



CLASS A RAIL SUBSTRUCTURE

For Use with
Non-combustible Pedestals



Fire rated

Comprehensive Terrace Substructures for exterior paving and decking systems

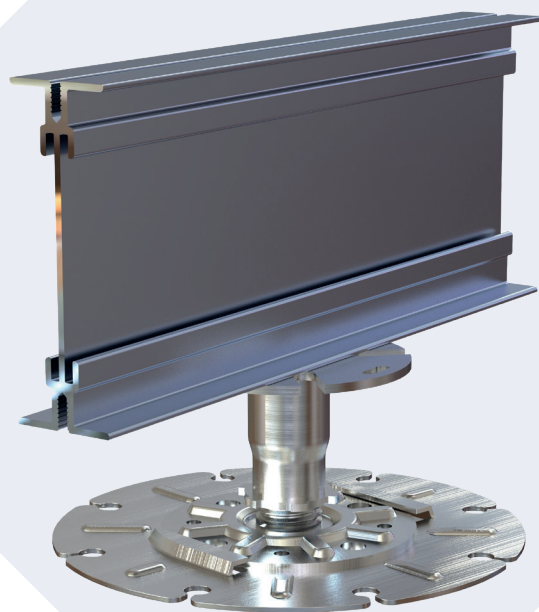
RAIL SUBSTRUCTURE

New Building Safety Legislation means balconies on all buildings over 11 metres must be constructed completely from non-combustible material.

Approved Document Part B and BS 8579 state the rules regarding anything deemed “attached to a building” and this includes balconies and some terraces. Therefore, everything on a balcony including the substructure has to be Class A as defined in EN 13501-01.

Wallbarn has further extended its offering of both aluminium rails and Class A pedestals with the new single rail and MetalPad EX ranges.

Both these new products are designed to give greater flexibility for installers by extending the height and connection options for building solid terrace substructures for paving and decking applications.



RAIL SUBSTRUCTURE KEY BENEFITS:

- Class A 1 rated for non-combustible paving and decking applications
- Specially profiled bearer rails / joists click onto Metalpad & MetalPad EX pedestals
- Fully integrated substructure system for seamless connection
- Greater spans between pedestals possible
- Joists “tie together” pedestals, giving more lateral strength to frame
- Extremely fast and simple to install
- All fixings and connectors provided
- Huge range of designs and sizes available, height and shape variations easily created
- Single beam and profiled double box shapes available
- Weight bearing and extremely stable
- No rotting, warping or rusting
- Environmentally friendly, manufactured from recycled aluminium and fully recyclable

Wallbarn offers cost effective, safe and easy solutions for Class A non-combustible build-ups.

HEIGHT RANGE
from 25mm

SINGLE BEAM

As well as the 3 sizes of box junction profiles rails Wallbarn now has rails designed to be bolted onto the pedestal headpieces

The single beam / rail is designed to be connected to the MetalPad EX adjustable pedestal for fast and easy construction via a set of screw and bolt fixings. They can be assembled easily to create a secure terrace support system without the need for excessive cutting or drilling on site.

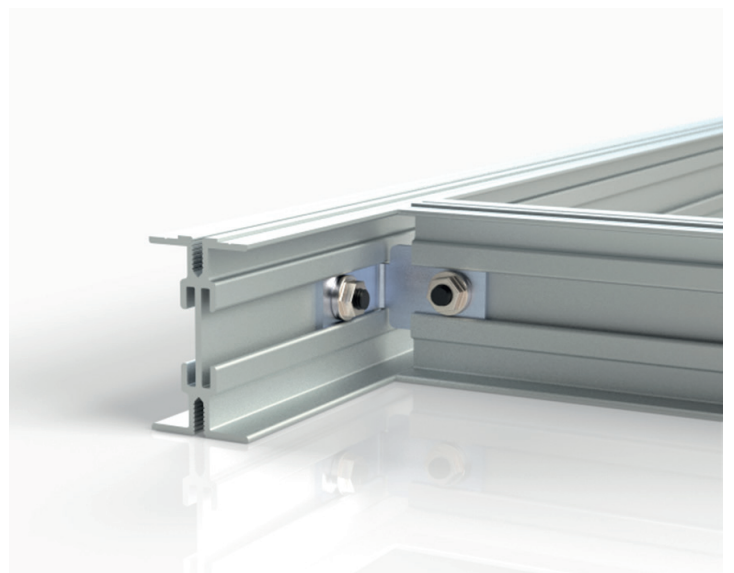
At least one side of the rail has a grooved channel in the centre to hold a screw in place, thereby getting a secure and tight fixing to the pedestal.

These rails are extremely strong so fewer pedestals per m2 are required when creating a frame substructure.



For best results rails should be cross fixed at right angles to each other. This creates an extremely sturdy platform upon which decking boards or specially designed headpieces for tiles and paving can be fitted.

See details of brackets and accessories in our Fixings & Connections section later.



SINGLE BEAM JOIST OPTIONS

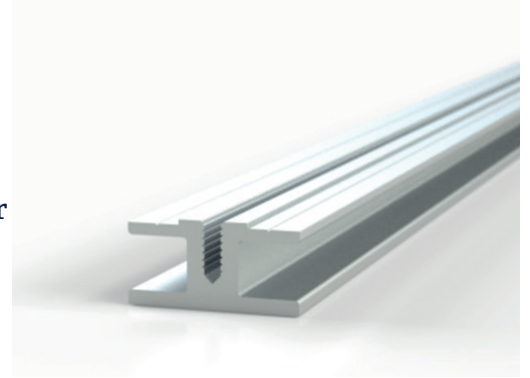
These rails come in a number of different heights / sizes and multiple pieces can be connected to form strong platforms across the whole deck, which will support extremely heavy loads and pedestrian traffic in Class A paving or decking installations.

20mm JOIST

Used where low buildup is required.

Where strength is required but height threshold spacing is critical, the 20mm joist can be installed at right angles to a larger rail to create a racking joist framework. This racking joist system allows for rapid installation and modification.

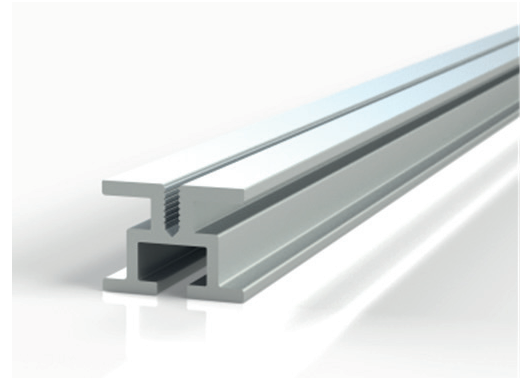
Not suitable for large unsupported spans.



30mm JOIST

Also used for low buildup areas.

Special underside box junction designed to hold bolt to fix directly to MetalPad EX pedestals.



70mm JOIST

Used extensively for paving and decking areas supported by pedestals. Designed for unsupported spans of up to 1 metre.

Special right angled side cleats slide into the slots within the sides of the beam to connect perpendicular joists for construction of framework.

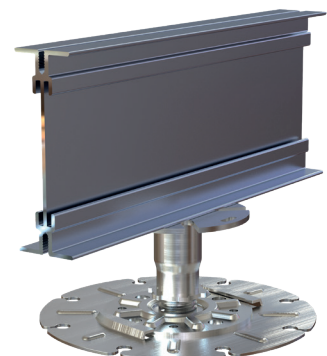


120mm JOIST

Used extensively for paving and decking projects using support pedestals.

Huge unsupported spans of up to 1,700mm are possible. Extremely heavy duty beam with reduced deflection.

Ideal for ultra-high build-ups as rails can be cross fixed to increase height by 120mm per row; creating extremely high weight tolerance and lateral stability.



All rails are easily secured together using the specially designed connectors and fixings.

PROFILED DOUBLE BOX RAIL

These double box rails offer a full Metal Substructure. The profiled Aluminium Joist clicks securely onto MetalPad without the need for screws, drills or mechanical fixings.

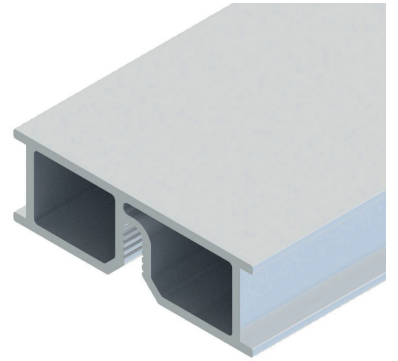
Joists help “tie together” pedestals, giving more lateral strength and lateral stability across deck by reducing movement.

20mm JOIST

Low profile solution.

Clipped onto flat heads or Metalpad Decking pedestals. Smooth 60mm wide upper surface allows room for decking fixings. Alternative Top Head for Paving can be installed onto top surface to slide along for accurate positioning of tiles / slabs.

Maximum span 600mm.

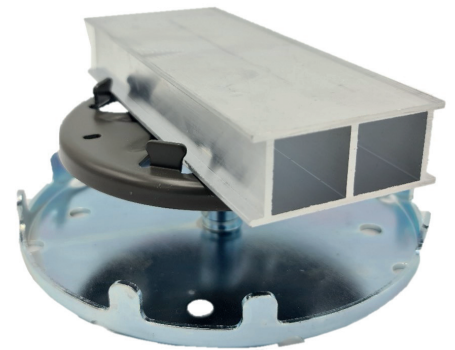


25mm JOIST

Another low profile option. Can be used in conjunction with 20mm high short length “noggins” cross braces for additional stability. Central wall for added strength.

Used for decking and paving applications.

Maximum span 600mm.



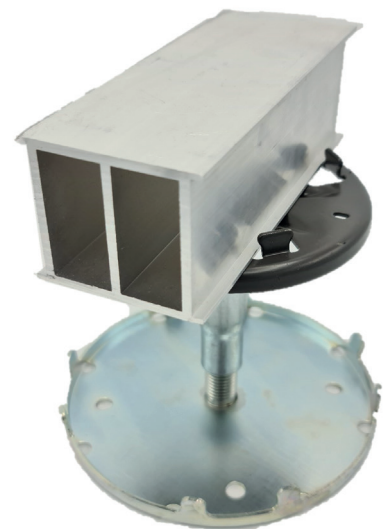
50mm JOIST

Double box shape with profiled outer edges to clip into MetalPad for Decking pedestal. Longer spans of 1.200mm possible. More load bearing with 3mm thick walls including central wall.

Cross fixings and perpendicular “noggins” cross rails can be fixed to create full frameworks.

50mm joist rail can be fitted directly onto steel joists due to extended span.

A full range of screws, fixings and connectors available.

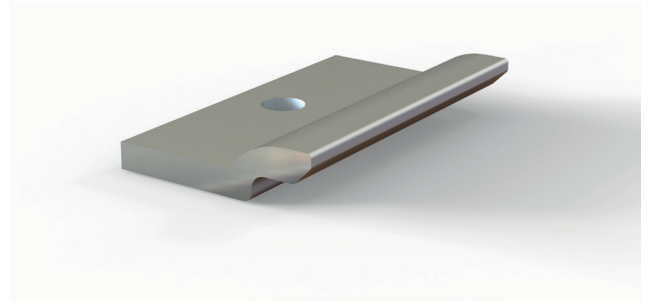


Using the profiled double box rail produces a fast, safe and secure construction of a non-combustible substructure.

FIXINGS & CONNECTORS

It is possible to install different rail heights together on the same project; and to support both paving and decking surfaces on the same substructure frame.

The special Class A MetalPad - EX Starter Fixing Clip is used to fix rails quickly and easily to both the pedestals and to themselves, where multiple levels of rail / perpendicular frameworks are required.



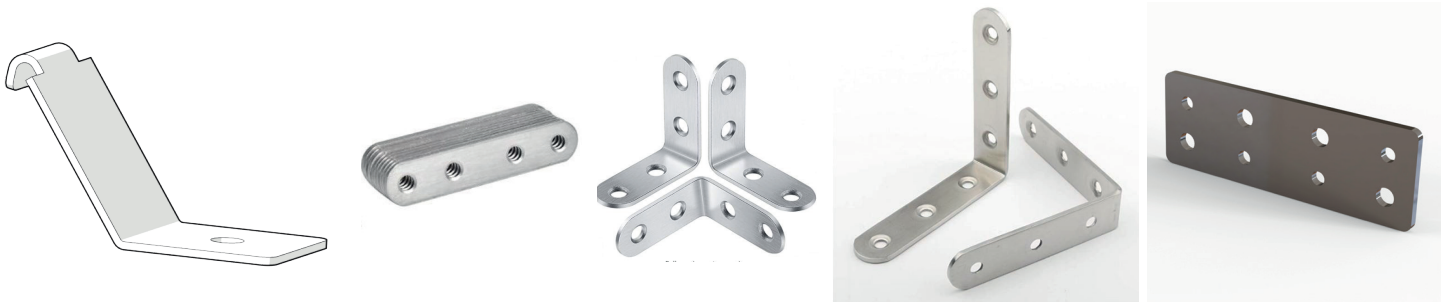
CONNECTING BRACKETS

A number of straight, right angled and 45° angled brackets and connectors are available for easy and fast fitting to all rails where cross brace frameworks are required.

Straight brackets in three different sizes are used to connect both rail designs together on long runs to increase strength and stability. Long sections of rail can be created with full structural integrity.

The right angled brackets are screwed into joists set out in a cross bracing formation. Noggins (short lengths) perpendicular to the main joist create a solid framework. These brackets are particularly useful for ultra-low height thresholds.

The 45° angled brackets connect the 70mm and 120mm single beams to cross joists or concrete floors securely and easily. They significantly speed up framework construction.



FIXINGS FOR PAVING

PAVING LUG HEADPIECE

Is screw fixed into the slotted groove on rail to hold the tile in place. The lugs create uniform spacing between tiles on the plate and are undercut to ensure a tight fit. This is a loose laid system; the weight of the tiles or slabs brings stability.

PAVING STARTER / END PLATE

The starter / end plate is ideal for end of runs and to ensure consistent gaps around the perimeter. It is secured onto the rail via a screw fixing. The optional peg acts as a lug / pacer where 2 tiles are laid onto the plate.

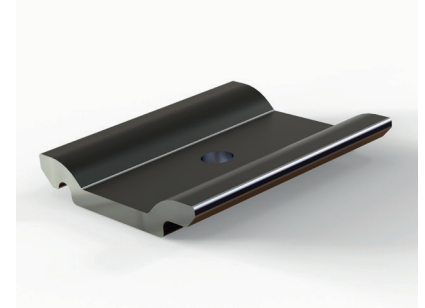
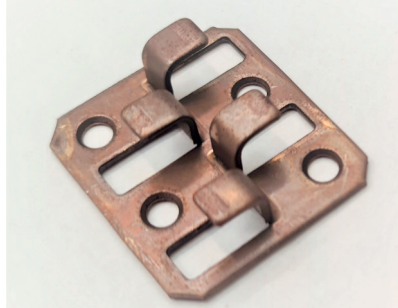


FIXINGS FOR DECKING

The 4 Hooks hidden clips provide a full Class A non-combustible fixing system for decking. Secured with screws to the rail they are shaped to hold a decking board with the standard side milling profile.

The burnished steel option means no glaring silvery colours appear from beneath between the deckboards.

A new hidden fixing is currently in development to hold a variety of deckboards with a single screw fixing.



This Class A substructure system is compatible with our range of non-combustible paving & decking products.

APPLICATION	PAVING & DECKING	
MATERIAL PEDESTAL	Aluminium 6063 T6	
APPLICATION	Above 11 metres high balconies & terraces, flat roofs& podiums	
	Approved Doc B (Amended) Volume 2:2019; BS 8579: 2020	
FIRE RATING	Class A1	
	EC Directive 96; EN 13501: 2018; BS EN 13823:2020	
HEIGHT	SINGLE BEAM	PROFILED DOUBLE BOX
	20mm - 0.99 kg/m ²	20mm - 0.90 kg/m ²
	20mm - 0.99 kg/m ²	25mm - 0.988 kg/m ²
	30mm - 1.30 kg/m ²	50mm - 1.998 kg/m ²
	70mm - 1.47 kg/m ²	
	120mm - 1.87 kg/m ²	
WIDTH	40mm	60mm
MAX SPAN BETWEEN PEDESTALS (UNDER 5MM DEFLECTION)	20mm & 30mm -- >800mm	20mm & 25mm -- 600mm
	70mm > 1,000mm	50mm - 1,200mm
	120mm -- > 1,700mm	
WEIGHT TOLERANCE	> 600 kg per m ²	
RAIL THICKNESS	20mm & 30mm - 4mm	20mm & 25mm - 2mm
	70mm & 120mm - 3mm	50mm - 3mm

The sheer variety of rail and substructure options further extends Class A non-combustible solutions from Wallbarn Ltd.

Class A solutions for rooftop living

