



Wallbarn informational brochure for Fire Rated Substructure System for Paving or Decking

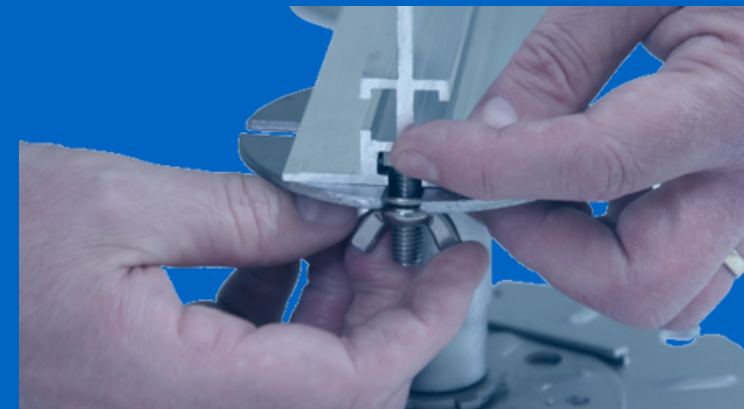




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About Wallbarn

Established in 1980 as a family business and still run by the same family, Wallbarn brings over 40 years of expertise as a leading supplier of innovative solutions for the UK construction industry. Known for quality and technical excellence, Wallbarn specialises in products, including adjustable pedestals, nonwoven geotextiles, green roofing systems, drainage solutions & Class A decking and paving solutions

Wallbarn's innovative products have been integral to residential, commercial, and public projects, while its commitment to customer service has fostered strong relationships with architects, contractors, and developers. Combining product development expertise with on-site insight, Wallbarn remains a trusted partner, delivering durable and sustainable solutions that shape modern construction.



Fire Rated



Green Roof Systems



Pedestals for Paving or Decking



Decking Systems



Substructure System for Paving or Decking



Protection & Drainage

Fire Safety in the UK Construction Industry

Fire safety is a cornerstone of modern UK construction, driven by stringent regulations to protect lives, property, and the environment. High-profile incidents like the Grenfell Tower tragedy (2017) & Samuel Garside House (Barking, 2019) have made reviews and upgrades to fire safety regulations, including:

- **Approved Document B Amendments Sept 2024**
- **EN 13501-1:2018 Fire Classification of Construction Products & Building Elements**
- **Review & upgrade of Balconies & Terraces - BS 8579:2020**
- **Reviews and upgrades on flat roof & podium decks BROOF (t4) - BS EN 13501-5 Fire Classification of Roofs**

These new rules & regulations set new standards for fire safety on multi-occupancy and commercial buildings. These measures aim to reduce fire risks, slow fire spread, and ensure safe evacuation.

Non-combustible, Class A-rated materials are required on these projects and includes pedestals, joists / rails, paving and decking. Advances in material technology have allowed for strengthened fire safety. Architects, Specifiers and Developers can now select fire-resistant components for balconies, terraces and roofs, ensuring full compliance, enhancing safety, and fostering confidence in the resilience of modern buildings.



Fire Rated

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Fire Regulations and Standards

Fire regulations in the UK, including Approved Document B, mandate the use of fire-resistant materials in critical areas such as façades, terraces, balconies, and roofing systems. These standards aim to minimise fire risks, protect building occupants, and ensure safe evacuation routes in the event of a fire.

Explanation of Class A Fire Rating

A Class A fire rating represents the highest level of fire resistance under EN 13501-1, indicating that the material is non-combustible and does not contribute to the spread of fire. Products with this rating are essential for high-risk areas where fire safety is specified.

Compliance with UK

UK construction regulations, including Approved Document B, BS 8579:2020 and BS 8414:2020 (For Cladding), require rigorous testing of building materials to ensure they meet strict fire performance criteria. Compliance is essential for legal certification and guarantees the safety and longevity of structures.

Why Fire-Rated Systems Are Essential for Balconies, Terraces, and Flat Roofs

Balconies, terraces, and flat roofs are vulnerable to fire spread due to their exposure and multi-functional use. Installing fire-rated systems in these areas reduces fire risks, ensures regulatory compliance, and aids overall building safety, especially in high-rise and multi-occupancy developments.

Wallbarn's Fire-Rated Paving & Decking Systems

Wallbarn's fire-rated paving and decking systems are non-combustible, durable, and fully compliant solutions with all components meeting Class A specification. Designed by us, to deliver both safety and performance, our Class A system begins with the adjustable MetalPad Ex pedestal, which supports aluminium rails or joists securely fixed using our M8 Wing Nut Kit.

For paving applications, a Rail Headpiece is attached to the aluminium rail to hold slabs or tiles in place. This design not only ensures a stable substructure but also provides a gap between the tiles for effective water drainage.

For decking, fire-rated deck boards are installed directly onto the aluminium joists. Our decking is available in a variety of colours and materials to suit diverse project needs, including ceramic (porcelain) decking, cement fibre decking, and aluminium decking.

Adjustable Pedestals - MetalPad Ex Zintec 200 Coating

The MetalPad Ex adjustable pedestal covers heights from 26mm to 375mm and has a Zintec 200 anti-corrosion coating which makes it suitable for external applications and prevents the pedestal rusting, ensuring long-term durability and a Class A fire rating for high-rise and external applications.



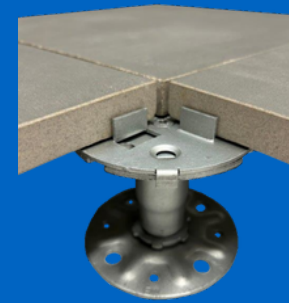
MetalPad Ex



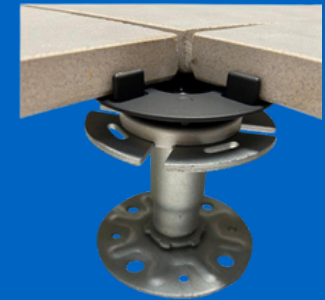
MetalPad Ex on
Spreader Plate



Aluminium Rail MetalPad Ex
connected by M8 Wing Nut Kit



MetalPad Ex with
Paving Headpiece



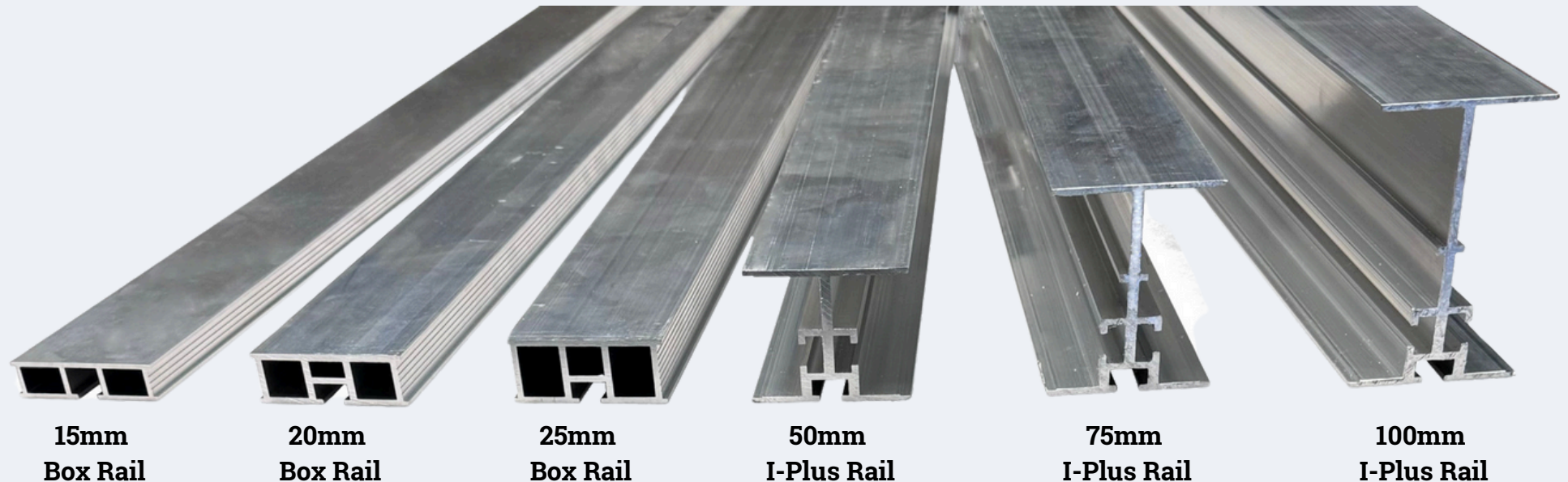
MetalPad Ex with
Self Levelling
Headpiece

Box & I-Plus Rails / Joists - Made from High-Grade 6063 T6 Extruded Aluminium

Wallbarn's Box and I-Plus aluminium rails/joists are manufactured from high-grade 6063 T6 extruded aluminium, offering exceptional strength, precision, and durability. They are designed for long-lasting performance for decking and paving systems. Made from premium aluminium these rails/joists will not rust or warp.

They are lightweight, making them easy to handle and manoeuvre on site, which speeds up the installation process without sacrificing strength or stability. They have been specifically designed to fit securely onto MetalPad Ex and other components, allowing for a versatile, flexible solution tailored to your specific project needs.

In addition to their mechanical properties, the Box and I-Plus rails, being made from aluminium are deemed to be Class A rated (as per EC Decision 96), making them ideal for fire rated projects. Their performance and design make them a reliable choice for roofs, terraces, and balconies where fire resistance is critical.

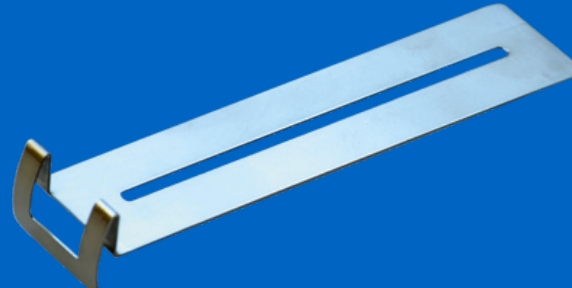


Connectors, Headpieces & Fixings - Brackets, Paving Headpieces & W Clip

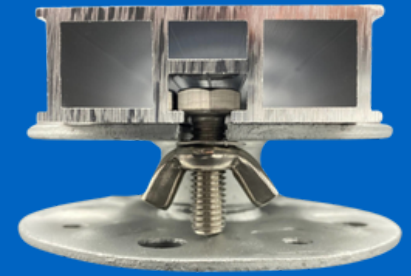
Wallbarn has developed and designed bespoke connectors, headpieces and fixings in order to offer a complete system. This includes connectors, headpieces, and fixings, including brackets, paving headpieces, and W Clips, for secure and fire-safe installations. All of these components are made from metal and meet Class A specification.



Straight & Right Angle Brackets to connect aluminium rails/joists to form a substructure for paving or decking systems



Metal Edge Plate to create drainage gap between perimeter wall and paving slabs or tiles



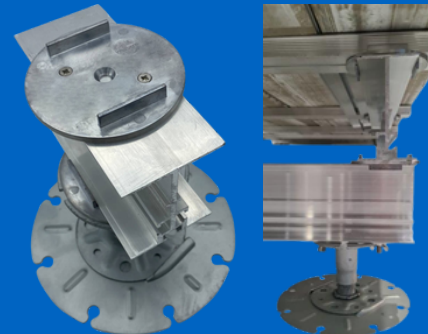
M8 Wingnut Kit to connect Rails to pedestal or brackets to Rails



Spreader Plate for use with MetalPad Ex on vulnerable subfloors



W Clip - Class A Deck Fixing Clip



Rail to Rail Headpiece to stack rail perpendicular to achieve large height thresholds



Rail Paving Headpiece

Decking - Aluminium, Ceramic & Cement Fibre

Wallbarn's decking range includes aluminium, ceramic, and cement fibre options, combining aesthetic versatility with exceptional fire resistance and durability.



Paving - Porcelain, Natural Stone & Cement

Wallbarn's fire-rated paving solutions include porcelain, natural stone, and cement slabs, offering a range of premium finishes suitable for balconies, terraces, and flat roofs.



Applications for High-Rise and Regulated Environments

Wallbarn's fire-rated systems are specifically designed for high-rise and regulated environments, where stringent fire safety standards are specified. These systems are ideal for applications such as balconies, terraces, flat roofs, and podium decks in multi-storey residential and commercial buildings.

By incorporating non-combustible materials, Wallbarn ensures compliance with UK fire safety regulations, including Approved Document B & BS 8579:2020, while providing reliable and aesthetically finished solutions. The system and all its components, not only increases fire safety, but also offer the structural integrity and durability required to withstand the demands of high-traffic, exposed outdoor areas in modern UK developments.

Independently Tested

To ensure our products meet specification and perform as intended, we subject all our Class A products to rigorous independent testing. These tests are conducted by industry-recognised UK organisations such as Warrington Fire and STS Group UK, ensuring compliance with the highest standards.

These tests include fire performance and weight tolerance, with results readily available on our website for complete transparency. This provides you with the confidence and assurance that our products will meet your project specifications and safety requirements.

We were reassured that in many cases, our test results exceeded the design standards and performance requirements, demonstrating the exceptional quality and reliability of our fire-rated product range.

Guidance on Installing Fire-Rated Products

Proper installation of fire-rated pedestals is important to ensure both safety and performance. Wallbarn provides guidance and technical support to help contractors achieve secure installations.

Use of Noggins & Brackets

When installing our Class A substructure, our standard layout comprises of parallel rails/joist with a perpendicular rail around the perimeter. For increased strength and stability across the substructure, additional noggins can be used. The aluminium rails/joists can be easily cut to size on-site for tailored lengths. Adding noggins not only connects all components, creating a more stable platform, but also significantly increases load tolerance (by up to 40%) for those projects that require this. Practically, it also reduces installation time; once the substructure is connected and levelled (easily achieved with the adjustable MetalPad Ex), it provides a perfectly flat 60mm-wide frame for quick and efficient paving or decking installation.

Wind Uplift

For coastal projects or areas exposed to high wind, using noggins and brackets is ideal. Our systems include specialised fixings and supports, that enhance stability and secure paving or decking against high winds. These components are of particular consideration, where they help mitigate the risk of wind uplift.

Maintenance Best Practices for Optimal Performance

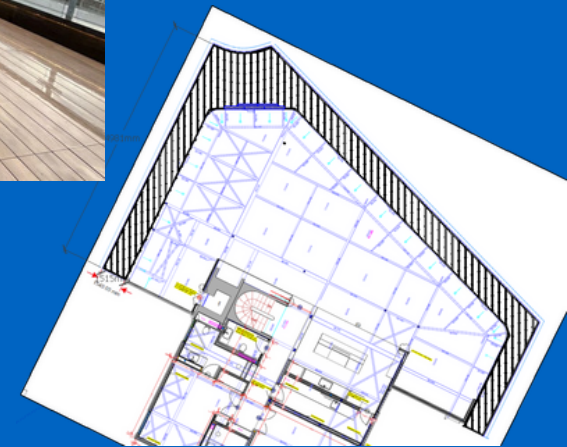
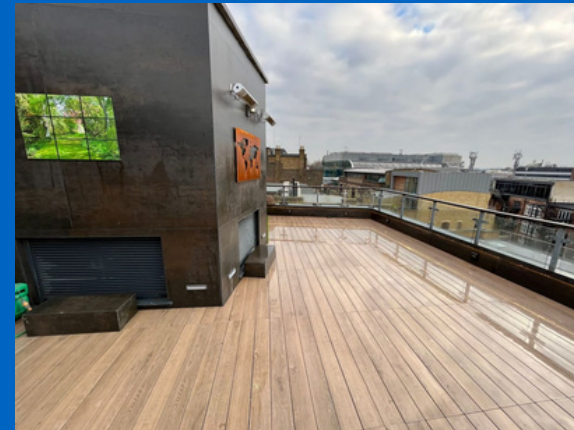
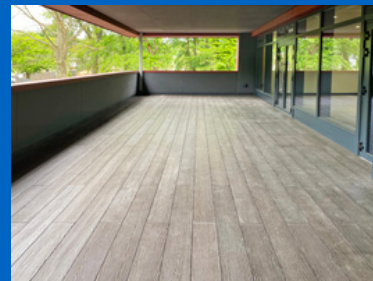
Although only light maintenance is required to the system itself, . Periodic inspections should include checks of the sub floor for any debris and drainage outlets for any buildup of foreign materials. If any pooling of water is discovered, this can be an indication of a faulty sub floor and should not be ignored. Keeping surfaces clean and addressing issues promptly helps maintain compliance with fire safety regulations and ensures the system remains in peak condition for years to come.

Past Projects

Despite the latest regulations continuing to evolve, Wallbarn Class A paving and decking systems have been successfully installed on commercial projects across the UK since 2019. We are proud to have contributed to both new builds and refurbishment projects, particularly on balconies, terraces, podiums and flat roofs.

Refurbishment projects, while often complex, present unique challenges. Factors such as transportation of materials to high-rise locations, restricted site access, and subfloor irregularities can all add to the complexity of installation. However, Wallbarn's expertise and innovative solutions have enabled us to overcome these hurdles time and time again.

For instance, our lightweight, precision-engineered systems are designed to minimise the strain of transport and handling, even in the most difficult-to-reach locations. Our adjustable pedestal systems are ideal for addressing uneven subfloors, ensuring a stable, level surface for paving or decking. Through meticulous planning and on-site problem-solving, we've delivered outstanding results on a variety of refurbishments, meeting tight deadlines without compromising on quality or compliance.



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Solutions for Rooftop Living

At Wallbarn, we take pride in our team and the exceptional service we provide. For your next fire-rated project, experience the difference of working with a supplier who supports you every step of the way, from design concept, through layout, to delivery and on-site assistance.

WE HELP YOU CREATE YOUR PROJECT

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