DATA SHEET
Reference:
DS-PAJ-0124

Preventa®
Aluminium Joists

Technical datasheet

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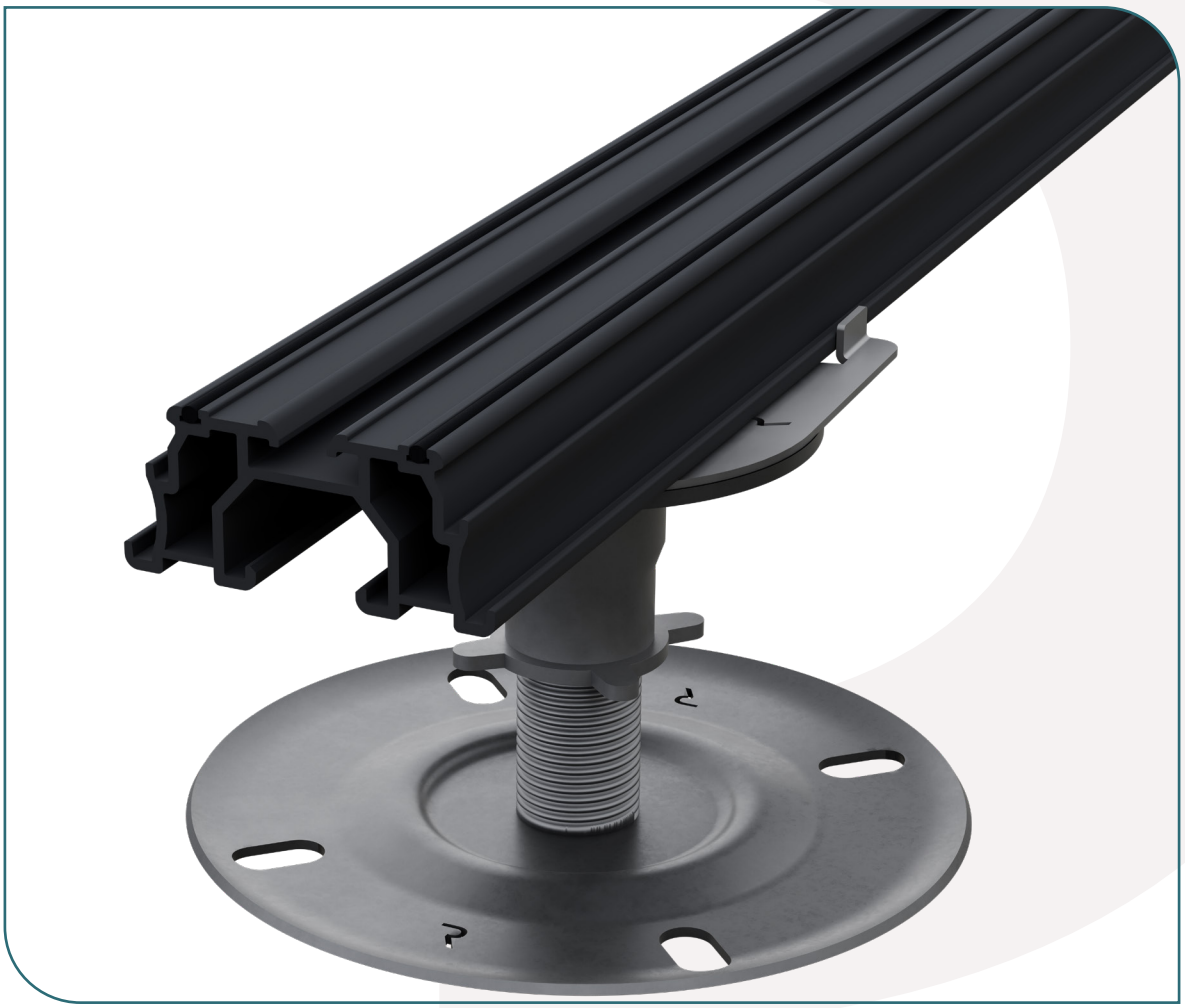

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PREVENTA® ALUMINIUM JOISTS

DIMENSIONS			PEDESTAL MAX SPAN*	WEIGHT/ LENGTH	MAX CANTILEVER FROM PEDESTAL	MAX LOADING**	MATERIAL	FINISH	SKU
H	W	L							
30mm	60mm	2.4m	500mm	3.87kg	100mm	250kg	6063 T6 aluminium	Black powder coated	301010
50mm	60mm	2.4m	900mm	4.2kg	200mm	295kg	6063 T6 aluminium	Black powder coated	301020

* Between supports, see overleaf
** Point load based on Finite Element Analysis (FEA) with a x 1.5 factor of safety

MAXIMUM UNSUPPORTED SPANS

30mm Raaft® Joist
(Refer to above table for 50mm joist)

Max. 100mm cantilever

500mm max. unsupported span

JOIST WEIGHT LOADINGS

JOIST HEIGHT	CENTRES (CL)	JOIST LOAD (kN)	SAFE WORKING LOAD (kN)
30mm	400	2.812	2
	600	1.054	0.8
	900	0.624	0.4
50mm	400	5.362	4.5
	600	2.264	1.8
	900	1.77	1.2

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APPLICATION

Rigid aluminium extruded joist rails for use as a support structure system to decking and paving. Raaft® joists are designed to be used on roof terraces, balconies and other external podium construction areas.

INSTALLATION INFORMATION

Introducing Raaft®'s revolutionary joist, a patented fixing-free system designed to establish a robust floating platform suitable for various finishing materials, with a particular emphasis on Raaft® porcelain tiles. This innovative solution incorporates our accessible wind uplift clipping system, enabling the pedestals to seamlessly rotate and securely engage with any accessory available from Raaft®. Crafted from aluminum, our joists are able to be cut to suit any situation and do not require coating of the cut due to it's versatile material.

PRODUCT FINISHES

Black powder coated

SUSTAINABILITY

Joists are made from 100% recycled aluminium billets, with at least 60% post-consumer scrap. This ensures sustainability while maintaining strength through precise heat treatment and extrusion. Some foundries use virgin ingot to adjust composition, but this does not impact final properties.

Aluminium is infinitely recyclable, making scrap a valuable resource. This also lowers whole-life costs, as joists can be sold for recycling instead of paid disposal.

With aluminium making up 8% of the Earth's crust, bauxite reserves are sufficient for 200–400 years. However, increasing aluminium recycling is reducing the need for virgin alumina, further lessening environmental impact.

PRODUCT MAINTENANCE

ALUMINIUM

The aluminum undergoes a black powder coating, minimising maintenance requirements and mitigating the risk of galvanic corrosion.

FIRE RATED

Fire rated in accordance with BS EN 13501-1 to achieve a BROOF(t4) classification. Consult our certification documents for verification.

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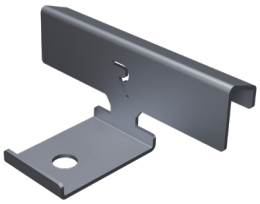
ACCESSORIES

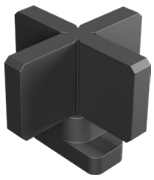
BRACING STRUTS

Bracing struts evenly space the joists to the exact centres of the surface being used. They increase the rigidity of the substructure and do not require any fixings. 2 rails per segment.



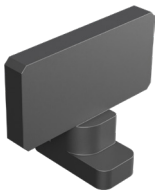
TILE WALL SPACERS

Wall tile spacers are to be used when butting tiles against the edge of the building to avoid slipping of tiles and keeping a consistent 10mm gap around the perimeter.



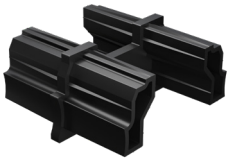
4MM 4-WAY SPACER TAB FOR JOISTS

Raaft® 4mm 4-way spacer tabs are designed to lock into the top of a joist creating a consistent 4mm gap between tiles, that are loose laid onto the Raaft® system.



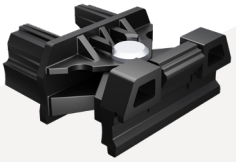
4MM 2-WAY SPACER TAB FOR JOISTS

Raaft® 4mm 2-way spacer tabs are designed to lock into the top of a joist creating a consistent 4mm gap between tiles, that are loose laid onto the Raaft® system.



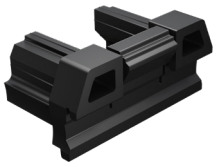
STRAIGHT CONNECTORS

Utilised to align each joist seamlessly, ensuring a perfectly straight line.



ANGULAR CONNECTORS

Offer adjustment of up to 45 degrees, facilitating the installation of perimeter rails where needed.



90-DEGREE CONNECTORS

Facilitate the creation of hatches and customised joist spacing. For instance, when the substructure intersects with a building's edge, these connectors enable secure tying of the substructure.

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BRACING STRUT CHARACTERISTICS

SIZE	CENTRES	WEIGHT	SKU	TILE SIZE**	CARBON*	MATERIAL SPECIFICATION
50mm	600mm	0.82kg	304010	600x600mm	2.484 CO_2e	Pre-galvanised steel
		0.82kg	304011	1200x1200mm	2.484 CO_2e	Pre-galvanised steel
		0.82kg	304012	300x1200mm, 600x1200mm	2.484 CO_2e	Pre-galvanised steel
		0.66kg	304013	1200x400mm	2.000 CO_2e	Pre-galvanised steel
	450mm	0.58kg	304014	900x900mm	1.757 CO_2e	Pre-galvanised steel
		0.58kg	304015	600x900mm	1.757 CO_2e	Pre-galvanised steel
		0.58kg	304016	450x900mm	1.757 CO_2e	Pre-galvanised steel
	400mm	0.51kg	304017	1200x1200mm	1.545 CO_2e	Pre-galvanised steel
		0.51kg	304018	600x1200mm	1.545 CO_2e	Pre-galvanised steel
		0.51kg	304019	300x1200mm	1.545 CO_2e	Pre-galvanised steel
		0.51kg	304020	1200x400mm	1.545 CO_2e	Pre-galvanised steel
		0.51kg	304021	1200x200mm	1.545 CO_2e	Pre-galvanised steel
	300mm	0.36kg	304022	900x900mm	1.181 CO_2e	Pre-galvanised steel
		0.36kg	304023	600x900mm	1.181 CO_2e	Pre-galvanised steel
		0.36kg	304024	450x900mm	1.181 CO_2e	Pre-galvanised steel
		0.36kg	304025	600x600mm, 600x300mm	1.181 CO_2e	Pre-galvanised steel
	200mm	0.20kg	304026	600x600mm, 600x300mm	0.606 CO_2e	Pre-galvanised steel
30mm	600mm	0.52kg	304030	600x600mm	1.575 CO_2e	Pre-galvanised steel
		0.52kg	304031	1200x1200mm	1.575 CO_2e	Pre-galvanised steel
		0.52kg	304032	300x1200mm, 600x1200mm	1.575 CO_2e	Pre-galvanised steel
		0.52kg	304033	1200x400mm	1.575 CO_2e	Pre-galvanised steel
	450mm	0.37kg	304034	900x900mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304035	600x900mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304036	450x900mm	1.121 CO_2e	Pre-galvanised steel
	400mm	0.37kg	304037	1200x1200mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304038	600x1200mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304039	300x1200mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304040	1200x400mm	1.121 CO_2e	Pre-galvanised steel
		0.37kg	304041	1200x200mm	1.121 CO_2e	Pre-galvanised steel
	300mm	0.29kg	304042	900x900mm	0.878 CO_2e	Pre-galvanised steel
		0.29kg	304043	600x900mm	0.878 CO_2e	Pre-galvanised steel
		0.29kg	304044	450x900mm	0.878 CO_2e	Pre-galvanised steel
		0.29kg	304045	600x600mm, 600x300mm	0.878 CO_2e	Pre-galvanised steel
	200mm	0.15kg	304046	600x600mm, 600x300mm	0.454 CO_2e	Pre-galvanised steel

* Carbon – Basing the carbon embodiment (global warming potential) of 0.1-0.33kg equivalent per kilogram of steel, the results are as follows, using the calculation of (kg of steel / 0.33).
** Please refer to the installation guide for tile layouts.

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ACCESSORY CHARACTERISTICS

ACCESSORY	WEIGHT	SKU	CARBON*	MATERIAL SPECIFICATION
2-way 4mm tile spacers for joists	0.20kg	303010	0.606 CO_2e	Nylon6-FR
4-way 4mm tile spacers for joists	0.20kg	303011	0.606 CO_2e	Nylon6-FR
Joist wall spacer	0.016kg	303013	0.048 CO_2e	Stainless Steel
30mm 90° connection clip and plug	0.35kg	302010	1.060 CO_2e	Nylon6-FR
30mm 2 part angular connection clip	0.30kg	302011	0.909 CO_2e	Nylon6-FR
30mm straight connection plug	0.375kg	302012	1.136 CO_2e	Nylon6-FR
50mm 90° connection clip and plug	0.70kg	302013	2.121 CO_2e	Nylon6-FR
50mm 2 part angular connection clip	0.50kg	302014	1.515 CO_2e	Nylon6-FR
50mm straight connection plug	0.60kg	302015	1.818 CO_2e	Nylon6-FR

* Carbon - Basing the carbon embodiment (global warming potential) of 0.1-0.33kg equivalent per kilogram of steel, the results are as follows, using the calculation of (kg of steel/0.33).

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