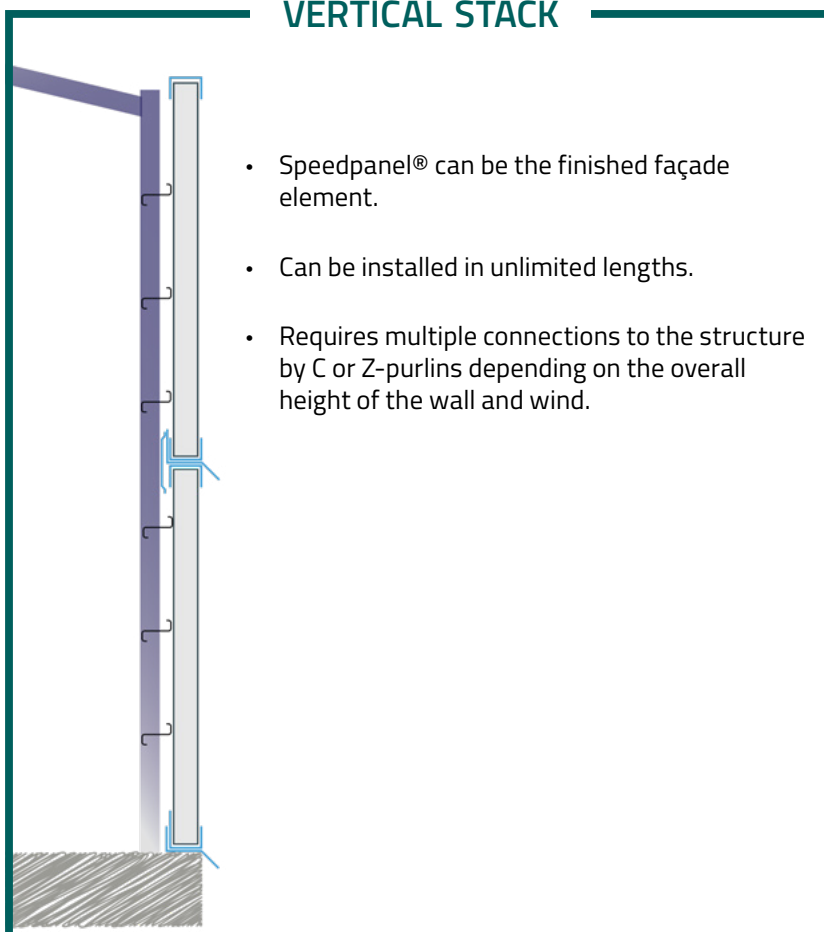
SPEEDPANEL® EXTERNAL WALLS - VERTICAL

Speedpanel® can be installed as a external wall as it only needs support and connection to structure from one side. Vertically oriented Speedpanel can be installed to unlimited lengths and can achieve greater heights, speak to Speedpanel to find out how. Speedpanel must be connected to structure laterally as per options shown on pages [111](#) and [112](#).



FIGURE 122

VERTICAL STACK



SPEEDPANEL® VERTICAL STACK MID-CONNECTION WALL DETAIL

Illustrated below is the middle connection detail of a Speedpanel® external wall. J-track with weep holes at 250mm centres and Z-Profile flashing are used to aid in water egress.

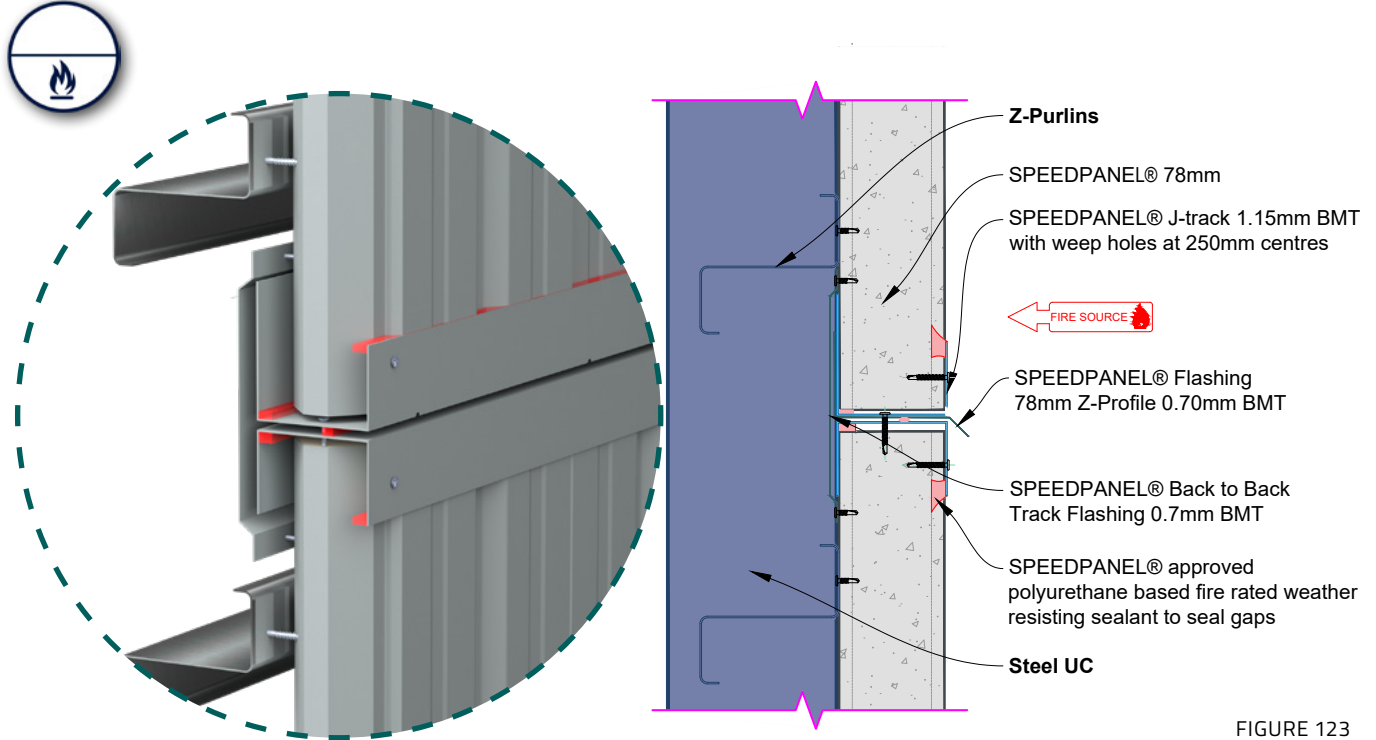


FIGURE 123

SPEEDPANEL® VERTICAL STACK BASE DETAIL

The detail below illustrates the base detail of the Speedpanel® external wall. J-track with weep holes at 250mm centres and Z-Profile flashing are used to aid in water egress.

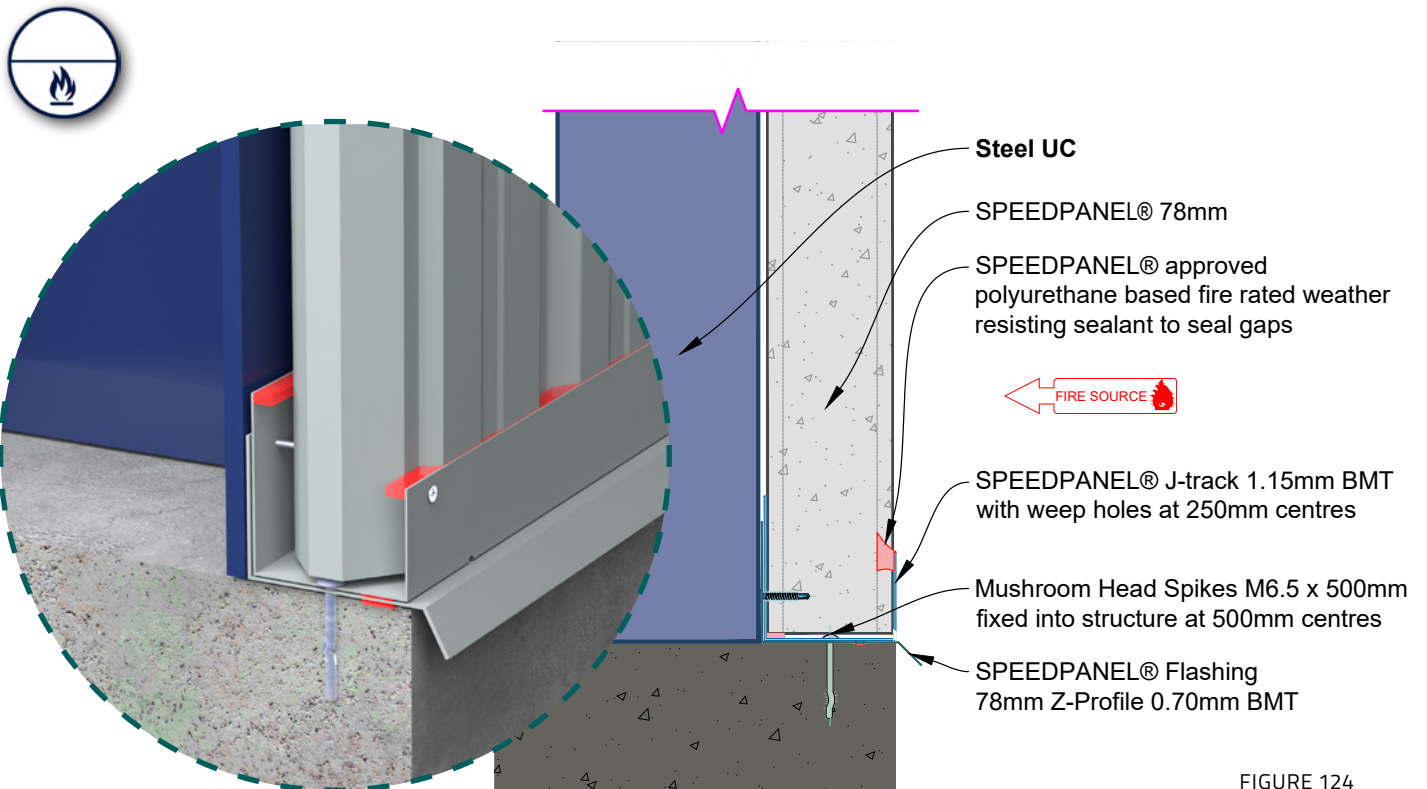


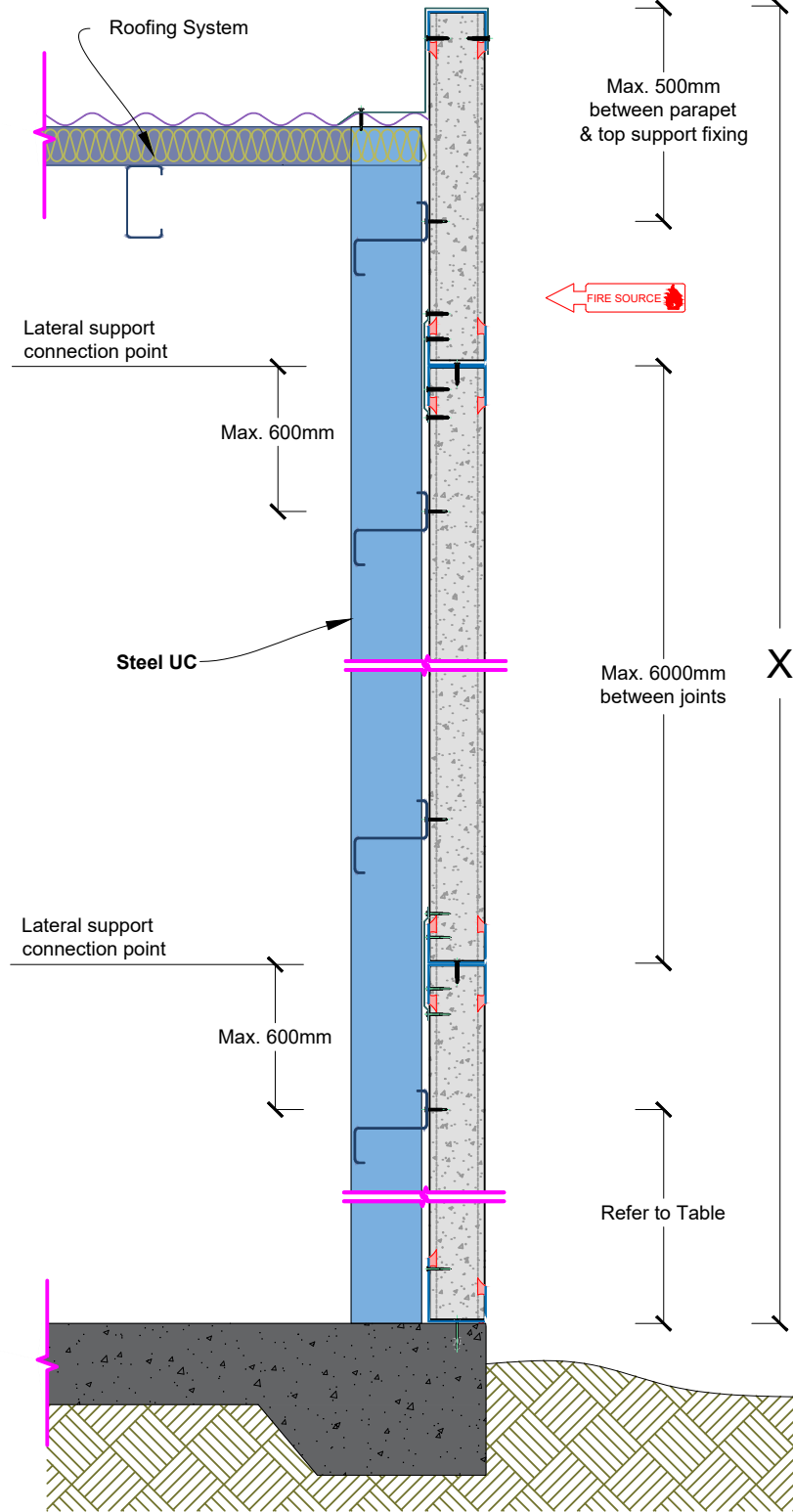
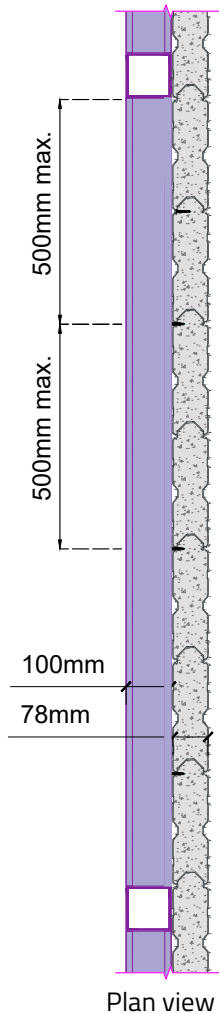
FIGURE 124

VERTICAL STACK SPEEDPANEL® - Z PURLINS

Illustrated below is a vertically stacked Speedpanel® external wall system to steel structure by Z-purlins. Refer to the table provided for maximum spacings according to the overall height of the wall.



Maximum Speedpanel® wall height (X)	Maximum lateral support spacing for steel Z-purlin
14m	2.5m
12m	3m
10m	3.5m
9m	3.5m
8m	4m
7m	4.5m
6m	4.5m
5m	5m
4m	4m
3m	3m



Design professional should consider additional factors such as wind loading which may reduce the maximum allowable span.

FIGURE 125

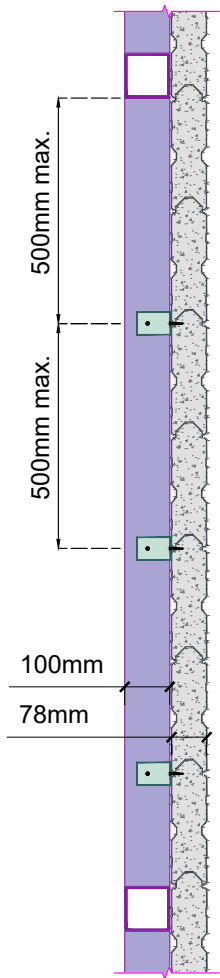
VERTICAL STACK SPEEDPANEL® - C PURLINS

Illustrated below is the connection of a vertical stack Speedpanel® external wall system to steel structure by C-purlins. Refer to the table provided the maximum spacings according to the overall height of the wall.

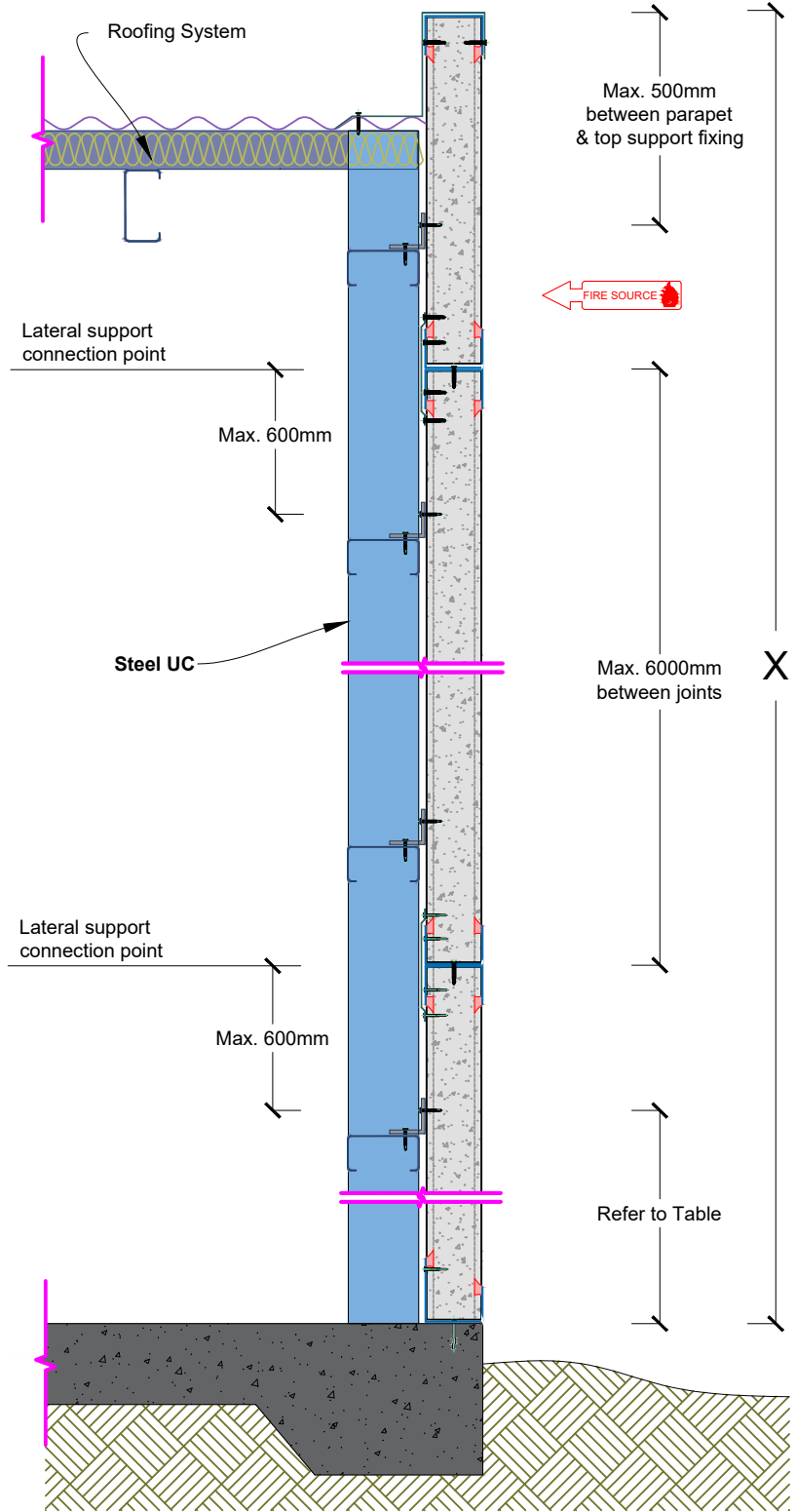


Maximum Speedpanel® wall height (X)	Maximum lateral support spacing for steel C-purlin
14m	2.5m
12m	3m
10m	3.5m
9m	3.5m
8m	4m
7m	4.5m
6m	4.5m
5m	5m
4m	4m
3m	3m

Design professional should consider additional factors such as wind loading which may reduce the maximum allowable span.



Plan view



Section view

FIGURE 126

NOTES

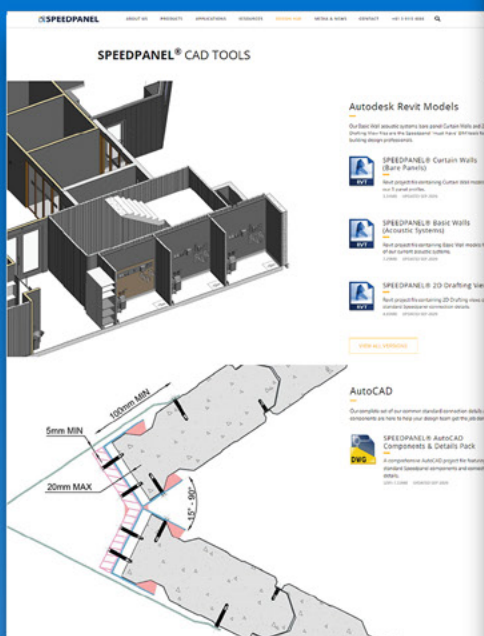
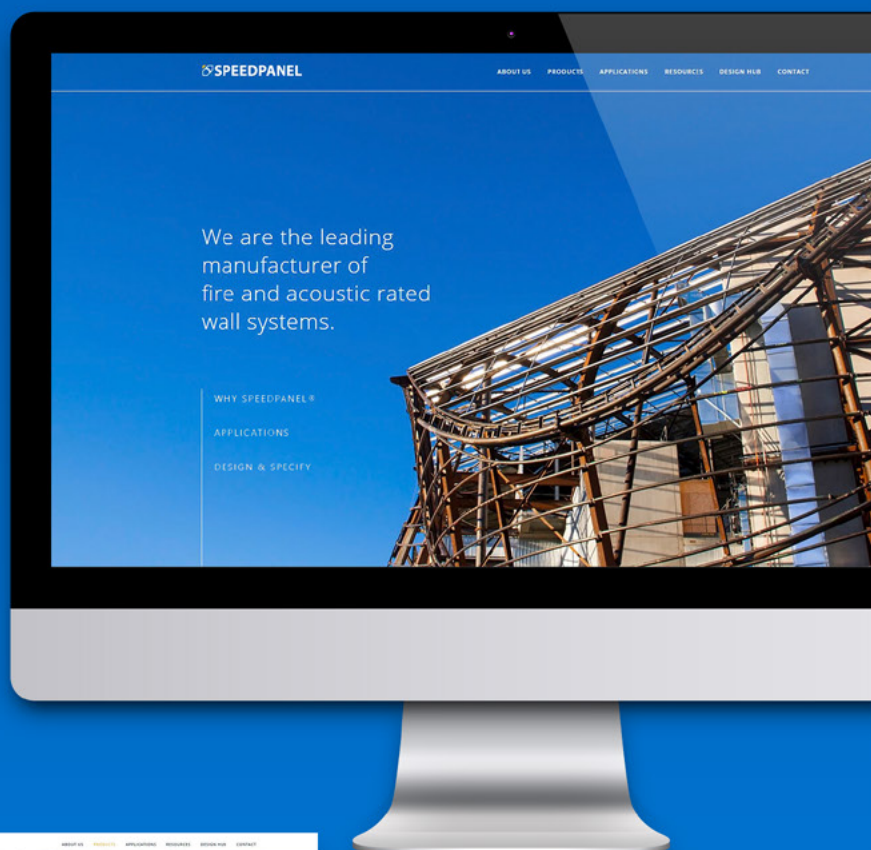
NOTES

Handwritten notes area with horizontal dotted lines.

Visited us online lately?

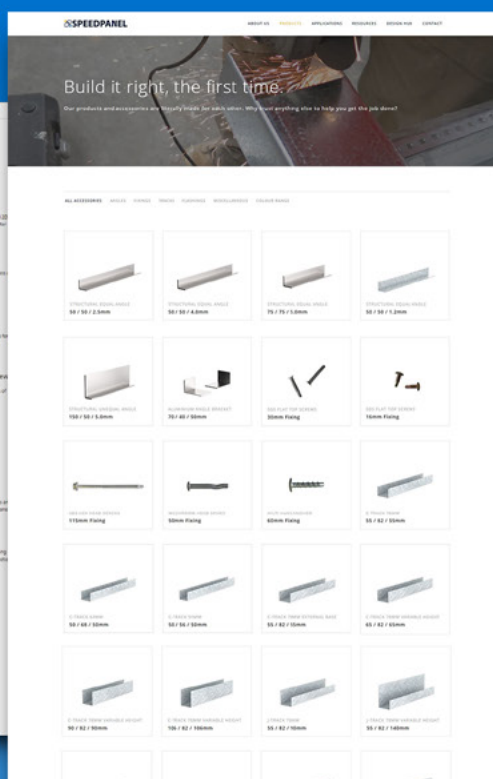
Our systems can save time and money on site, and now our new website will simplify the design and specification too!

www.speedpanel.com.au



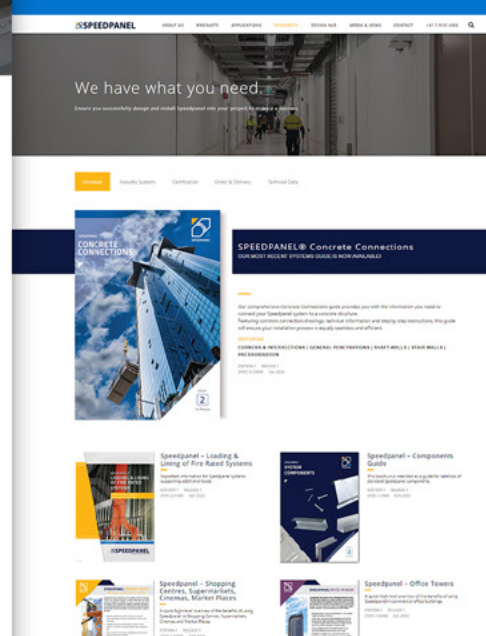
CAD TOOLS

AutoCAD, SketchUp and Autodesk Revit models and construction details



PRODUCT LISTINGS

Detailed information for our available panels, accessories and colour options.



RESOURCE LIBRARY

Access to installation guides, acoustic systems, fire certifications and more!



www.speedpanel.com.au

421 Dorset Rd, Bayswater, VIC 3153 | +61 3 9115 6666

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