

VersiJack®

Pedestals Outdoor Raised Flooring



Elmich in brief

Established in 1985, Elmich Pte Ltd is a leading manufacturer and distributor of state-of-the-art and ecologically-minded urban landscaping, drainage, stormwater management, and waterproofing solutions to developers, architects, and contractors around the world.

Elmich prides itself as a professional, responsible, and eco-sensitive company with sound management and quality practices certified under ISO 9001:2015 (Quality Management), ISO 14001:2015 (Environmental Management), and SS ISO 22301:2012 (Business Continuity Management).

As a multi-award-winning company with Enterprise 50, Enterprise Transformation, and Singapore Business Federation's Sustainability Awards under our belt, Elmich affirms its commitment to quality, innovation, and resilience.

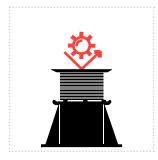
Everyone who works at Elmich is focused on enhancing lives for you and future generations.

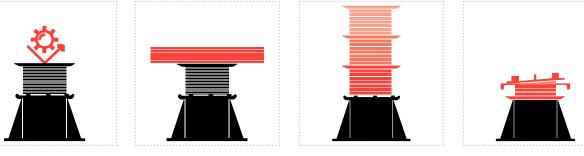
We make a difference, The Elmich difference

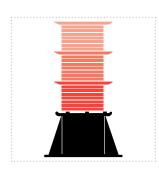


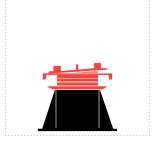
At Elmich, we are focused on enhancing lives for you and future generations.

USA
GERMANY
MALAYSIA
AUSTRALIA
SINGAPORE
SWITZERLAND



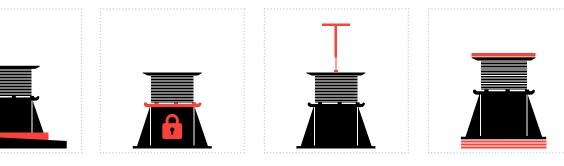






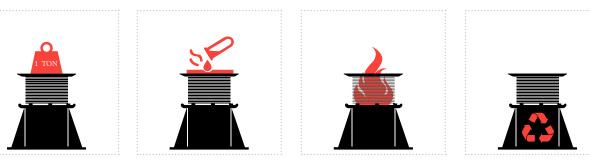








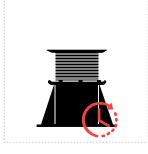


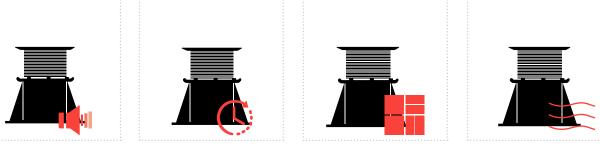








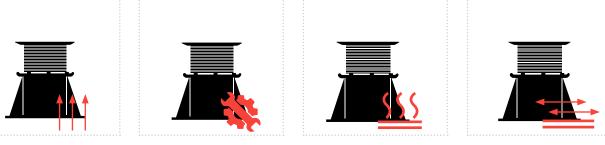




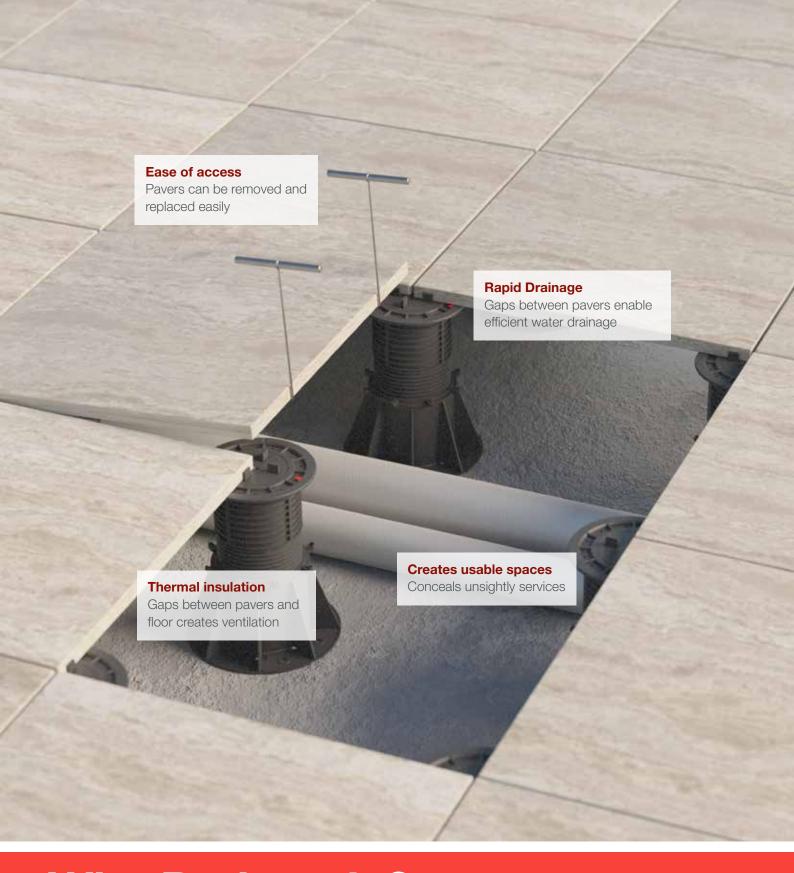












Why Pedestals?

Challenging the conventional system of floorings and raised decks, pedestals raise and adjust floor surfaces, ensuring exquisite flooring without requiring costly structural work. It facilitates water drainage and easy access to waterproofing, plumbing, and electrical maintenance. It also allows the passing of pipes and electrical equipment underneath.

Impervious to freeze thaw cycles, it is the cost-effective solution and offers a range of heights suited to a wide range of applications while providing stability, encourages air circulation, and improve heat insulation.

PEDESTAL FOR PAVING

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	DESTAL FOR DECKING	
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01PEDESTAL FOR PAVING

VJ

VersiJack®

VersiJack® K

VersiPave®

 $GravelPave^{TM}$

Screwjack Pedestal

Self-Levelling Screwjack Pedestal

Stepjack Paver Support

Mini Spacer



Screwjack Pedestal



VersiJack®

Self-Levelling Screwjack Pedestal



VersiJack® K

Stepjack Paver Support







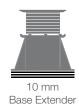
VJ Screwjack Pedestal













VersiJack® is an advanced generation of pedestals engineered to provide a versatile and sustainable solution to support raised pavers and decking. It improves heat insulation, facilitates rapid surface drainage and creates an easily accessible chamber to conceal mechanical and electrical services. The pedestals are easy-to-use across its extensive height range, allowing for an efficient and cost-effective solution.

VersiJack® provides the option of both top and bottom slope correction to compensate for gradients and create level surfaces. With a Top/Bottom Slope Corrector attached, the pedestal can stand firmly on an incline.

VersiJack® has a large flat base with rounded edges to prevent compromising the waterproofing membrane. The perforated base prevents insect breeding caused by ponding, and the scored grooves allow the base to be trimmed to fit wall corners and edges.



VersiJack®

VJComponents



- 1 Spacer Tab
 Rotatable on pedestal top to support pavers
- 2 Pedestal Top
 Designed to integrate seamlessly with all existing VersiJack® accessories.
- 3 Barrel Extender
 Requires only 3 extenders to reach a maximum height of 1014 mm.
- 4 Locking Ring
 Locking rings on the pedestal top and barrel
 extender ensure individual pedestals are
 secured at desired heights.
- Dedestal Base

 Large contact surface provides uniform weight distribution. Drainage holes prevent water pooling.
- 6 Base Extender
 The clip-on base extender allows for simple and quick height increment.
- 7 Bottom Slope Corrector
 Allow pedestals to remain firmly upright on inclines of up to 5%



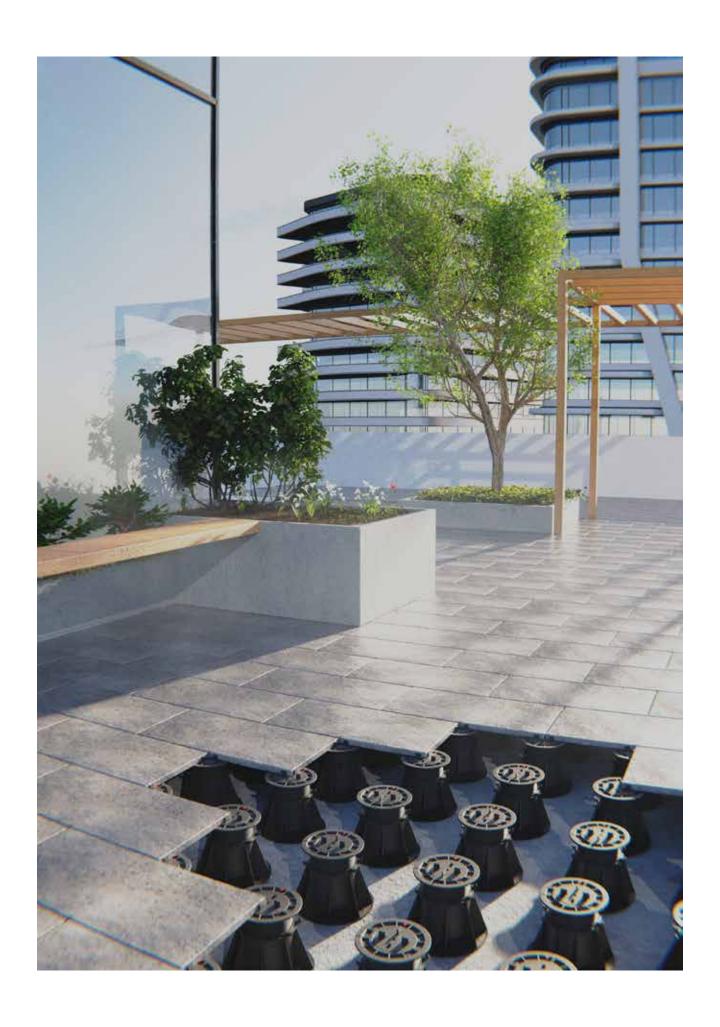
Locking Rings ensure pedestals are secured at desired heights and are easily removed when not required.

Barrel Extender provides additional height as needed.





Base Extender and Bottom Slope Corrector have groove profiles that allow them to be stacked and attached to VersiJack® Pedestal Base



VersiJack®





Туре	Height (mm)	Pallet Carton	Total Set
VJ - CT1	13 – 17	1 20	3600
VJ - CT2	17 – 26	1 20	2760
VJ - CT3	26 – 45	1 20	1800
VJ - CF1	37 – 50	1 20	1160
VJ - CF2	50 – 74	1 20	920
VJ - CF3	74 – 117	1 20	680
VJ - CF4	117 – 201	1 20	400
VJ - CF5	196 – 281	1 20	240
VJ - CF6	277 – 446	1 20	400
VJ - CF7	357 – 523	1 20	240
VJ - CF8	437 – 691	1 20	400
VJ - CF9	516 – 769	1 20	240
VJ - CF10	596 – 935	1 20	400
VJ - CF11	675 – 1014	1 20	240



PAVING ACCESSORIES

VJ

Top Slope Corrector

Bottom Slope Corrector

Spacer Tab

Variable Angle Spacer Tab

Timber Tile Fastener

Rubber Shim

Wall Spacer

Joiner

Top Extender

Base Extender

Bracing

Vertical Edge Clips For Paving

Turning Tool

U-Lifter

VersiJack®

VJ

Top Slope Corrector





Attachable to VersiJack® pedestal top, the Top Slope Corrector creates level surfaces by compensating for gradients up to 5%.

Bottom Slope Corrector





Consisting of a wedge design that progressively increases at every 1° per notch, the Bottom Slope Corrector is stackable up to 5% slope while maintaining a levelled timber deck or stone floor.

Bottom Slope Corrector's groove profile allows it to be stacked and attached to VersiJack® Pedestal Base.

^{*} Bottom Slope Correctors are generally used to create level surfaces for raised flooring with higher height requirements.







Ensuring uniformed alignment between pavers, Spacer Tab caters for most paver arrangements where the joints between the pavers are at 90° or 180°, using either square or rectangular pavers.

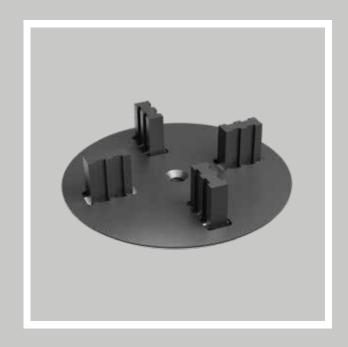
The posts on Spacer Tab are available in various heights and thicknesses and can be snapped off to accommodate different paver layouts.

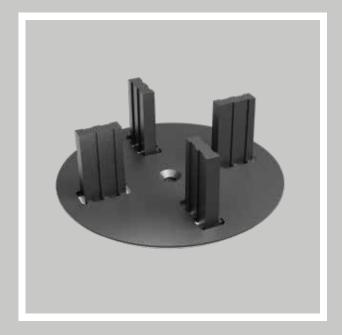
Post Height (mm)	Post Thickness (mm)	Carton (pieces)	Bag (pieces)
12	2/3/4/5/6/8/10	360	18
15		324	18
25		216	18



The hinges on the underside of our revised Spacer Tab is designed to clasp firmly to pedestal top, requiring only a small screwdriver or similar flat instrument to pry open.

Spacer Tab is rotatable on pedestal top, and its posts can be snapped off to accommodate different paver layouts.



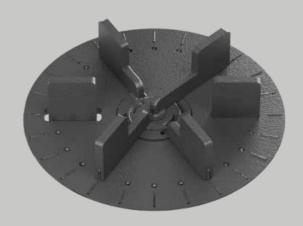


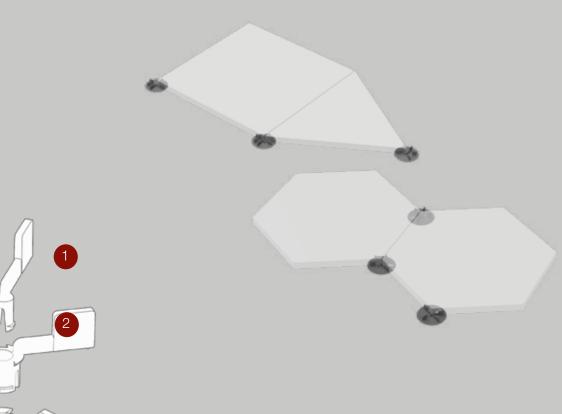
* Our previous versions of Spacer Tab are still available upon requests.

VersiJack®

VJ

Variable Angle Spacer Tab





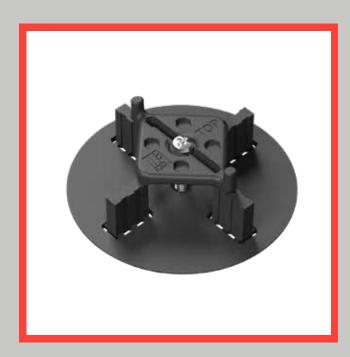
- 4
- 1 Single rotatable post
- 2 Twin rotatable post
- 3 Fixed post
- 4 Spacer tab base with 2 fixed post

Variable Angle Spacer Tab has rotatable posts to support up to 6 pavers with different corner angles.

Variable Angle Spacer Tab's customised features include rotatable and detachable posts, which allows for uniform placement of different-shaped pavers to create unique plaza and deck layouts. This accessory complements Elmich pedestals to provide versatile and cost-effective installation.

Variable Angle Spacer Tab suits the modern range of differently shaped rectilinear pavers and combinations such as hexagons with triangles, octagons with squares, hexagons with triangles and squares, etc.

Timber Tile Fastener



Timber Tile Fastener is a concealed fastener for timber decks. It enables easy removal or replacement of individual deck boards for maintenance and access to utilities beneath the deck without potentially damaging the boards.

Installation







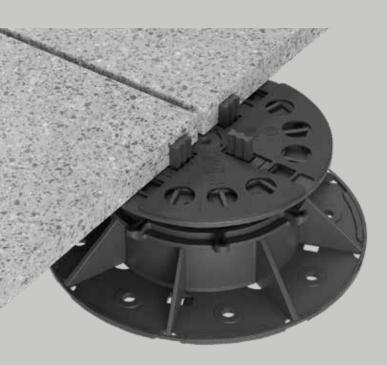


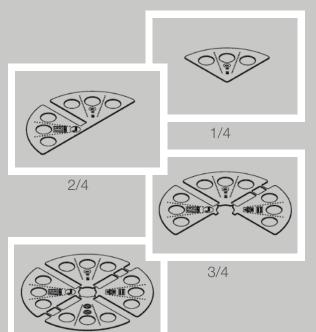
Loosen screw and slide fastener to one side before placing boards on side away from fastener.

Insert remaining boards in place then slide fastener to align its centre to the centre of Elmich pedestal before tightening the screw.

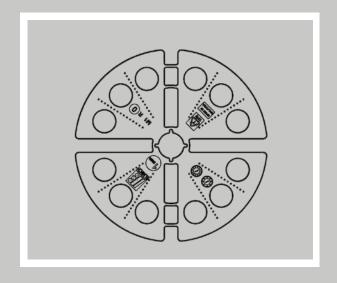
Deck boards are held in place with a diamond-shaped fastener that utilises slots on the sides, with a screw linked to the tile spacer for pedestal installation.







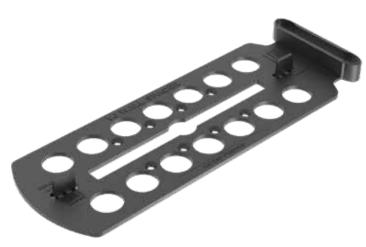
4/4



Туре	Thickness (mm)	Width (mm)	Carton (pieces)	Bag (pieces)
Pedestal Shim F-1.0	1	1	800	50
Pedestal Shim F-2.0	2	2	400	50

Functioning as a buffer between the pavers and the pedestal top, Rubber shim provides minor height adjustment and dampens vibration.

Made from TPE material, Rubber Shim can be cut into halves and quarters and are available in 1 mm and 2 mm thickness.



The Wall Spacer is designed for use on pedestals to provide a permanent compressible buffer at the edge of installations where pavers abut against the wall or upstand to prevent damage to the waterproofing membrane and facilitate drainage.

Its function is to space the pavers away from the wall to allow for expansion and contraction and to prevent paver movement due to traffic, ensuring that pavers do not dislodge.

The Wall Spacer has a compressible spacer which does not protrude above the finished paved surface when used with pavers over 12 mm thick.

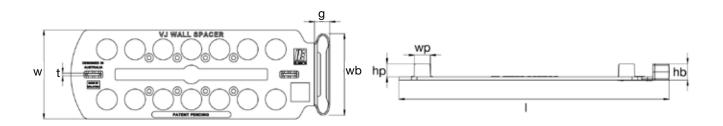








Twin paver tabs on the Wall Spacer maintain a constant gap between pavers and keep them centred on the pedestal. The paver tabs are removable when used in corners.



Wall Spacers		G-10	G-15	G-20	
Overall spacer (mm)					
Length	I	243	248	253	
Width	W	85	85	85	
Wall buffer (mm)					
Gap	g	10	15	20	
Height	hb	15	15	15	
Width	wb	74	78	84	
Guide post (mm)					
Thickness	t	3	2, 3, 4	2	
Height	hp	12	12	8	
Width	wp	15	15	15	



A pedestal can be attached and rotated on top of another pedestal with the Joiner.

Additionally, with the Joiner attached, both pedestals can each be attached with a slope corrector to create up to a 10% slope compensation.

*compatible with all pedestals





Consisting of a diameter of 155 mm and a height of 43 mm, the Top Extender can be easily installed atop the pedestal.

Top Extender is designed to integrate seamlessly with the pedestal top and top slope corrector, providing quick height increment to the pedestal.







Directly attachable to our pedestal base, the Base Extender is 208 mm in diameter and 10 mm in height.

Base Extender is designed to be compatible with both the pedestal base and bottom slope corrector, providing quick height increment to the pedestal.



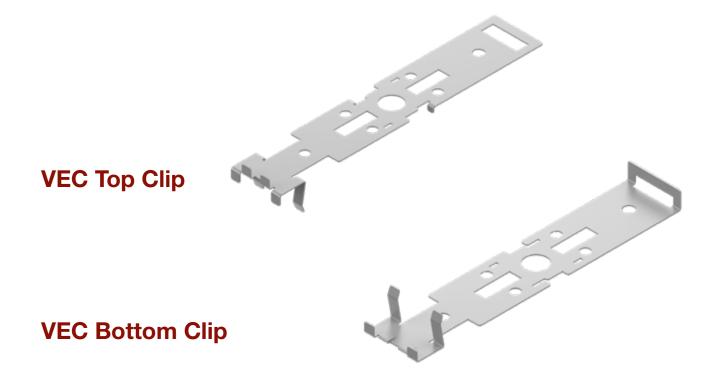


VJ Brace is a bracing system designed for use in VersiJack® pedestal installations where additional lateral stability is desired. It consists of Brace Collars that are clamped around the VersiJack® screw threads and connected Brace Arms that are length adjustable and lockable.

Designed for pedestals with centre-to-centre intervals of 470 to 700 mm, VJ Brace should be used for pedestals that are higher than 500 mm to ensure that the distances between pedestals are maintained during paver installation and replacement.

*Other interval options are available on request.

Vertical Edge Clips For Paving













Vertical Edge Clips (i.e. stainless steel paver clips) secure pavers upright for free fall edge installations. The Vertical Edge Clip is an innovative accessory that enables the construction of steps and neat raised decks.

The Vertical Edge Clips attach mechanically to the top and bottom of the VersiJack® pedestal, requiring no extra fasteners.

A paver can then be inserted vertically along the sides of the pedestal, held in place by the Vertical Edge Clips, creating a neat closed deck.

This is an elegant solution to create neat, aesthetically pleasing decks where no perimeter wall is present.









VJK

Self-Levelling Screwjack Pedestal







9 kN



205 mm



Paver & Deck



10 mm Base Extender



Top-Adjust



Self-Levelling spacer tab

VersiJack® K consists a range of six pedestals that extend from 14 mm to 300 mm. It is complemented by a comprehensive list of accessories to accommodate installations of various requirements. Engineered to reduce material, construction, and lifecycle costs, VersiJack® K pedestals offer a versatile and sustainable solution for supporting raised pavers and decking.

VersiJack® K permits self-levelling finishes on a sloping substrate and post-installation height adjustments.

VersiJack® K's large flat base with rounded edges prevent damage to the waterproofing membrane, and its scored grooves allow the base to be trimmed to fit wall corners and edges.



VersiJack®

VJ K Components



- 1 VersiJack® Adjustment Tool
 Allows for post-installation height adjustments through the paver gaps.
- 2 Spacer Tab With Integrated Shim
 Top adjustment spacer tabs with post
 thicknesses up to 10 mm, comes with the
 option of self-levelling.
- Wide range of pedestals that extend from 14 mm to 300 mm, with ultimate load of more than 11 kN at their maximum heights.
- 4 Base Extender
 Easy clip-on extensions of 10 mm each.
- 5 Bottom Slope Corrector
 Allows pedestals to remain upright position on inclined substrates.

VersiJack® K permits self-levelling finishes on a sloping substrate and post-installation height adjustments.

VersiJack® Adjustment Tool

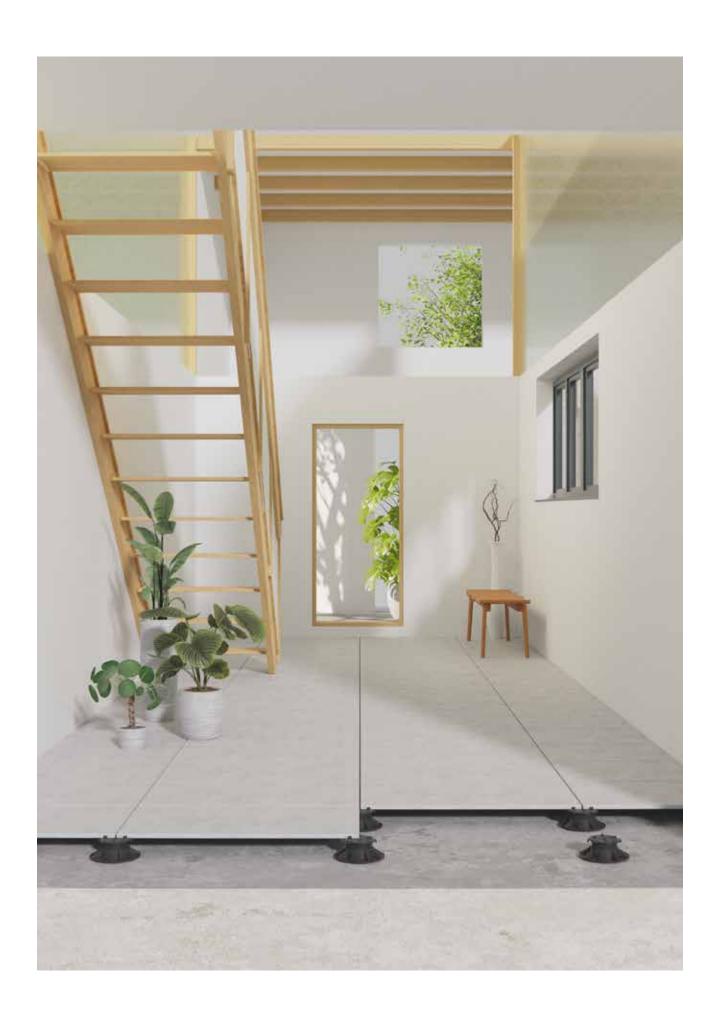
Allows for ease of height adjustment post-installation through the paver gaps.



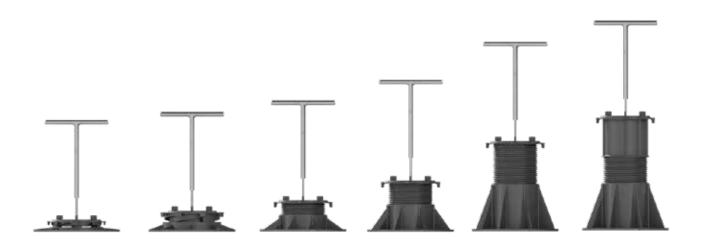


Spacer Tab With Integrated Shim

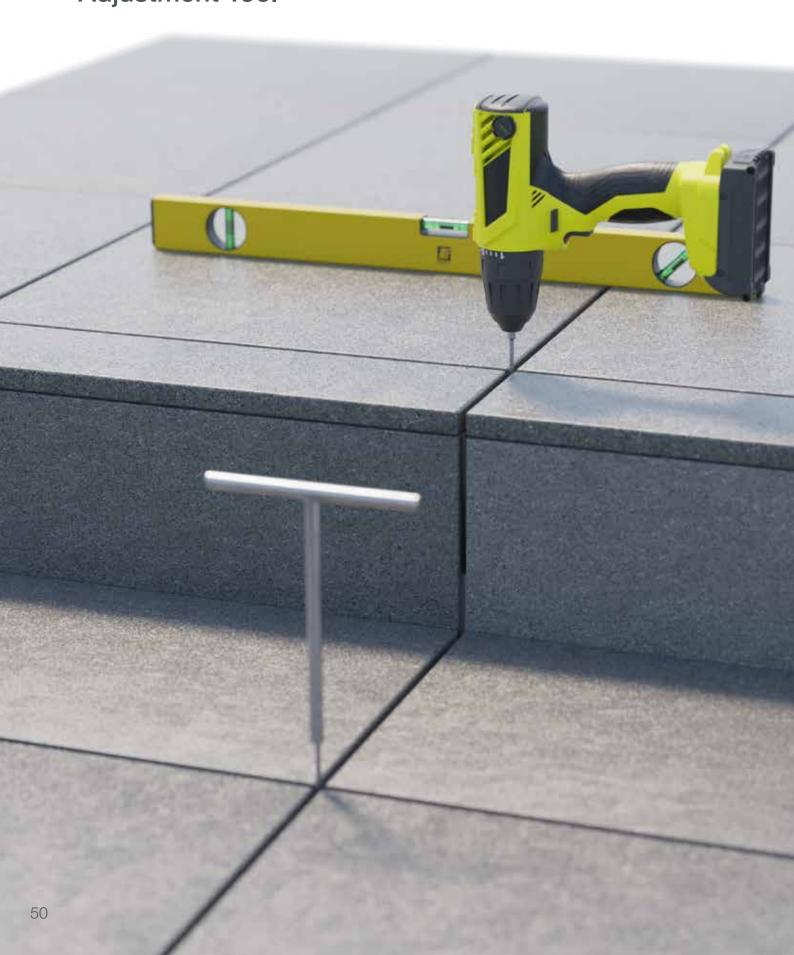
Top adjustment spacer tabs with post thicknesses up to 10 mm, comes with the option of self-levelling.



VersiJack® VJ K Packing



Туре	Height (mm)	Pallet Carton	Total Set
VJ - K1	14 – 25	1 20	3360
VJ - K2	25 – 46	1 20	2000
VJ - K3	43 – 70	1 20	1200
VJ - K4	69 – 118	1 20	800
VJ - K5	116 – 210	1 20	400
VJ - K6	205 – 300	1 20	240





Versatility

Aside from manually adjusting the height of VersiJack® K post-installation with the VersiJack® Adjustment Tool, part of the VersiJack® Adjustment Tool can be attached to a drill to expedite post-installation height adjustments.

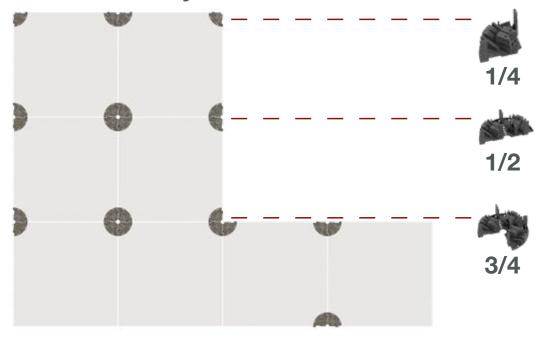




VersiPave®

Stepjack Paver Support

Paver Assembly with VersiPave®







24 - 36 kN



165 mm



Paver & Deck

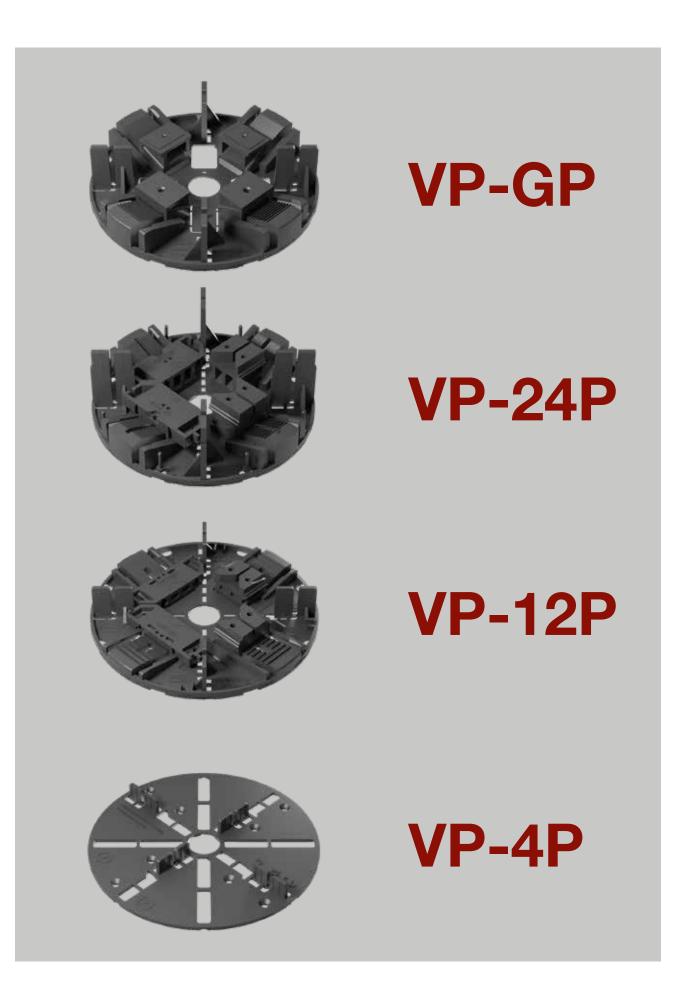


Proprietary Extenders VP GP | VP 24P

VersiPave® is a pedestal for paver support engineered to reduce material, construction, and lifecycle costs. Equipped with a unique 'step' design for precise adjustments at 1 mm increments, it caters to a height range of 12 mm to 45 mm. Modular Extenders can be used for additional height increments.

Chocks on the VersiPave® can be adjusted independently to support raised pavers with different thicknesses, ensuring a levelled surface.

VersiPave® can be snapped into halves and quarters to allow flush placement along wall edges and corners. This reduces the total number of pedestals required, making it more cost-effective as compared to other systems in the market.



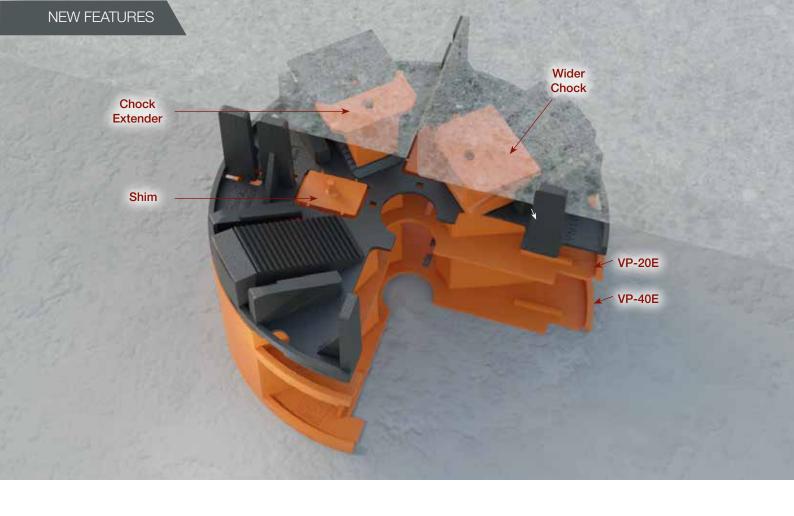
VersiPave® VP-GP

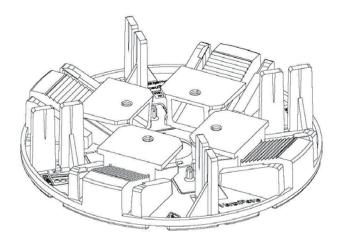
24 mm Height-Adjustable Paver Support for 20 mm Porcelain tiles

VersiPave® GP

VersiPave® GP offers a base height range of 24 mm to 35 mm, which can be further increased by using proprietary Extenders. A detachable 0.5 mm tab allows for minor adjustments when required.







Enlarged VersiPave® GP Chock Extender provide greater stability at each tile corner.

Chock Extenders are used at greater heights to prevent small tiles from tipping at the corners.

Independent Chocks are adjusted in 1 mm increments.

Integrated Shims are detachable. It provides a 0.5 mm height increment on each Chock for greater precision.

Pedestal Extenders can be stacked to achieve taller heights.

Sectioned Design Perforated lines facilitate the pedestal to be snapped into halves or quarters for use along edges and in corners.

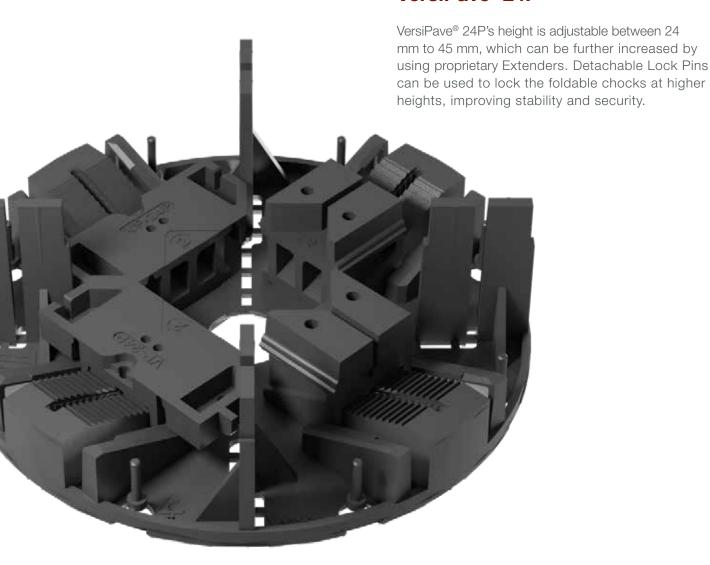
Extenders

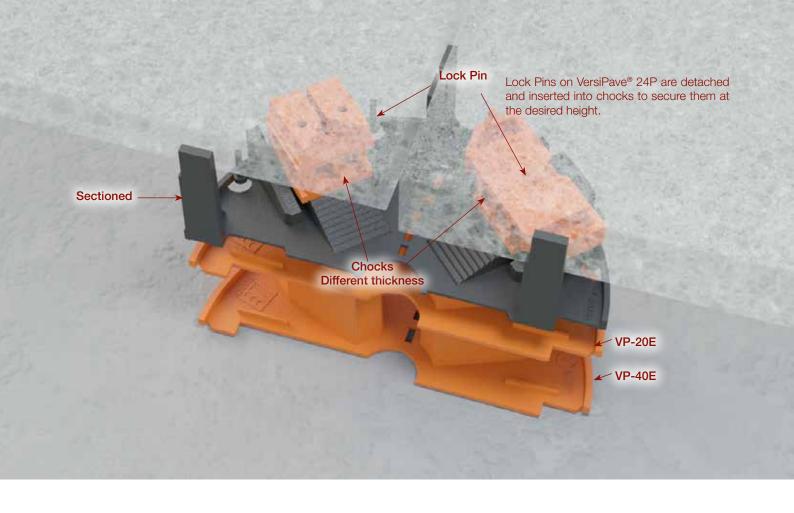


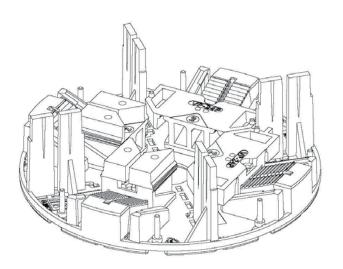
VersiPave® VP-24P

24 mm Height-Adjustable Paver Support For Concrete Pavers

VersiPave® 24P







Independent Chocks are adjusted in 1 mm increments.

Foldable Chocks enable a greater height increment in one adjustment.

Pedestal Extenders can be stacked to achieve taller heights.

Sectioned Design Perforated lines facilitate the pedestal to be snapped into halves or quarters for use along edges and in corners.

Extenders











30 mm

40 mm

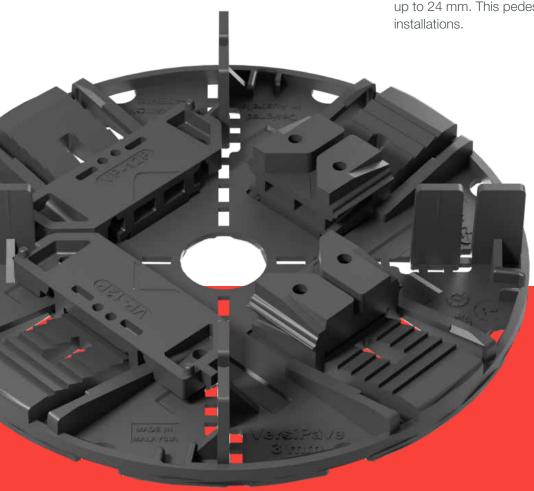
60 mm

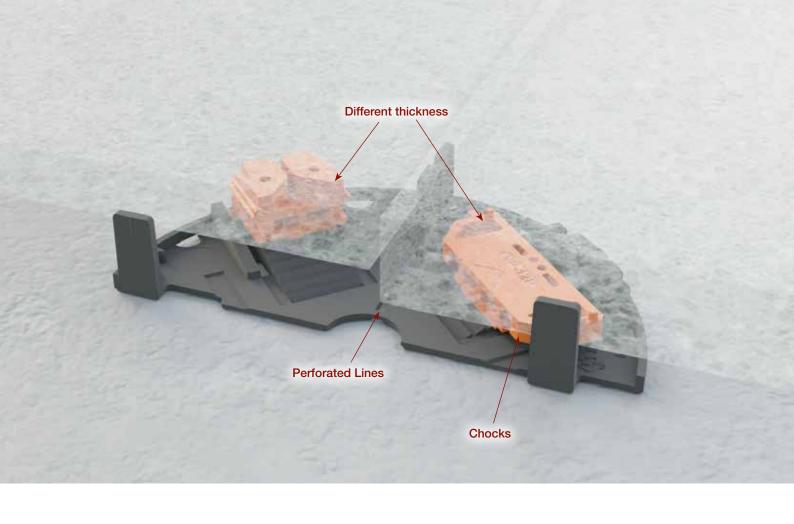
VersiPave® VP-12P

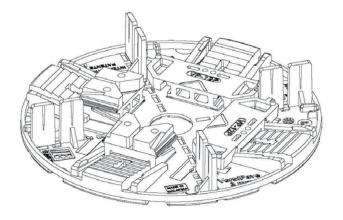
12 mm Height-Adjustable Paver Support

VersiPave® 12P

VersiPave® 12P offers the lowest base height of the VersiPave® series, starting from 12 mm and extending up to 24 mm. This pedestal is ideal for low height installations.







Independent Chocks are adjusted in 1 mm increments.

Foldable Chocks enable a greater height increment in one adjustment.

Sectioned Design Perforated lines facilitate the pedestal to be snapped into halves or quarters for use along edges and in corners.

VersiPave® VP-4P

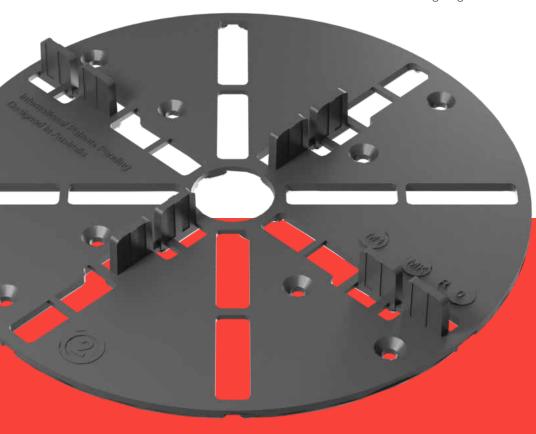
4 mm Fixed-Height Paver Support

VersiPave® 4P

VersiPave® 4P integrated spacer posts maintain paver positions and ensure consistent gap between pavers. When installed over the waterproofing membrane, the large and smooth VP-4P base measuring 4 mm in height and 170 mm in diameter prevents physical damage to the membrane during placement of pavers.

VP-4P may be double-stacked to achieve an effective height of 8 mm. Further height adjustments are possible using Elmich 1 mm and 2 mm Neoprene shims. The 12 mm high spacer tabs do not protrude above the finished paved surface when used with low profile pavers.

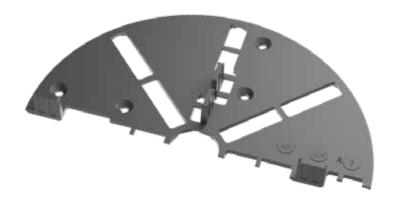
VP-4P is an ultra-low fixed-height pedestal designed to support concrete, stone, tile and timber pavers. It also creates a drainage layer, which reduces efflorescence and algae growth.



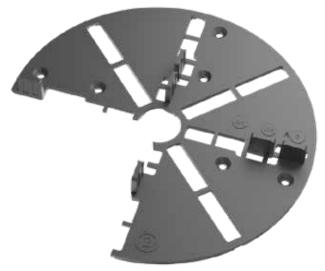
Sectioned design feature of VP-4P for various applications



1/4 VP-4P into corners



1/2 VP-4P along wall edges



3/4 VP-4P around corners

VP-4P may be separated into halves or quarters to enable flush placement along wall edges and also into and around corners.

VersiJack®

VersiPave®

Packing

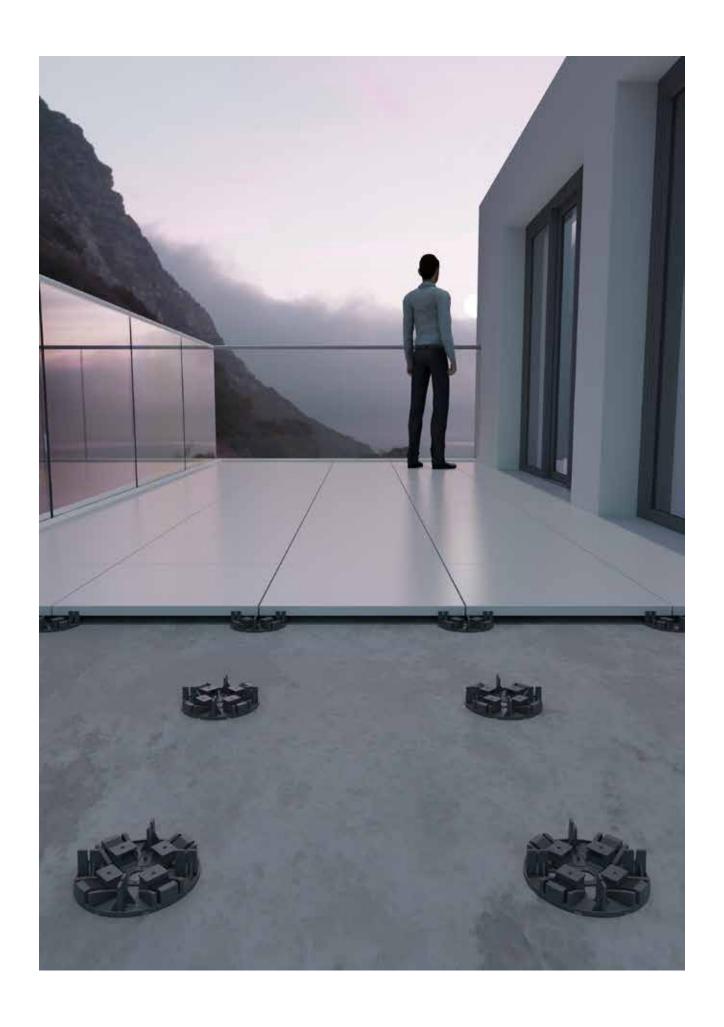








Туре	Height (mm)	Pallet Carton	Total Set
VP - 4P	4 – 8	1 70	14,000
VP - 12P	12 – 24	1 2	3432
VP - 24P	24 – 45	1 2	2080
VP - GP	24 – 35	1 2	2600
VP - 10E	10	1 70	7840
VP - 20E	20	1 70	5320
VP - 30E	30	1 70	4200
VP - 40E	40	1 70	2800
VP - 60E	60	1 70	1960



VersiJack®

GravelPave[™]

Mini Spacer





GravelPave[™] has a height of 12 mm and is available in different post thicknesses (3, 4, 6, 8, 10 mm).

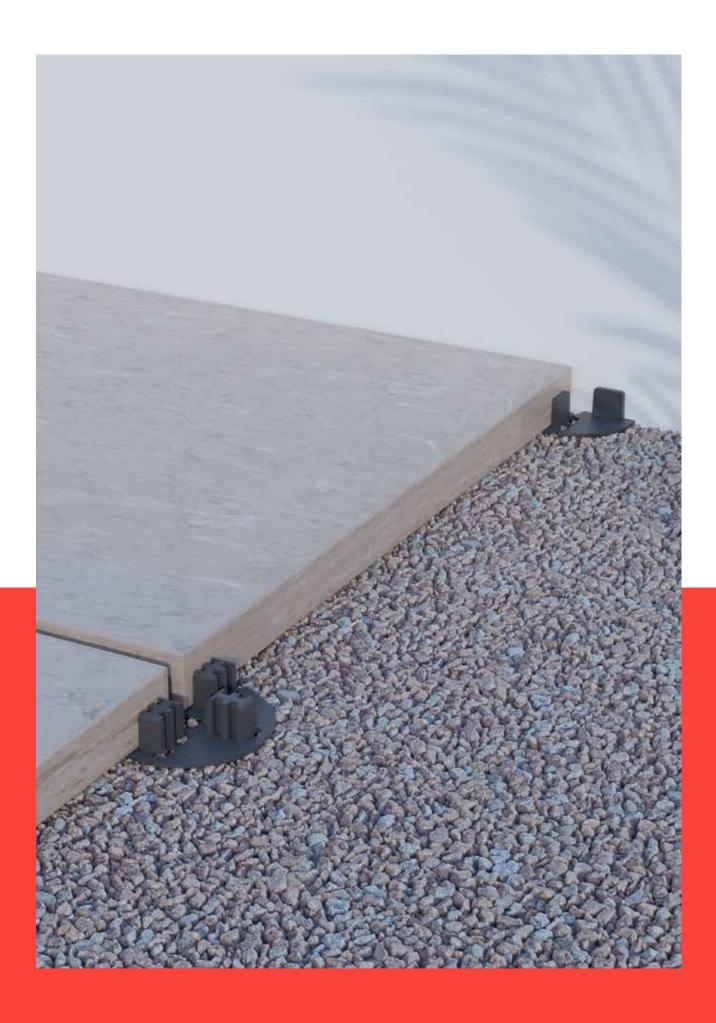
 $\label{eq:GravelPave} Gravel Pave^{\tiny{TM}} \ ensures \ uniform \ spacing \ between \ pavers \ and \ provides \ additional \ stability \ for \ pavers \ on \ gravel.$

Designed to facilitate positioning and stabilisation of pavers on gravel substrates, GravelPave™ offers a specialised solution.

With positioning lugs (12 mm) on the spacers, maintaining accurate right angles becomes effortless, ensuring uniform thickness of up to 10 mm and consistent flooring surface. Various sizes of lugs are available to meet a range of installation requirements.

The weight of the slab secures the spacer in place, eliminating the need for additional fixings. GravelPaveTM is pre-scored and can be easily broken into halves and quadrants to fit corners.

The underside of GravelPave™ features recessed holes designed to provide better grip, effectively minimising lateral movements.



VF

Aluminium Joist Substructure For Paving



JOIST SUBSTRUCTURE FOR PAVING

VF 25R/35R

E-Support

Accessories

Spacer Tab

Perpendicular Joiner

Straight Joiner

Angled Joiner

End Wall Spacer

Side Wall Spacer

Vertical Edge Clips

End Wall Restrainer

Support Pad

Paver Assembly





VF 25R & VF 35R

Paver Joist Substructure



VersiFrame® Aluminium Joist

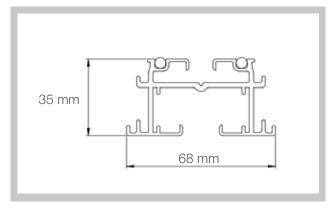
VersiFrame® allows for a high level of versatility and stability in the arrangement of floor pavers with height-adjustable pedestals and an array of accessories that integrate cleverly to achieve the preferred design and to allow full edge support for pavers.

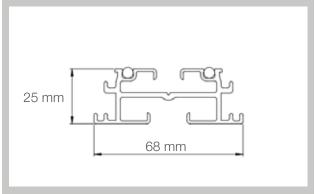
Joist Adaptor

Used to connect aluminium joists securely to the pedestal.

VersiJack® Pedestal

VersiJack® height-adjustable pedestals can be used with VersiFrame® Aluminium Joist, offering a high strength, durable, and reliable substructure for paving installations.







VF E-SUPPORT

Edge Support for Non-Right Angled Pavers



VersiFrame® Edge Support

VersiFrame® E-Support enables flexible paving layouts without the need for support brackets fastened to the perimeter wall. The VF E-Support is used with VF Joist Adaptor on VersiJack® Pedestals and E-Support Spacer Tabs to support odd-shaped or narrow pavers along the edge of a paver layout that has non right-angled corners along its perimeter wall.

Joist Adaptor

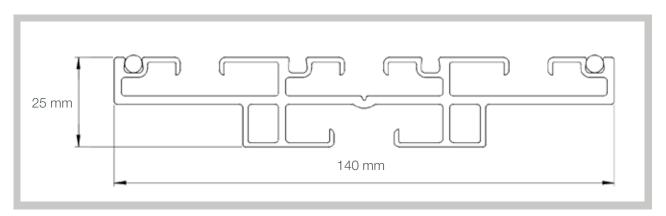
Used to connect aluminium joists securely to the pedestal.

VersiJack® Pedestal

VersiJack® height-adjustable pedestals can be used with VersiFrame® Aluminium Joist, offering a high strength, durable, and reliable substructure for paving installations.

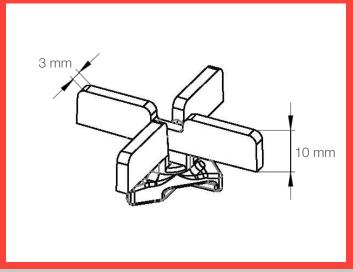
E-Support Spacer Tabs









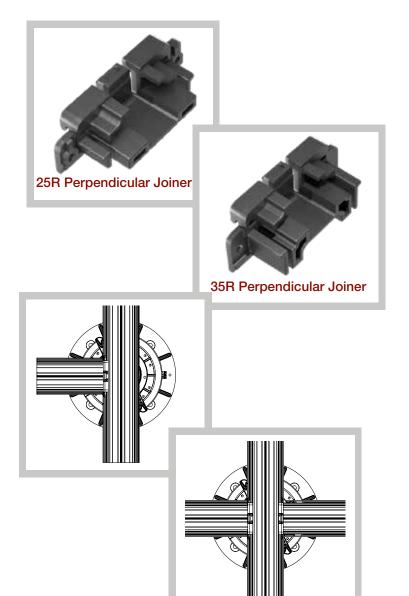


Joist Spacer Tab separates pavers by a gap of 3 mm, 4 mm, 8 mm and can be configured to accommodate different paver layouts.

Туре	Post Height (mm)	Post Thickness (mm)	Carton (pieces)	Bag (pieces)
Joist Spacer Tab	10	3/4/8	360	18



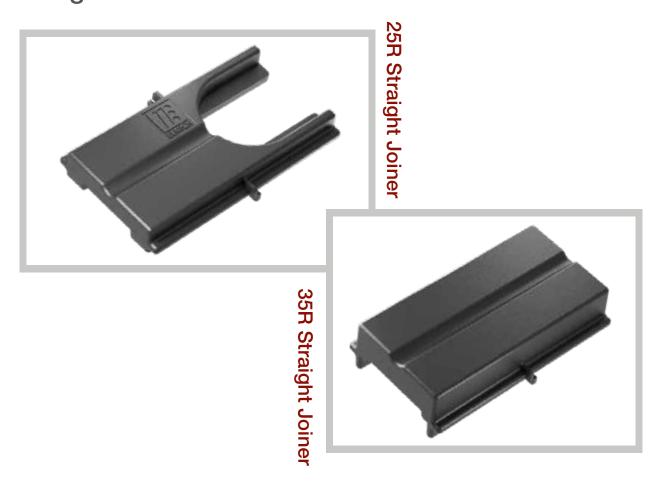
Perpendicular Joiner



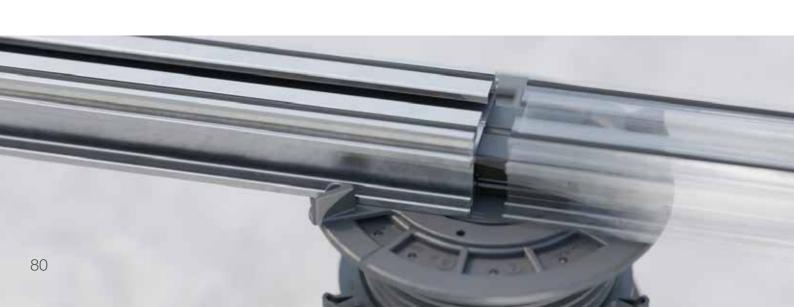
Perpendicular Joist Joiner allows one end of a joist to connect perpendicularly along the length of another joist.

Туре	Height (mm)	Width (mm)	Carton (pieces)	Bag (pieces)
Perpendicular Joiner	24	30	400	100



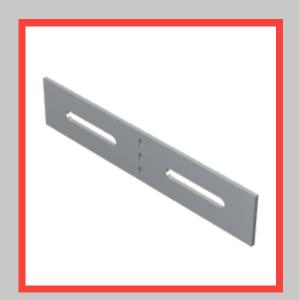


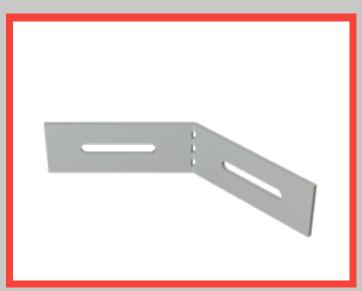
Туре	Length (mm)	Width (mm)	Carton (pieces)	Bag (pieces)
Straight Joiner	75	44	300	50



Straight Joist Joiner is a concealed joiner that connects 2 joists in a straight line.



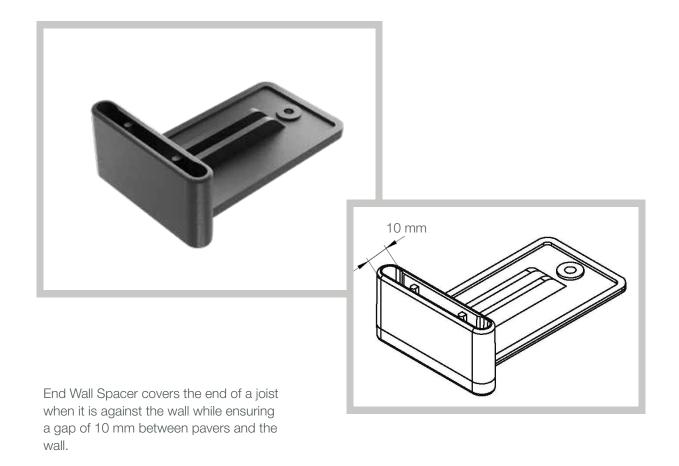




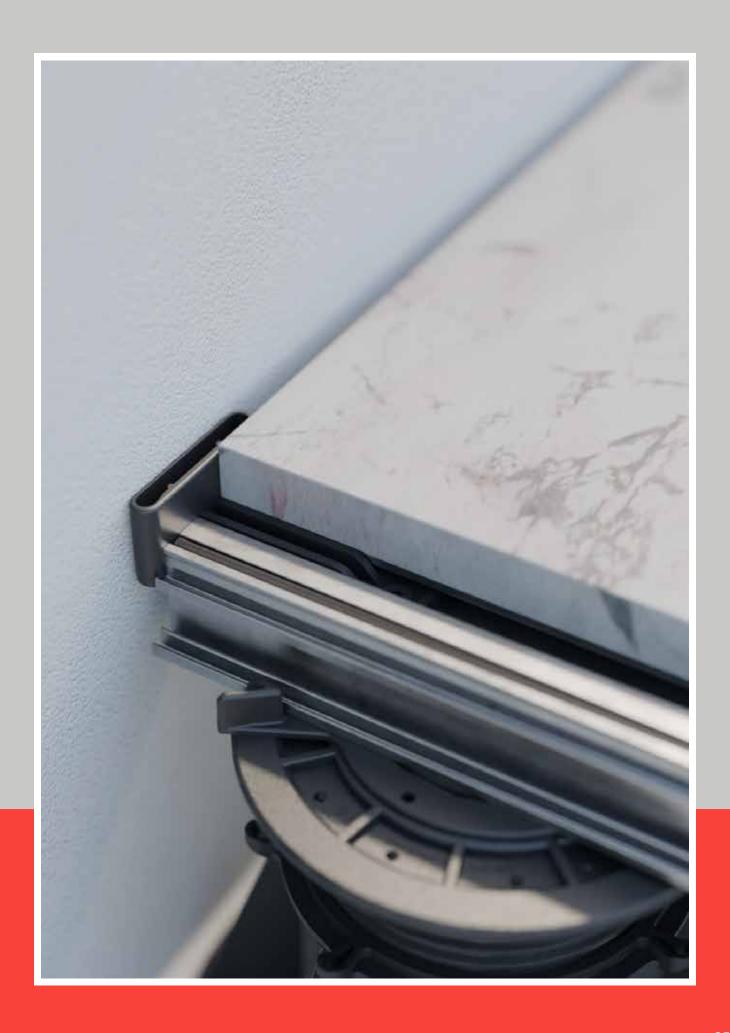
Angled Joist Joiner is a stainless steel joiner that connects 2 joists in a straight line or at an angle.

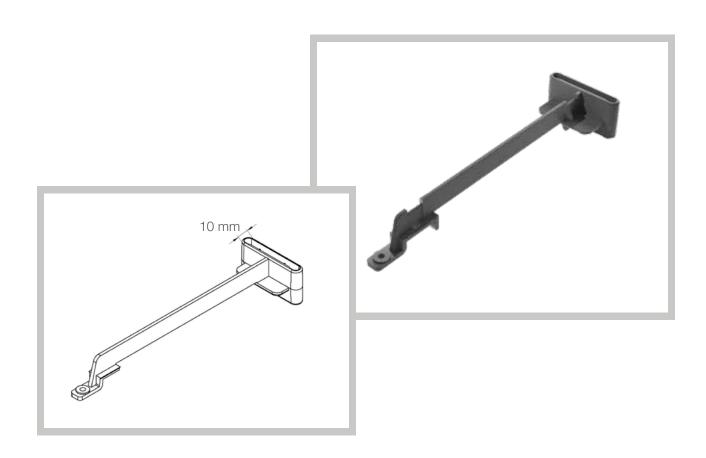
Туре	Length (mm)	Thickness (mm)	Pallet Carton	Carton Pieces
Angled Joiner	100	1.5	1 40	1 4200





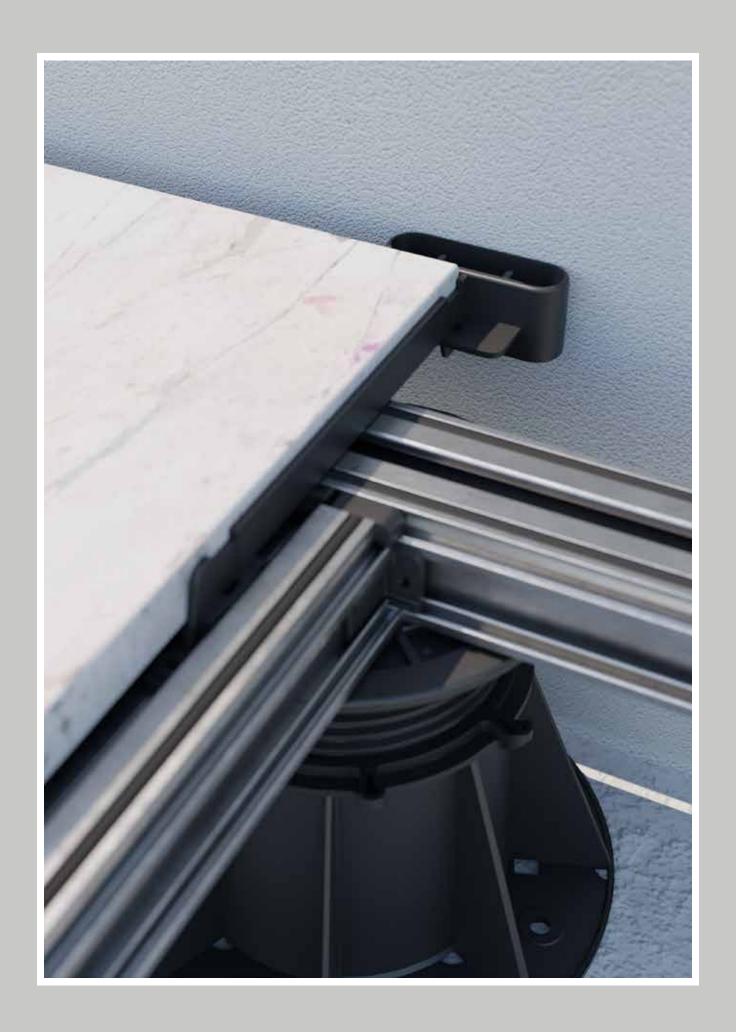
Туре	Length (mm)	Width (mm)	Pallet Carton	Carton Pieces
End Wall Spacer	85	58	1 20	1 900

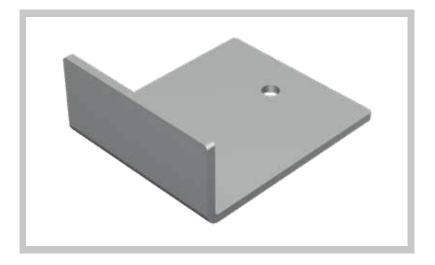




Side Wall Spacer extends the end of a joist when it is a distance from the wall while ensuring a gap of 10/15/20 mm between pavers and the wall.

Туре	Length (mm)	Width (mm)	Pallet Carton	Carton Pieces
Side Wall Spacer	210	63	1 20	1 600



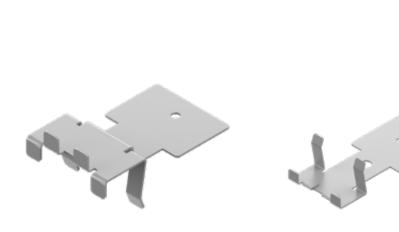


End Wall Restrainer ensures that pavers do not slip off by closing off the perimeter edge of the paving area.

Туре	Height (mm)	Width (mm)	Pallet Carton	Carton Pieces
End Wall Restrainer	20	42	1 72	1 360



VersiFrame® Vertical Edge Clips





Туре	Length (mm)	Width (mm)	Pallet Carton	Carton Pieces
VEC Top Clip	74	45	1 28	1 108
VEC Base Clip	228	45	1 28	1 54



The Vertical Edge Clips (i.e. stainless steel paver clips) attach mechanically to the top and bottom of the VersiJack® pedestal, requiring no extra fasteners.

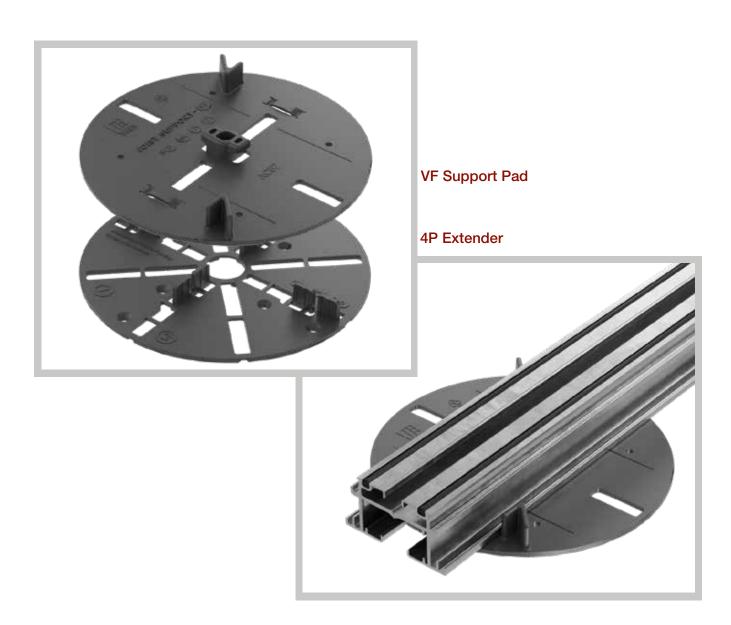
A paver can then be inserted vertically along the sides of the pedestal, held in place by the Vertical Edge Clips, creating a neat closed deck.

This is an elegant solution to create neat, aesthetically pleasing decks where no perimeter wall is present.



VersiFrame®

VFSupport Pad





VF Support Pad is a fixed-height joist support for raised paving systems. It accommodates environments with low height constraints whilst providing air circulation and drainage underneath pavers.

Connected to VersiFrame® joist substructure, VF Support Pad restricts unintended movement during maintenance and everyday traffic.

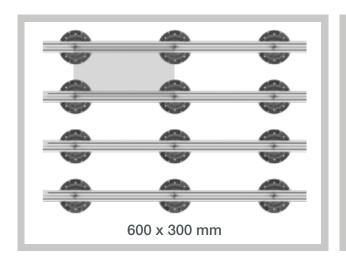
VF Support Pads are used to elevate pavers, creating levelled surfaces while ensuring that water drains freely underneath the pavers.

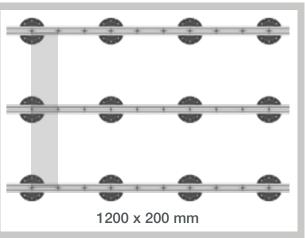
VF Support Pad is also available in TPE, which offers superior properties in noise reduction and shock absorption.

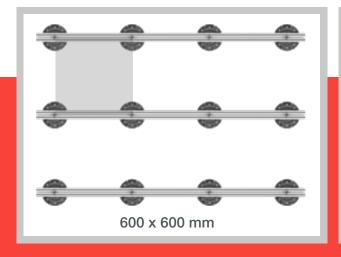


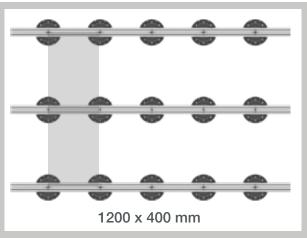
VF

Paver Assembly Using VersiFrame®











VersiFrame® Paver Assembly

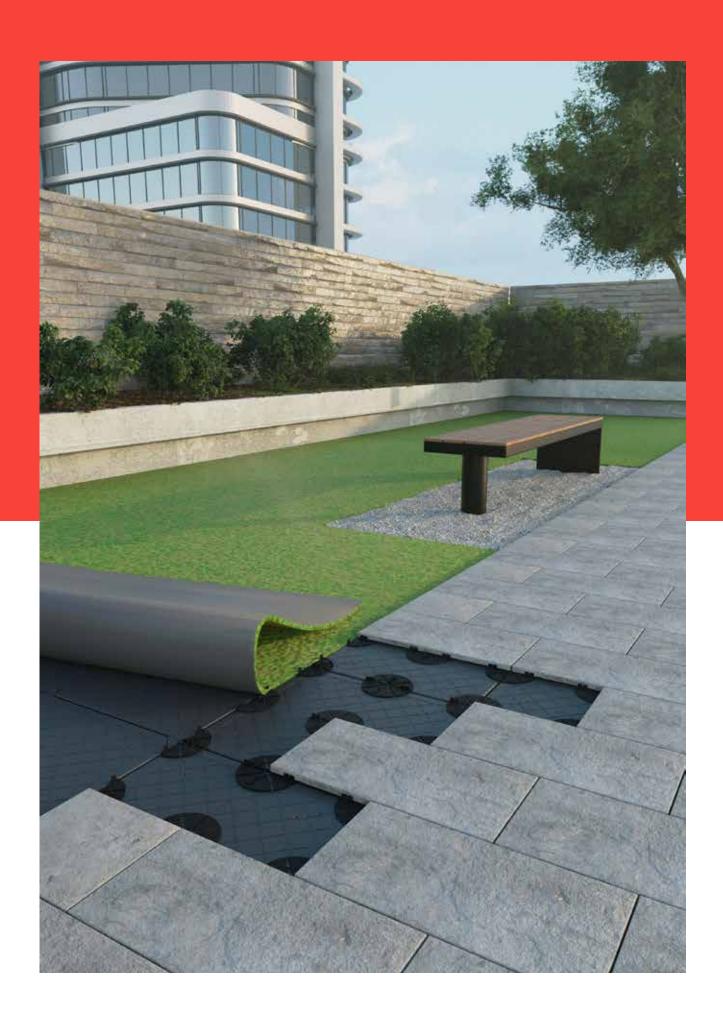
With an array of accessories integrated with VersiFrame® and height-adjustable pedestals, different paver layouts can be achieved in one assembly, allowing for high level of versatility and stability.

	VersiFrame® 25R	VersiFrame® 35R		
Material	Aluminium ¹			
Linear thermal expansion coefficient	2.34 x 10 ⁻⁵ K ⁻¹			
Supply length (m)	2.4			
Height (mm)	25 35			
Design span along joist (mm)				
Live load ² @ 3.0 kN/m2	600 900			
Live load ³ @ 5.0 kN/m2	400 600			
Biological / Chemical resistance	Unaffected by moulds and algae. Resistant to corrosion			

¹ A6063 T5

 $^{^2}$ Uniformly distributed live loads on residential raised floor balconies should not exceed 3.0 kN/m².

 $^{^3}$ Uniformly distributed live loads on commercial raised floor areas should not exceed 5.0 kN/m².

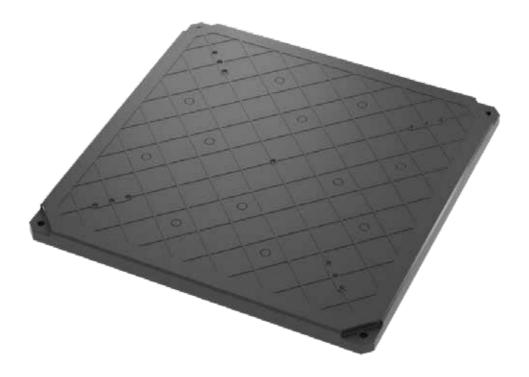


02 SUPPORT PANEL

VS VersiScape™

VersiScape[™]

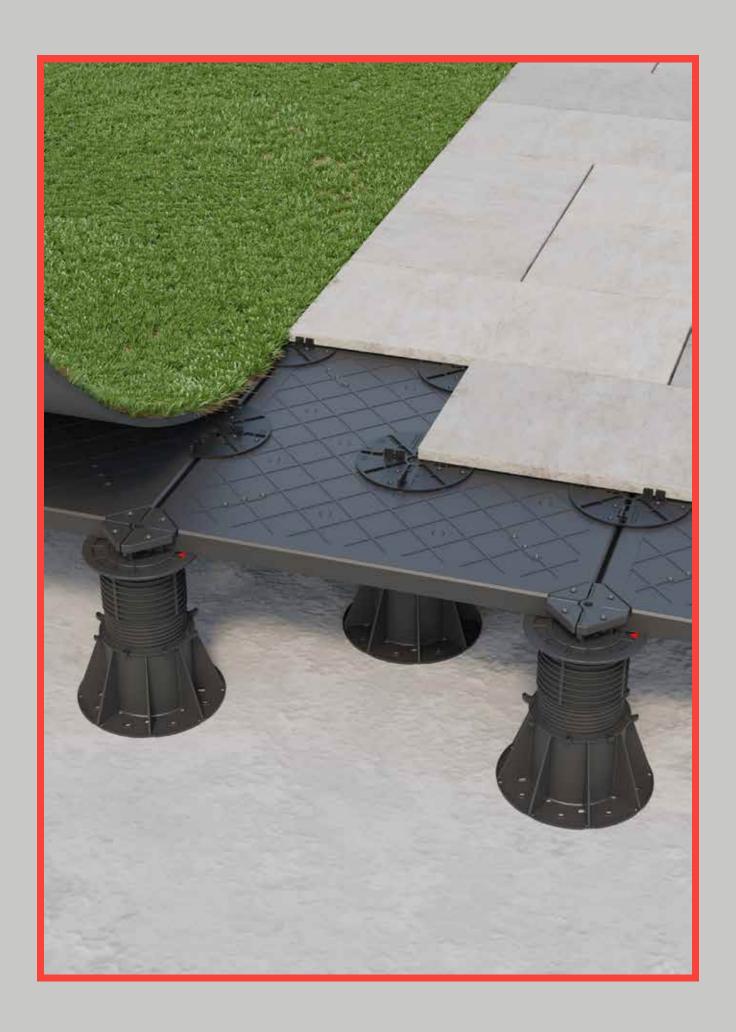
Support Panel

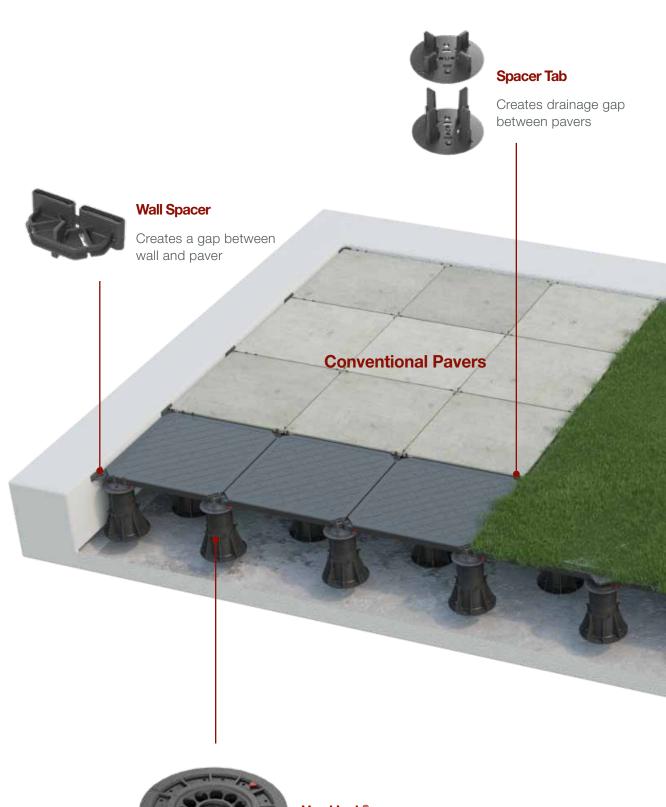


VersiScape™ is engineered to provide a raised substructure with the strength and stability to create a customisable and safe landscape.

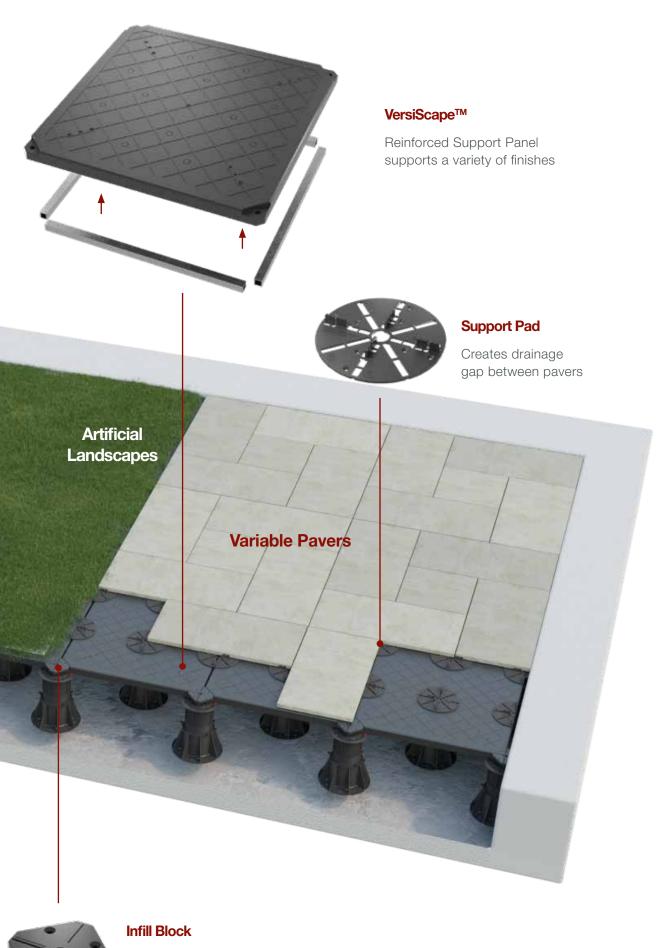
The system constructs a levelled surface that accommodates almost any landscape finish, from pavers to ceramic tiles of varying size, with minimum thickness of 20 mm. Freedom to design does not stop there as it can support artificial turf, gravel-fill, or any other artificial landscape without exceeding raised floor deflection limits.

In the event of accidental tile breakage, the system is able to withstand and contain the weight of broken shards and human loads. This prevents injury to pedestrians and simplifies the maintenance of the broken finishes.











Creates a flushed surface for any installation

VersiScape™

Conventional Paver Assembly





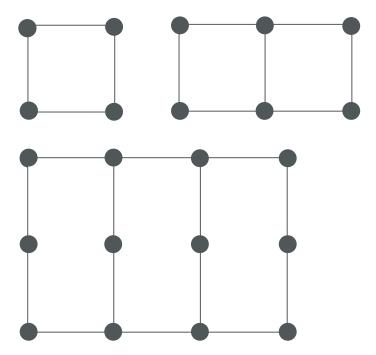
Spacer Tab

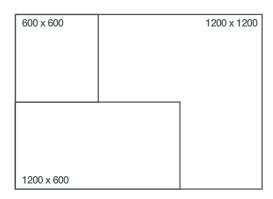


Wall Spacer

Pedestal

Accessories





VersiScapeTM supports $600 \times 600 \text{ mm}$ pavers, providing safety and ease of maintenance should the pavers shatter.

Conventional Pavers

Supports are only required at the corners of VersiScape TM .



VersiScape[™]

Variable Paver Assembly



Pedestal





Support Pad



Infill Block

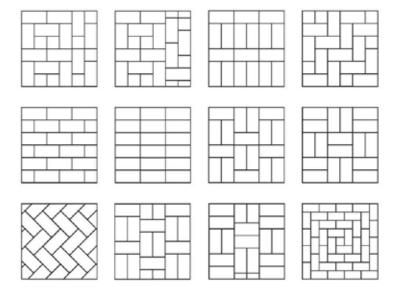


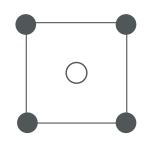
Wall Spacer

Accessories

Enabling Architects to exercise their design freedom, VersiScape $^{\text{TM}}$ supports pavers of any dimensions.

This not only allows for personalised layout choices, but also ensures safety and effortless maintenance should the pavers shatter.





Variable Pavers

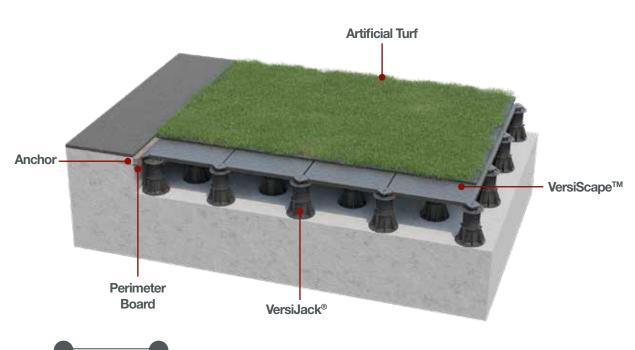
Supports are required at the corners and centre of VersiScapeTM.



VersiScape[™]

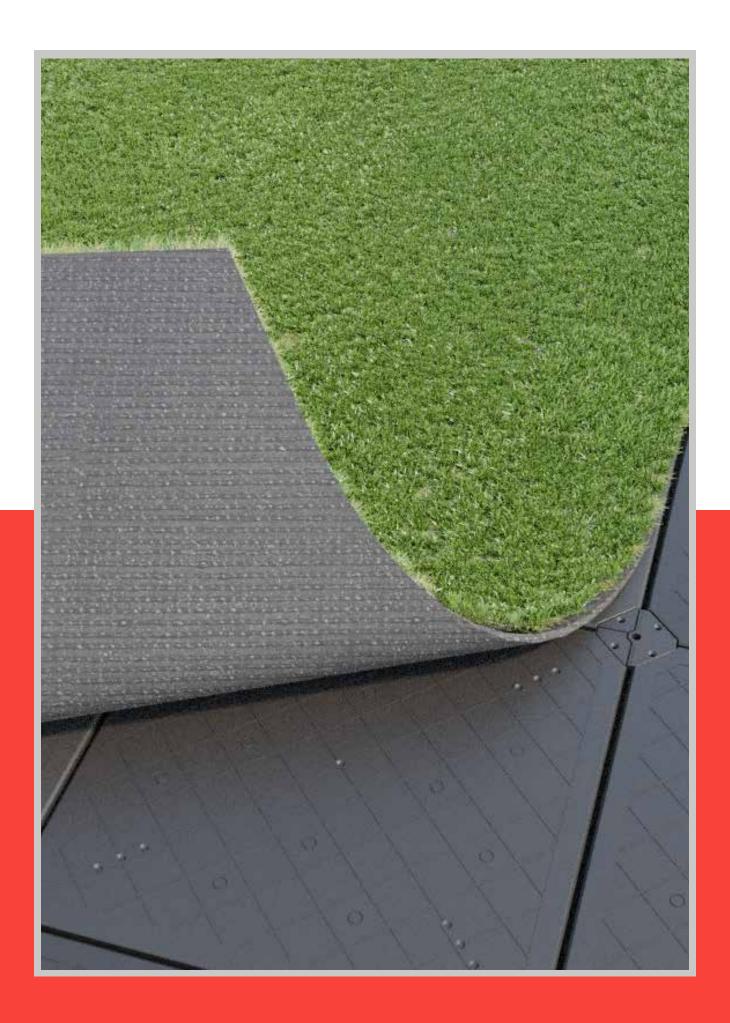
Artificial Landscape Assembly





Supports are required at the corners and the centre of VersiScape™.

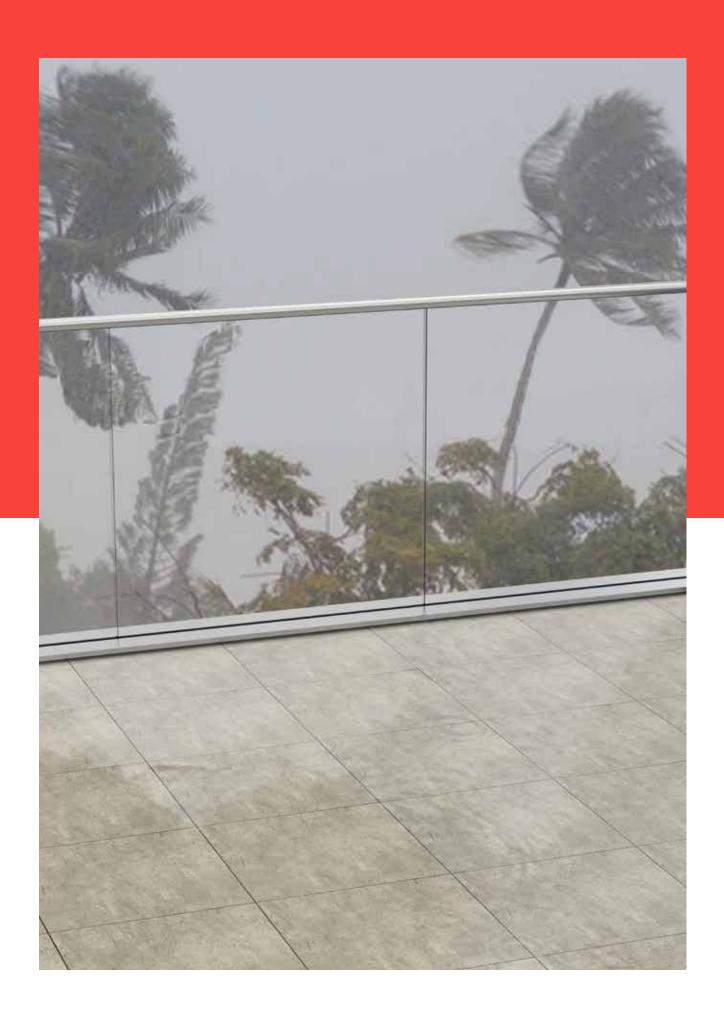
Artificial Landscapes



03 WIND UPLIFT SYSTEM

VJ Concealed Paver Retainer Exposed Paver Retainer

VS Concealed Paver Retainer



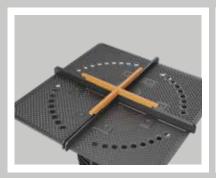
Concealed Paver Retainer

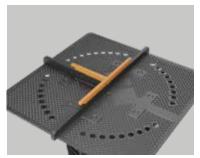


- 1 VJ CP-Retainer
- 2 VersiJack® Pedestal

Used with VersiJack® pedestals, VJ CP-Retainer is a wind uplift accessory manufactured from high strength engineering plastics to provide mounted roof pavers with increased uplift resistance.

Ensuring the corners of each roof paver are fastened to VersiJack® pedestals, the VJ CP-Retainer system effectively secures the roof pavers together and increases the force required to uplift each paver as a portion of the weight of adjacent pavers would be added to them.







An adhesive suitable for robust bonding with polypropylene is applied to the Corner Plates while the Corner Plates are held in place by the Retaining Cross and Fastening Screw into the Base Plate. VersiJack® may be further bonded to the substrate for added security.

Additionally, the Corner Plates are shaped to prevent the adhesive from coming into contact with the Base Plate or VersiJack®. Individual pavers can be removed from the system as required for maintenance or inspection of utility services.

The discreet VJ CP-Retainer system does not have exposed components that would affect surface trafficability. It is also versatile in accommodating various paver types and designs.



Exposed Paver Retainer







The VersiJack® EP Retainer system is designed to provide high wind uplift resistance for elevated roof pavers.

It comprises a Retainer manufactured with high strength engineering plastic fastened with an M4 or #8 stainless steel screw and a 20 mm diameter stainless steel washer to a proprietary Locking Spacer Tab attached to an Elmich pedestal. VersiJack® EP Retainer increases wind uplift resistance for roof pavers on pedestals. The overall diameter of the Retainer is 40 mm, and upon installation, the height above the surface of the pavers is 6 mm.



Ribs on the underside of the Retainer separate the pavers at 4 mm apart. The hinged Retainer is designed to close tightly and requires a small screwdriver or similar flat tool to pry it open.

The Retainer is injection moulded from engineered plastics and can be colour matched or contrasted with the pavers.



The VersiJack® EP Retainer system is designed to increase but under no circumstances guarantee absolute wind uplift resistance. The specifier or user should take into consideration other variables of site conditions that may determine the effectiveness of the system.









^{*} For design flexibility, coloured variants are available upon large order request.

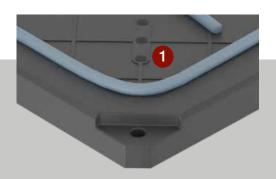
Concealed Paver Retainer



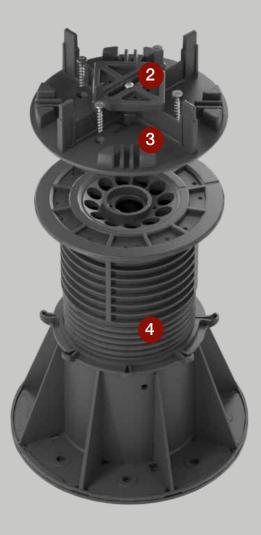
VersiScape[™] CP Retainer system increases the uplift resistance of pavers mounted on VersiJack[®] pedestal supports in exposed installations, such as balconies and roof terraces.

During strong wind events, significant resultant uplift pressures may occur from the formation of conical vortices above the roof pavers. The system counteracts this by spreading the uplift pressures across several pavers through adhering the pavers to the support panel and interlocking them to increase the apparent weight of the pavers.

A suitable adhesive formulated for low surface energy materials would be used to bond the paver to $VersiScape^{TM}$ support panel.



VersiScape™ CP Retainer consists of support panels that are locked into retainer bases and pedestals. It is engineered to provide increased resistance against wind uplift forces to pavers installed on exposed balconies and terraces in high-rise buildings.



1 Support Panel

The panel has a solid surface to prevent upward pressures in the raised floor cavity from lifting the pavers.

2 Diamond Retainer

Locking mechanism using M5 screws to secure adjacent VersiScape $^{\text{TM}}$ support panels together.

3 Retainer Base

The retainer base is secured to the pedestal top using countersunk self-tapping screws, and receives the diamond retainer to lock all the components together.

4 Pedestal

Compatible with VersiJack® pedestals that extend from 13 mm to 1014 mm, which have a compressive strength greater than 10 kN at their maximum heights.



04 PEDESTAL FOR DECKING

VJ

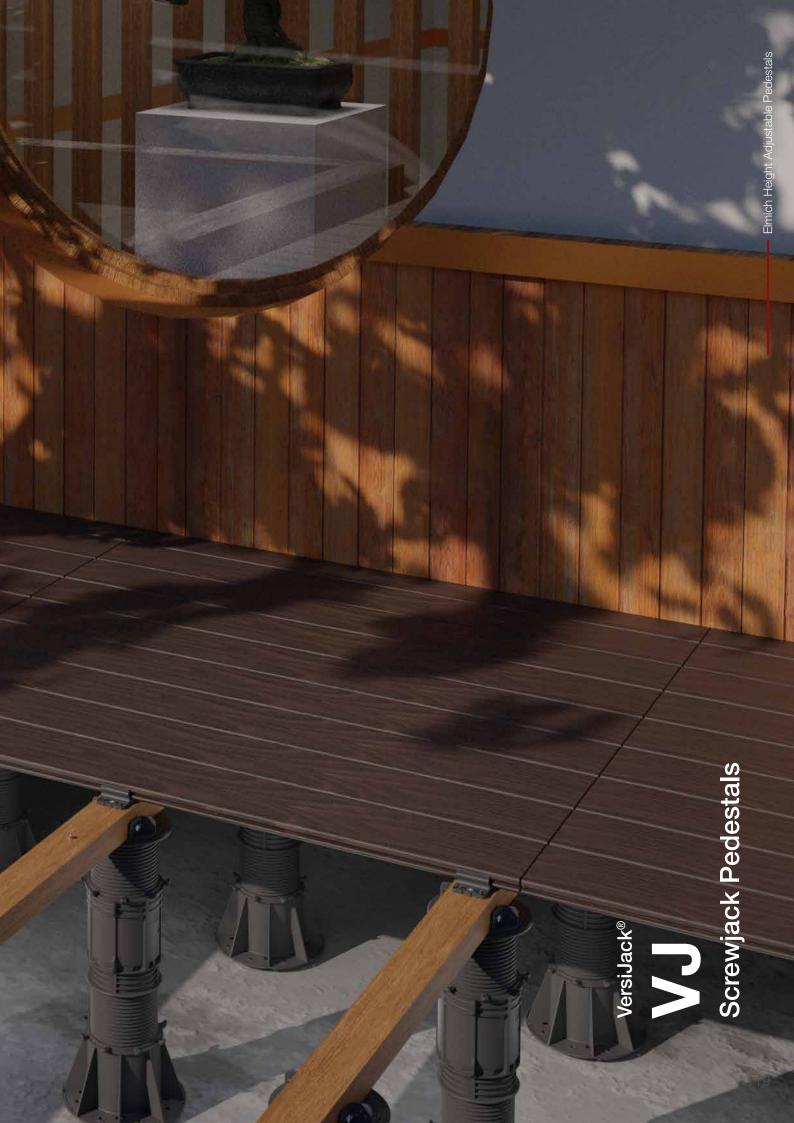
VersiJack® Bearer Holder Screwjack Pedestals











VersiJack®

VJComponents



1 Bearer Holder

Bearer Holder keeps 35 mm to 80 mm bearers firmly centered in place on pedestals.

2 Pedestal Top

Designed to integrate seamlessly with all existing VersiJack® accessories.

3 Barrel Extender

Requires only 3 extenders to reach height of 1014 mm.

4 Locking Ring

Locking rings on the pedestal top and barrel extender ensure individual pedestals are secured at the desired heights.

5 Pedestal Base

Large contact surface provides uniform weight distribution and has drainage holes to prevent water pooling.

6 Base Extender

The clip-on base extender allows for simple and quick height increment.

7 Bottom Slope Corrector

Creates level surfaces by compensating for gradients up to 5%.

VersiJack®



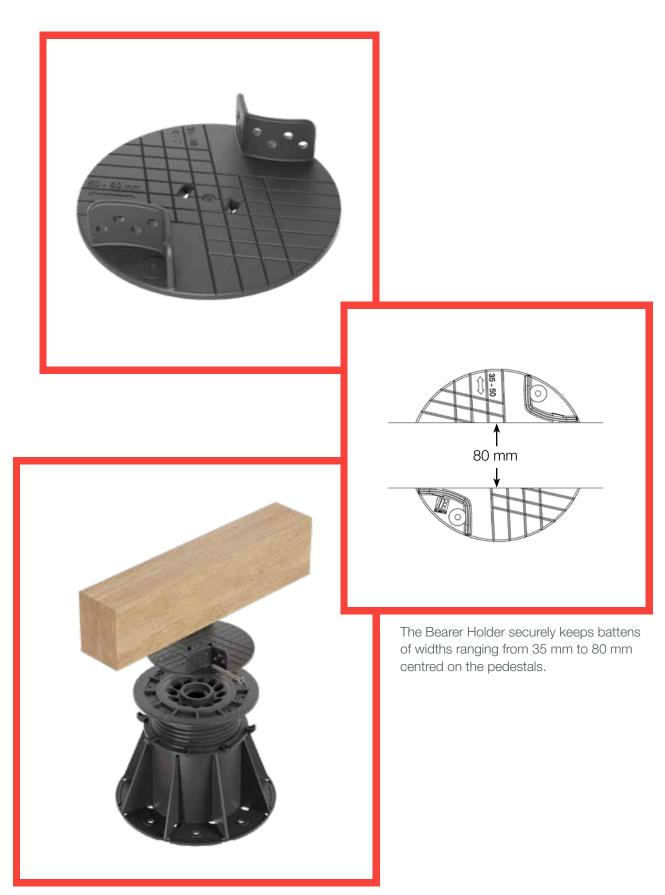


Туре	Height (mm)	Pallet Carton	Total Set
VJ - CT1	13 – 17	1 20	3600
VJ - CT2	17 – 26	1 20	2760
VJ - CT3	26 – 45	1 20	1800
VJ - CF1	37 – 50	1 20	1160
VJ - CF2	50 – 74	1 20	920
VJ - CF3	74 – 117	1 20	680
VJ - CF4	117 – 201	1 20	400
VJ - CF5	196 – 281	1 20	240
VJ - CF6	277 – 446	1 20	400
VJ - CF7	357 – 523	1 20	240
VJ - CF8	437 – 691	1 20	400
VJ - CF9	516 – 769	1 20	240
VJ - CF10	596 – 935	1 20	400
VJ - CF11	675 – 1014	1 20	240

VersiJack®

VJ

Bearer Holder





VersiFrame®

VF

Decking Joist Substructure



JOIST SUBSTRUCTURE FOR DECKING

VF 25F/35F

Accessories

Perpendicular Joiner Straight Joiner Vertical Edge Clips Support Pad

Deck Assembly





VF 25F & VF 35F

Decking Joist Substructure



VersiFrame® Aluminium Joist

VersiFrame® allows for a high level of versatility and stability in the arrangement of floor pavers with height-adjustable pedestals and an array of accessories that integrate cleverly to achieve the preferred design and to allow full edge support for pavers.

Joist Adaptor

Used to connect aluminium joists securely to the pedestal.

VersiJack® Pedestal

VersiJack® height-adjustable pedestals can be used with VersiFrame® Aluminium Joist, offering a high strength, durable, and reliable substructure for paving installations.

	VersiFrame® 25F	VersiFrame® 35F	
Material	Aluminium ¹		
Linear thermal expansion coefficient	2.34 x 10 ⁻⁵ K ⁻¹		
Supply length (m)	2.4		
Height (mm)	25	35	
Design span along joist (mm)			
Live load ² @ 3.0 kN/m2	600	900	
Live load ³ @ 5.0 kN/m2	400	600	
Biological / Chemical resistance	Unaffected by moulds and algae. Resistant to corrosion		

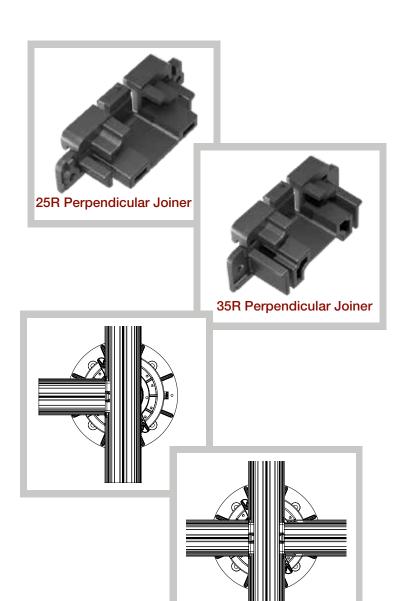
¹ A6063 T5

 $^{^2}$ Uniformly distributed live loads on residential raised floor balconies should not exceed 3.0 kN/ m^2 .

³ Uniformly distributed live loads on commercial raised floor areas should not exceed 5.0 kN/m².



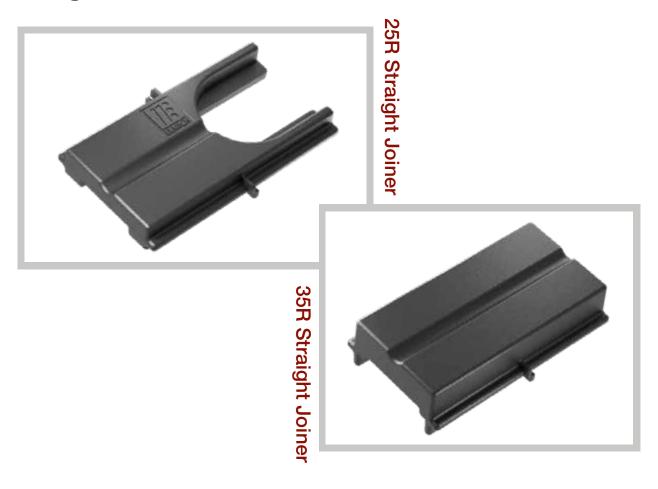




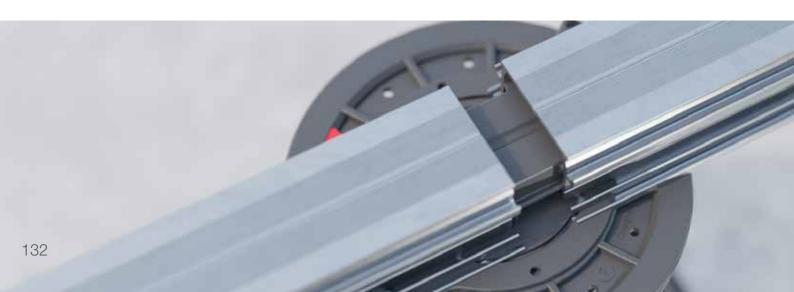
Perpendicular Joist Joiner allows one end of a joist to connect perpendicularly along the length of another joist.

Туре	Height (mm)	Width (mm)	Carton (pieces)	Bag (pieces)
Perpendicular Joiner	24	30	400	100



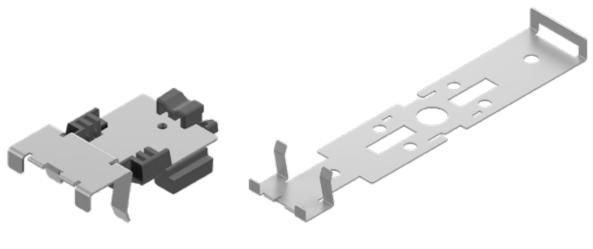


Туре	Length (mm)	Width (mm)	Carton (pieces)	Bag (pieces)
Straight Joiner	75	44	300	50



Straight Joist Joiner is a concealed joiner that connects 2 joists in a straight line.













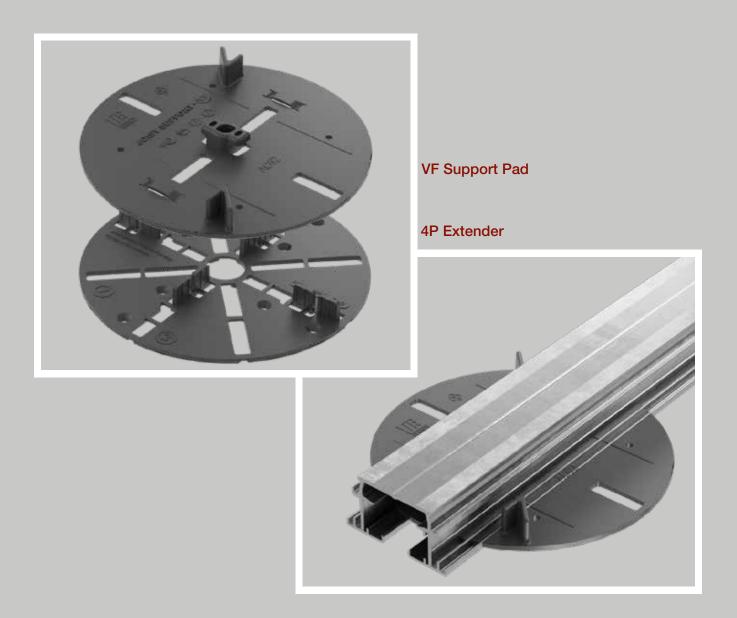
The Vertical Edge Clips (i.e. stainless steel paver clips) attach mechanically to the top and bottom of the VersiJack® pedestal, requiring no extra fasteners.

A deck board can then be inserted vertically along the sides of the pedestal, held in place by the Vertical Edge Clips, creating a neat closed deck.

This is an elegant solution to create neat, aesthetically pleasing decks when no perimeter wall is present.

VersiFrame®

VFSupport Pad





VF Support Pad is a fixed-height joist support for raised paving systems. It accommodates environments with low height constraints whilst providing air circulation and drainage underneath pavers.

Connected to VersiFrame® joist substructure, VF Support Pads restricts unintended movement during maintenance and everyday traffic.

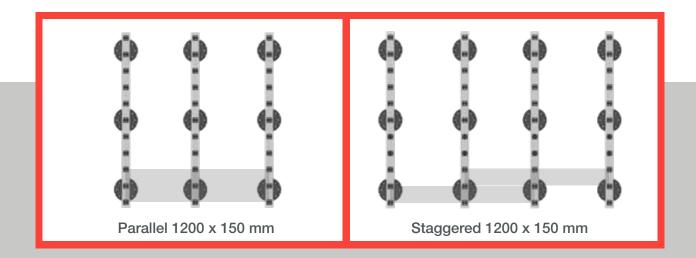
VF Support Pads are used to elevate pavers, creating levelled surfaces while ensuring that water drains freely underneath the pavers.

VF Support Pad is also available in TPE, which offers superior properties in noise reduction and shock absorption.



VF

Deck Assembly Using VersiFrame®





VersiFrame® Deck Assembly

With an array of accessories integrated with VersiFrame® and height-adjustable pedestals, different deck layouts can be achieved, allowing for high level of versatility and stability.

	VersiFrame® 25F	VersiFrame® 35F		
Material	Aluminium ¹			
Linear thermal expansion coefficient	2.34 x 10 ⁻⁵ K ⁻¹			
Supply length (m)	2.4			
Height (mm)	25	35		
Design span along joist (mm)				
Live load ² @ 3.0 kN/m2	600	900		
Live load ³ @ 5.0 kN/m2	400	600		
Biological / Chemical resistance	Unaffected by moulds and algae. Resistant to corrosion			

¹ A6063 T5

 $^{^2}$ Uniformly distributed live loads on residential raised floor balconies should not exceed 3.0 kN/m².

 $^{^3}$ Uniformly distributed live loads on commercial raised floor areas should not exceed 5.0 kN/m².



05 FIRE-RESISTANT PEDESTALS

VJ

VersiJack® FR VersiPave® GP FR Screwjack Pedestal Stepjack Paver Support





Fire-Resistant Screwjack Pedestal

VersiJack® FR is a fire-resistant version of our widely used VersiJack®. Made from a proprietary blend of fire-resistant engineered plastics that do not burn nor release toxic emissions and excessive smoke, VersiJack® FR meets the SCDF* Fire Code for plastics used in building interiors.

Similar to VJ, it is a height-adjustable pedestal that aids in raising pavers and tiles. VersiJack® FR provides a cavity to conceal services, improve heat insulation and facilitate rapid surface drainage while allowing waterproofing and services to remain accessible. Compared to concrete stumps, VJ FR eliminates efflorescence and algae growth arising from contact with screed, effectively reducing maintenance costs.

VJ FR consists of five pedestals and an extender that achieves a height range of 37 mm to 1014 mm. It is complemented by a comprehensive list of accessories to accommodate installations of various requirements.

Fire-Resistant Specifications

Category	Fire Risk	Test Standards	Acceptance Criteria
А	Toxicity emission	BS EN 45545 - 2	CIT < 0.75
В	Smoke density	BS EN 13501 - 1	Smoke production: s1
С	Fire spread	BS EN 13501 -1	Fire spread: B _{fl}

^{*}Singapore Civil Defence Force







Fire-Resistant Stepjack Paver Support

VersiPave® GP FR (VP-GP FR) is a fire-resistant version of the widely used VersiPave® GP. Made from a proprietary blend of fire-resistant engineering plastics that does not burn and release toxic emissions or excessive smoke when fire is present, the VP-GP FR meets the SCDF* Fire Code for plastics used in building interiors.

Similar to VP-GP, it is a height-adjustable pedestal for paver or tile support, engineered to provide a cost-effective solution to support raised pavers with inconsistent or uneven thicknesses. VersiPave® GP FR provides a cavity to conceal services, improve heat insulation and facilitate rapid surface drainage while allowing waterproofing and services to remain accessible. It also eliminates efflorescence and algae growth arising from contact with screed, effectively reducing paver maintenance costs.

VP-GP has a height range of 24 mm to 35 mm with four independent chocks that may be adjusted in 1 mm increments. Higher heights may be achieved through fixed Extenders of 10 mm, 20 mm, 30 mm and 40 mm in height.

Fire-Resistant Specifications

Category	Fire Risk	Test Standards	Acceptance Criteria
А	Toxicity emission	BS EN 45545 - 2	CIT < 0.75
В	Smoke density	BS EN 13501 - 1	Smoke production: s1
С	Fire spread	BS EN 13501 -1	Fire spread: B _n

^{*}Singapore Civil Defence Force



What Sets Us Apart From The Rest?



Product Management

Elmich aims to deliver environmentally-safe, innovative, and cost-effective urban greening solutions to our customers worldwide.

Every aspect of our business, from research and development to supply chain management is centrally coordinated, ensuring the delivery of a well-engineered and tested product.

GREEN TECHNOLOGY AWARDS: TOP HONOUR

A track record of innovation

Elmich has invested heavily in developing sustainable products that reduce costs

By Sue-Ann Chi

AFTEX operating has water-proofing business for a decade, Alen Lee igotted an opportunity to develop a newline of business. The founder of green technology firm Eintich saw that many buildings in Singapore had used gravel to draw out narrowner.

But, at the time in the early 1990s, abother new product half come onto the market: a plastic drainage cell that would do the same job as gravel, but in a much more efficient manner.

"It was a no beainer. Between intolking of gravel's and a 2 Skg plantic desirage cell, clearly one was the bester choice," he says. With a lighter load, there is more brendors for architects, and engineers to design buildings, he notes.

gapore to introduce the product to the snarket. It took time but now no one uses growd any name."

This is the type of product for Lee considers to be australade: one that increases efficiency, whether by using less-energy, resources or manpower. "It has to make sense. Otherwise why have products that say they are suntainable?" he says.

Over time, the firm - which was founded in 1983 and new has offices in 27 countries - has introduced other products that have made a difference in the built environment sector to seems of saving the planet as well as extensive built for five.

Another example is the boardwal losting Serims in VivoCity. Initially the plans had stipulated executs stumps to support the atracture. In Emich's proposal was to put peder tals made of plastic that could be it.



Elmich's proposal to put pedestals made of plastic rather than concrete to support the Sentasa Boardwalk saves manpower, materials and costs

to measure according to the height required to support the boardwalk.

"Concern was floory and you needed to cast it, and it had to be perfectly cast. With our product you could easily adjust when required," he siys. "It saves manpower, materials and costs. Thor's sustainable."

Elmich was given the Top Honour at the Gener Technology Awards thin year for its contributions to the indusny. The company has put in great effort to develop innovative available, holding more than 130 pare

works with buy sally from its approved suppliers, crossing both quality as well as sustainability.

"As virtually all our products are made from recycled plastics, which are quite abundant, we have been able to contain the prices to levels significantly lower than non-green abornatives," says Mr Lee. The company has five engineers among its staff of about 40 who attend and can help fo problems for their clients.

Mr Lee also notes that in many Ize requests of the Certain and Switzerland, environmental sus taisability is a major consideration and castomers are prepared to payone for these products. Here, there is limit willingums for consistent to pay series the products are "goot and chear".

"One of our clients, a German multinational, gave us nearly perfect scores in their assessment of suppliers, except for one category: price I he says. They said the price can be a bit better. We got eight out of 10.

Thur's preety good I think."

Still, Mr Lee believes that the suntainable way of doing basiness has become mainstream and bodes well for companies like his. "This is no flash in the pan. This way of doing huse



Innovative Spirit

Our commitment towards sustainable green building drives us towards constant innovation and improvement of our products to deal with the everchanging requirements of the industry.

Green Today for a Better Tomorrow

We are conscious and proud of our unique role in co-creating a sustainable planet. Green label certified products using 100% recycled plastics is just one of the ways we reduce our carbon footprint.

Member of Green Building Councils

Elmich affirms its commitment towards green and sustainable building efforts through its membership in both the US and Singapore green building councils.







Green Certifications

Elmich's products are awarded with Green accreditation from Singapore Environment Council or Singapore Green Building Council, as well as Australia's Ecospecifier accreditation.

ISO 9001 Certification

Elmich assures its clients of high quality products and services.

Business Continuity Management

Elmich has been certified Business Continuity Management (BCM) ready according to ISO 22301 standard since November 2011. This means business as usual for our customers even in the event of a crisis.

Note The information provided in this brochure is based on current knowledge and experience and does not infer any legally binding assurance or warranty, expressed or implied Intending purchasers should verify whether any changes to specifications or applications or otherwise have been made since the issue of this literature. Environmental-friendly recycled materials are used wherever possible and physical product properties including colour may differ due to source of raw materials used. Colour may also fade due to UV exposure. All components of the product are designed for specific application, design calculations and any variation and/or deviation therefrom shall be the responsibility of the specifier and/or user.



Elmich: Singapore Brand. International Network.

We are a leader in ecologically-minded urban landscaping, waterproofing and stormwater management solutions. Through a network that spans 30 countries in 6 continents, Elmich is committed to delivering innovative and sustainable building solutions to developers, architects and builders worldwide.

Since our founding, Elmich has always understood that every project and customer is different. To achieve this, we have established a dedicated research team focused on the design and testing of highly-customised solutions for the built environment. We have accumulated numerous registered designs and patents for proprietary Elmich products through the years – a testament to our expertise and technical know-how. In spite of this, Elmich quality assurance processes are still continuously reviewed and refined for our customers, partners and the communities that we serve.

As we embrace innovation and technology, Elmich also pledges to give back to the global community by managing and containing climate change in ways that we can. We believe that this is our responbility as citizens of the world.

So what makes Elmich different?

The answer is our unwavering commitment to providing quality green building solutions, through precision, excellence, expertise and the synergies working alongside our global network of partners; to construct the cities of tomorrow. This, is what makes the Elmich Difference.

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