

BENCHMARK

by Kingspan

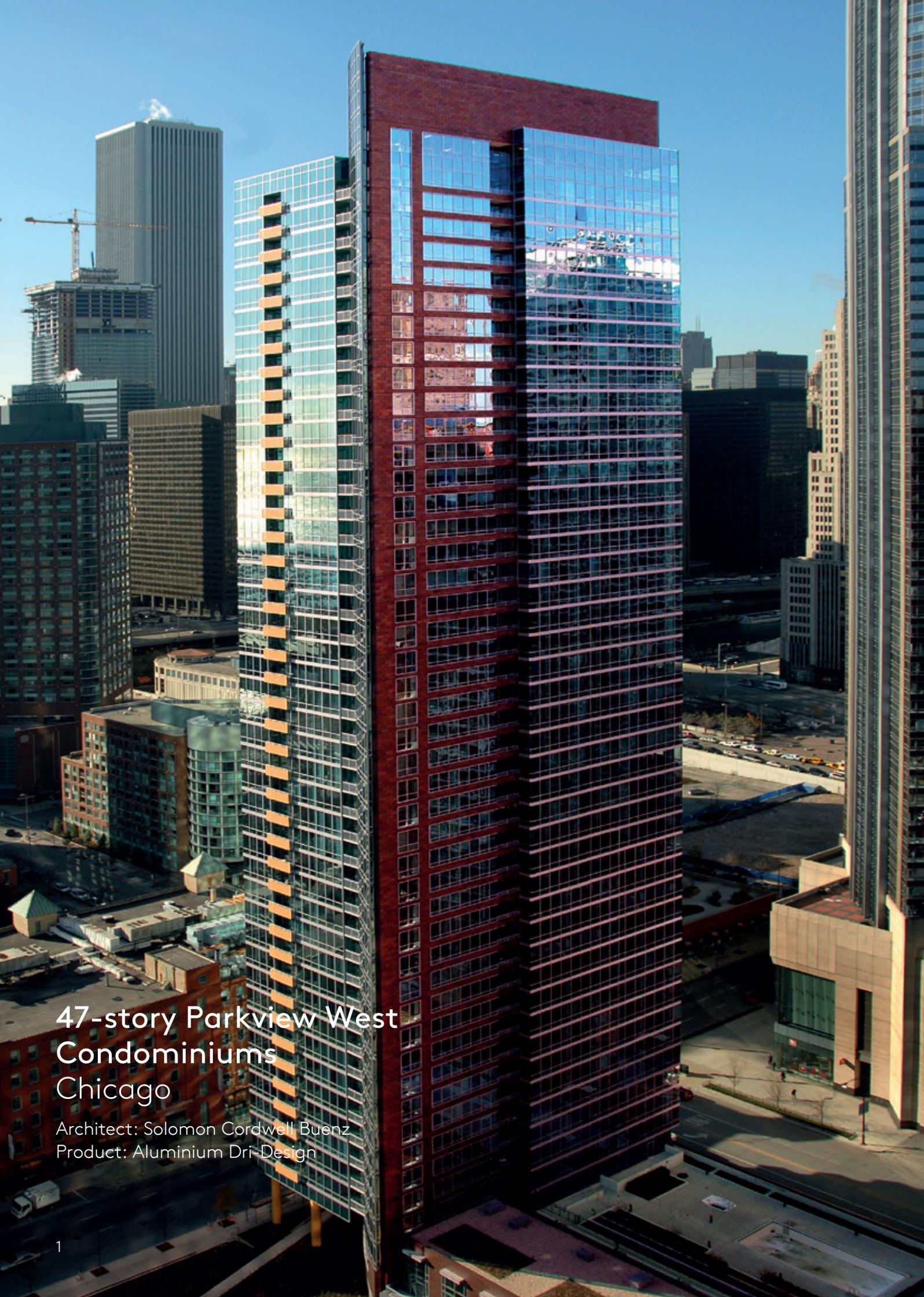
Architectural Façades
Roof Systems

—
Panelised Façades
Rainscreen Façades
Roof Systems

—
Australasia & South East Asia

BENCHMARK by Kingspan

The BENCHMARK by Kingspan product portfolio focuses on providing a range of visually appealing, tested and certified high performance and rapid install envelope solutions for three key building areas; rainscreen façades, panelised façades and roofing systems.



47-story Parkview West
Condominiums
Chicago

Architect: Solomon Cordwell Buenz
Product: Aluminium Dri-Design

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Broadcasting Place Leeds

Finish: Hook-on Cassette

Material: Corten Steel

Architect: Feilden Clegg Bradley Studios

BENCHMARK by Kingspan is increasingly specified in landmark buildings across all markets throughout the globe.



BENCHMARK by Kingspan provides architects, designers and building owners with the tools to create landmark buildings with all the aesthetics of leading, cutting edge design coupled with highest thermal performance, fire protection and technical functionality.

BENCHMARK by Kingspan

Kingspan launched BENCHMARK to Europe in 2009, joining the technical expertise, performance and functionality for which Kingspan is renowned to the aesthetic appeal and versatility that BENCHMARK had built their reputation on in the United States. BENCHMARK by Kingspan enables landmark buildings to be built at speed without compromising design versatility, performance or high aesthetic values. With the launch of the Dri-Design product range in 2017 we have cut rainscreen façades install time by half, at the same time increasing design options for architects with the shadow, tapered and perforated cassettes.

Kingspan, BENCHMARK and Dri-Design - the winning combination for building owners, designers and installers.



Kingspan introduced the first insulated panel to the market in 1976, after a decade designing, engineering and manufacturing products for the construction industry. Forty years on we continue to be recognised globally as the world experts on technical wall and roof systems. We have a commitment to pushing boundaries with continued investment into research and development and a vision to lead the way in creating energy efficient buildings that stand the test of time.

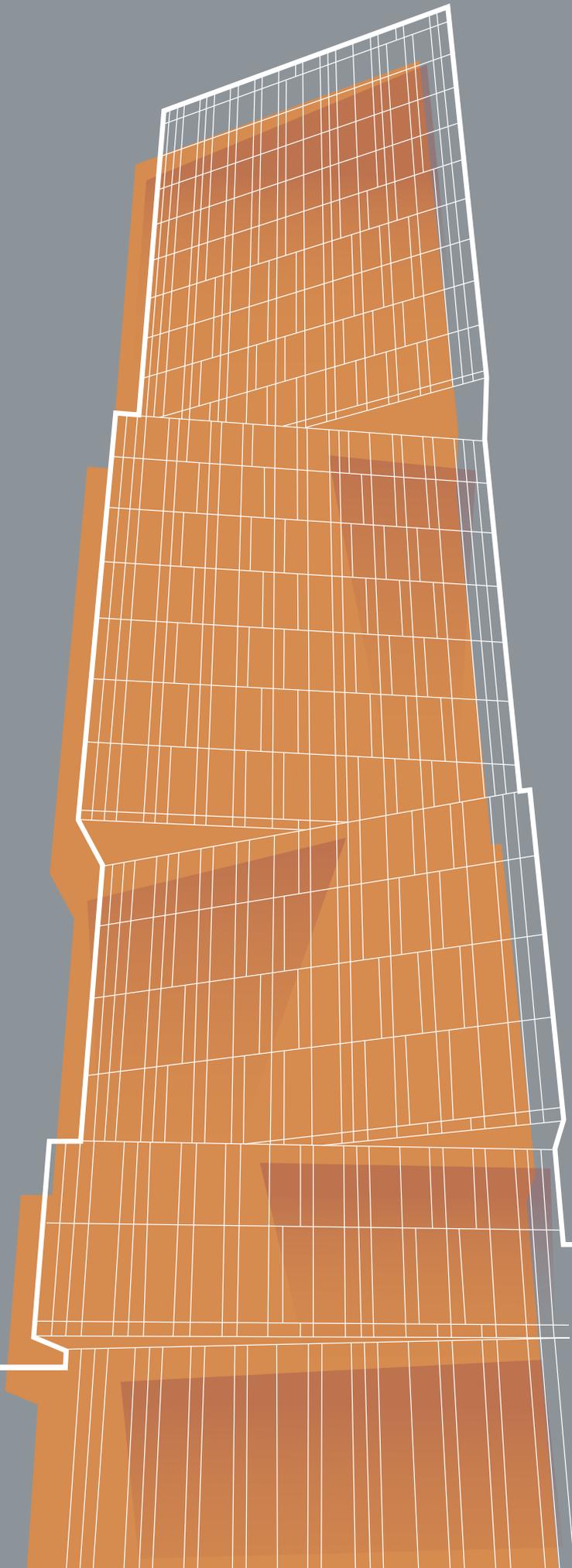


BENCHMARK – after many years working as a specialist metal wall and roof installer, the team founded BENCHMARK in 1990, producing high quality, bespoke architectural insulated panels. From the outset the business imbued a customer-centric approach, geared towards working with architects to create products and solutions that combine aesthetics with technical rigour.



With 30 years' experience, selling and installing other systems, the Dri-Design team were frustrated by the inefficient install times, the lack of colour, design options and the poor aging quality of metal rainscreens. Inspired to invent a better system they began experimenting with folding metal sheets until they created the Dri-Design cassette.

Made from a single piece of metal the cassettes are quick to install, easy to maintain and allow enormous design versatility.



Broadcasting Place Leeds

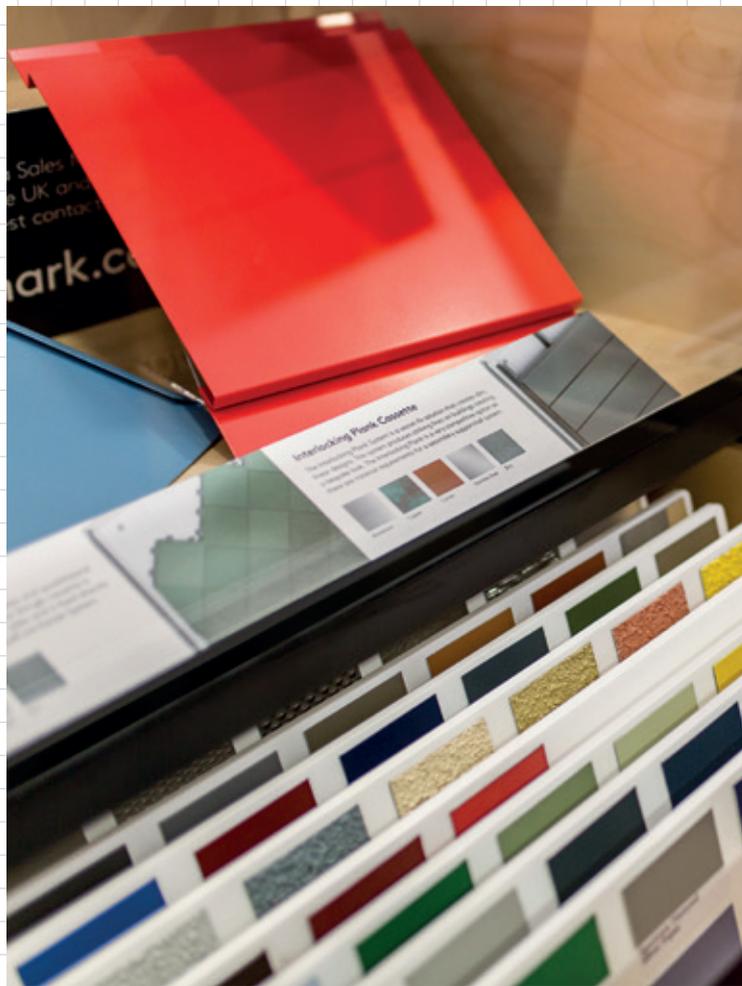
Product: Corten Steel Hook-on Cassette System
Material: Corten Steel
Architect: Feilden Clegg Bradley Studios

Samples

Glossy pictures are great as a starting point in the creative process, but designers like to hold the products in their hand, see how they fit together, look at the colours and coatings in the hard light of day.

As manufacturers of all BENCHMARK by Kingspan solutions we are able to offer standard samples and can liaise with you for more bespoke requirements.

For samples, please contact your local Kingspan Marketing Department.



Continuous Professional Development programme

BENCHMARK offers a CPD seminar to explain modern methods of construction, particularly the evolution of insulated panel technology from industrial panels to architectural panel systems incorporating diverse façade solutions. Our wealth of experience in insulated panel technology has inspired the creation of BENCHMARK, a premium range of architectural wall and roof façades. The seminar will explore key features, technical performance, system integration and the latest innovations from BENCHMARK.

Getting more from
BENCHMARK



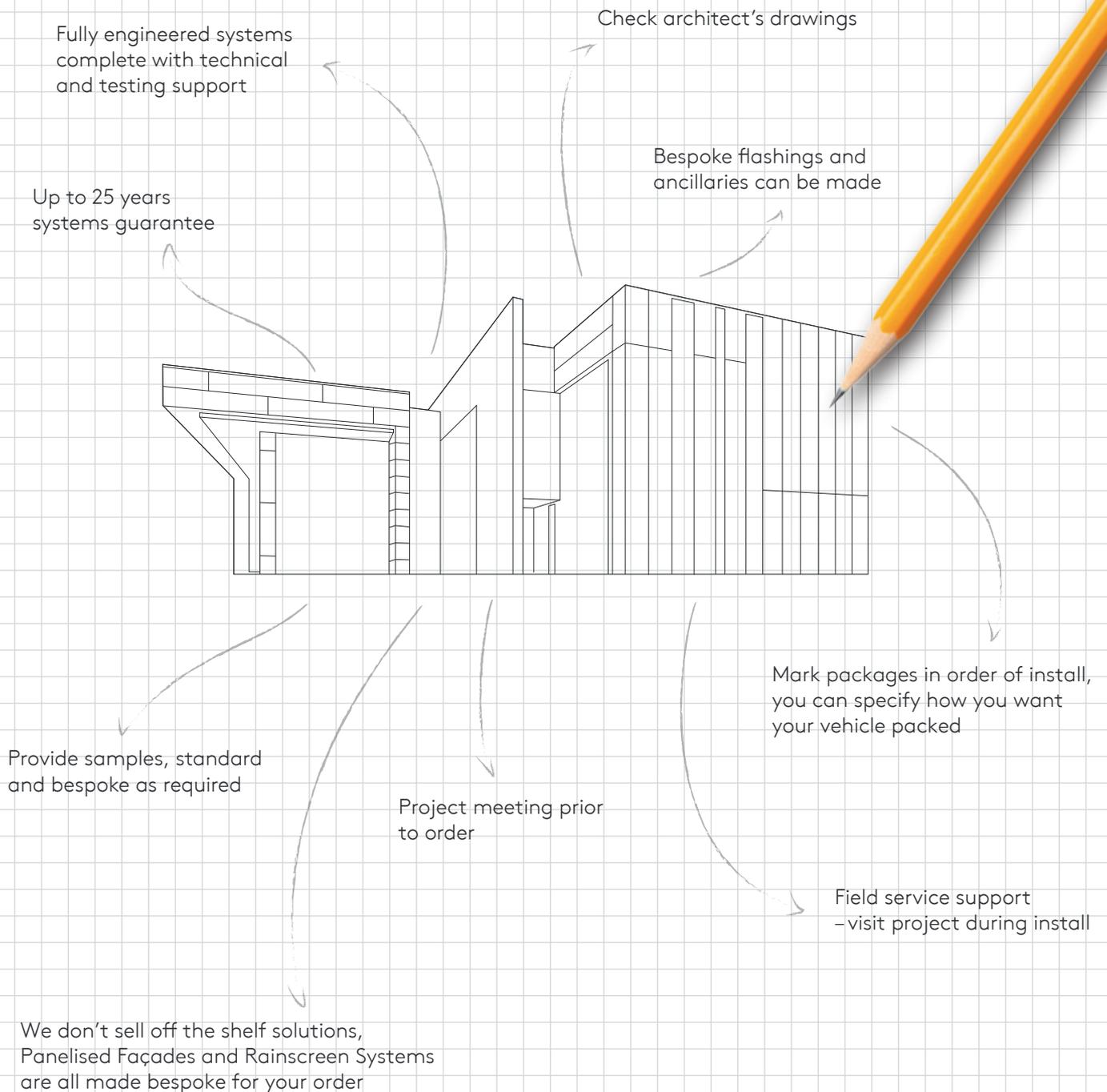
Installer Training

Professional installer training is available for all BENCHMARK by Kingspan systems. Attendees will learn about our products, including fixing systems, recommended mechanical lifting techniques as appropriate and a broad discussion about best practise. At the end of the one day course you will have gained a thorough knowledge of the product and will be issued with a training ID Card showing that you have been trained to install it.

To find out more about BENCHMARK by Kingspan installer training days or to book your place on the next available course please contact your local Kingspan office.

Services

We have a different way of working at BENCHMARK by Kingspan, we help our architects, installers and building owners realise their designs by being with them every step of the way, from concept to creation. You can see this mapped out in the Plan of Works table on the following pages, but in broad terms, when you choose BENCHMARK by Kingspan you don't just buy product you get the support to keep projects running smoothly, as standard.



Getting more from
BENCHMARK



BENCHMARK by Kingspan Plan of Works

The table below has been edited to show the input from our teams that your project will benefit from when you choose BENCHMARK by Kingspan systems.

	0 Strategic Definition	1 Preparation and Brief	2 Concept Design	3 Developed Design
Stages ▼				
BENCHMARK Involvement	Client (developer, local authority, financial fund), Cost Consultants, Property Agents, Main Contractors	Client, Cost Consultants, Property Agents, Main Contractors (D&B), Architects, Engineers, Specialist Surveyors	Client, Cost Consultants, Property Agents, Main Contractors (D&B), Architects, Engineers, Specialist Surveyors	Client, Cost Consultants, Property Agents, Main Contractors, Architects, Engineers, LA Planning
Tasks ▼	BENCHMARK Input ▼			
Core Objectives	Product awareness	Product awareness	Outline specification	Product awareness
Procurement	Offer budget costs	Offer budget costs	Budget quote	Offer budget costs
Programme	Advantages of products	Advantages of products	Outline installation timescales	Advantages of products
Planning	Offer samples	Offer samples	Sample mock-ups	Final samples for approval
Key Support Tasks	Previous projects	ASM and HQ contact	R&D of proposed specification and design	Previous projects
Sustainability Checkpoints	Explain product benefits	Explain product benefits	Explain product benefits	Explain product benefits

Source, modified: RIBA Plan of Work © RIBA

Getting more from
BENCHMARK

4 Technical Design	5 Construction	6 Handover and Close Out	7 In Use
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Client, Cost Consultants, Main Contractors, Architects, Engineers, Building Control	Client, Cost Consultants, Main Contractors (D&B), Architects, Engineers	Client, Cost Consultants, Property Agents, Main Contractors, Architects, Engineers, Occupiers	Client, Main Contractors, Architects, Engineers, Occupiers
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BENCHMARK Input ▼

Maintain specification	Product and delivery to site	Provide written guarantees	
Finalise quotes	Payment from sub-contractor	Conclude administration	
Lead-in times, delivery dates	Prompt delivery to site		
Information for regulations compliance and GreenStar	Visit site, inspect	Project performance, feedback	Feedback, field services
Energy modelling		Project performance, feedback	Feedback, field services

By 2020 all Kingspan energy needs will be met through renewable energy. This is our commitment to leading the way towards a better future.

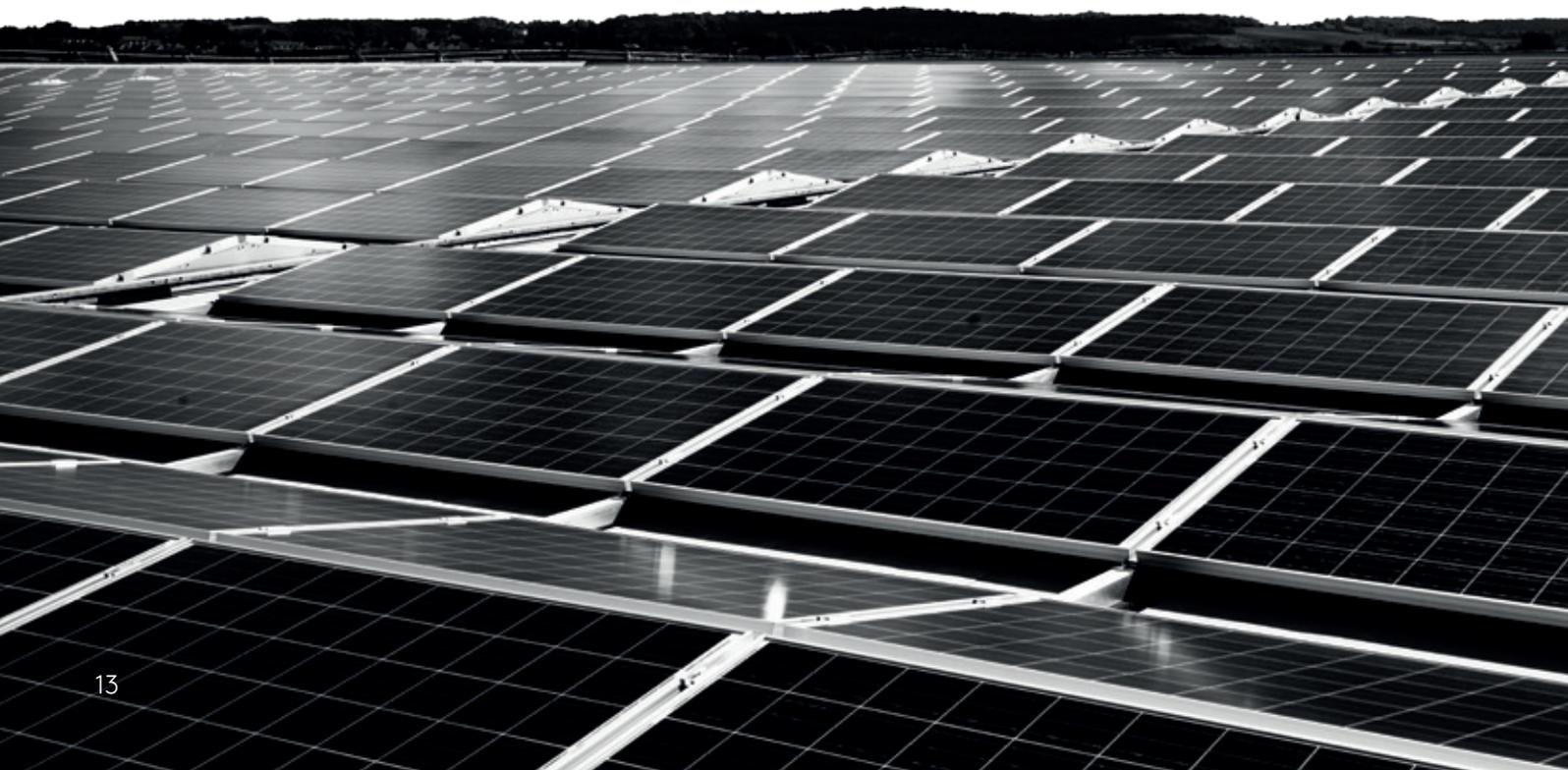
What is Net-Zero?

“Put quite simply, achieving Net-Zero Energy status requires that our energy use is minimised through maximising energy efficiency measures, all energy consumed must come from renewable sources on an aggregated basis across the manufacturing estate, and as far as possible should be self-generated. For a global manufacturing company this presents a serious challenge.”

Mark Harris, Building Technology Director

Why Net Zero Energy?

The scientific evidence that the rate of climate change is man-made is now overwhelming. We all have a responsibility to take what action we can to prevent further damage. In committing to the Net-Zero Energy target, Kingspan Group is uniquely positioned to demonstrate the worth of our products and to prove the business case for taking such radical steps.



0.1%

"Together we have the opportunity to make our built environments more energy efficient, attractive, adaptable, environmentally sensitive and productive. The way we build can be more effective and reach higher standards than ever before. We can make our buildings really work for us; consuming and generating energy smartly to become real investments in our future."

Gene M. Murtagh
Chief Executive Officer,
Kingspan Group PLC

2016

57%

2020

100%





Millwoods Library Edmonton

Product: Dri-Design Tapered
Architect: HCMA Architecture + Design, Vancouver
and Dub Architects Ltd, Edmonton
Material: Aluminium

The widest choice of colours and cassette options of any metal, aluminium is available in an anodized, brushed, textured or in-house post-powder coated finish.

Façades can be produced in virtually any RAL colour, plus our new range of BENCHMARK colours or matched to other colours on request subject to minimum production quantities.

-
- Cost-effective.
 - Strong and durable.
 - Corrosion resistant.
 - 100% recyclable.
 - Flashings and fabrications are available in the same material for a complete solution.

Materials and Colour Aluminium



SuperFast Install



Dri-Design Flat, page 45



Dri-Design Shadow, page 53



Dri-Design Tapered, page 49



Dri-Design Perforated, page 57

Standard Install



Hook-on Cassette, page 69



Interlocking Plank, page 65



Shingle, page 61

Stena Drilling Ltd Aberdeen

Material: Copper

Often associated with prestigious historic buildings, copper has regained a reputation in modern architecture due to its resistance to corrosion, its longevity and its natural patina that can develop over time.

- Traditional material
- Visually attractive and unmistakable
- 7 different coppers and copper alloys available
- Durable
- 100% recyclable
- Self-weathering and non-weathering surface options available

Materials and Colour Copper

SuperFast Install



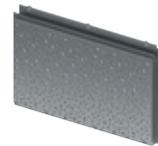
Dri-Design Flat, page 45



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Standard Install



Hook-on Cassette, page 69



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Shingle, page 61

Queens University Belfast

Material: Corten Steel
Product: Hook-on Cassette
Architect: Burwell Deakins London

Corten Steel Façade option is a weathering steel façade that naturally rusts over time, producing a striking oxide finish. The rust creates a protective coating that constantly forms allowing the façade to self heal, creating a highly durable and low maintenance option.

- Natural weathering properties
- Steel reforms after abrasions
- High structural strength
- High recycled content
- 100% recyclable
- Low solar reflectivity
- Flashings and fabrications are available in the same material for a complete solution.

Materials and Colour
Corten Steel



SuperFast Install



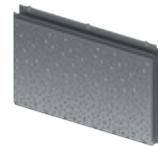
Dri-Design Flat, page 45



Dri-Design Shadow, page 53



Dri-Design Tapered, page 49



Dri-Design Perforated, page 57

Standard Install



Hook-on Cassette, page 69



Interlocking Plank, page 65



Australian National Maritime Museum Warships Pavilion

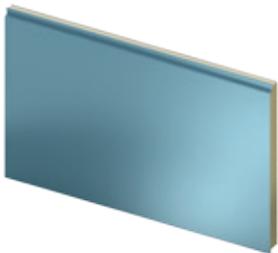
Material: Painted Steel
Product: Evolution Axis
Architect: fjmtstudio

Painted steel is a tough, resilient material which is used in the Evolution range.

The metal can be coated in a range of standard and metallic colours. This ensures that Evolution is a viable option where the versatility, colour and smooth flatness of a metallic rainscreen façade is required along with the cost and speed of install benefits of an insulated wall panel.

- Large range of colours and coatings
- Excellent durability and lifespan
- Highly resistant to weather conditions
- 100% recyclable
- Resistant to corrosion

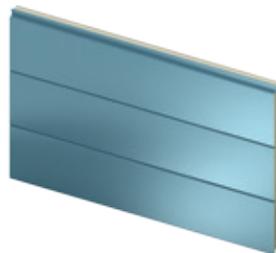
Materials and Colour
Painted Steel



Evolution Axis, page 36



Evolution Recess, page 36



Evolution Multi-Groove, page 36

Metropolitan University London

Material: Stainless Steel

The high resistance to corrosion coupled with the aesthetic impact and the strong mechanical properties of stainless steel make it a superb option for building façades.

- Extensive colour and texture palette
- Long life and durability
- Excellent lifecycle benefits
- High corrosion resistance
- Typically contains 70% recycled material
- 100% recyclable
- Minimal maintenance
- Flashings and fabrications are available in the same material for a complete solution.

Materials and Colour

Stainless Steel



SuperFast Install



Dri-Design Flat, page 45



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Standard Install



Hook-on Cassette, page 69



Interlocking Plank, page 65



Shingle, page 61



Adobe Systems Utah

Finish: Dri-Design Flat
Architect: WRNS Studio

Once seen predominantly as a traditional roofing product, zinc makes a fantastic choice for façades due to its unique aesthetics, it is lightweight and durable, and can be used as an interesting contrast against other materials.

- Natural traditional material
- Unique surface colour aspects
- Harmonious and modern appearance
- Lightweight
- Highly durable
- 100% recyclable
- Self-protecting, natural patina finish
- Non-ferrous metal

Materials and Colour Zinc



SuperFast Install



Dri-Design Flat, page 45



Dri-Design Shadow, page 53



Dri-Design Tapered, page 49



Dri-Design Perforated, page 57

Standard Install



Interlocking Plank, page 65



Shingle, page 61

Colours



Colour, coatings and textures



Colouring your design

When a design demands colour and tone, BENCHMARK by Kingspan has a vast palette of choice. We have hundreds of options in our own range from metallic, standard, pearlescent and textured to any RAL colour, and coatings that can replicate more expensive metal options. Contact us for colour swatches and options.

Panelised Façade Systems

For buildings with a more linear façade, or where the design requires a simpler solution, BENCHMARK by Kingspan offers the Evolution. Simple and effective single component solutions, that deliver aesthetically pleasing finishes with exceptionally fast install time.

Australian National Maritime Museum Warships Pavilion

Material: Painted Steel
Product: Evolution Axis
Architect: fjmtstudio

Panelised Façade Systems Evolution

The perfect solution for a minimalist façade effect, our perfectly flat insulated panel comes in a wide range of colours. Evolution is a super smooth unprofiled insulated panel that can be laid vertically or horizontally and can integrate easily with other BENCHMARK and Kingspan products for complete design flexibility. Sleek and flawless in appearance, BENCHMARK Evolution is available in widths of 600mm, 900mm and 1000mm.

The Evolution range is equipped with an infinite array of surface textures, joint details, corner features and colours to ensure the desired effect is achieved. Furthermore, the panels can be mixed and matched, it is the ideal solution for use on any new build development, and is easily integrated onto existing structures for refurbishment projects.

Western Australia Institute of Sport (WAIS) Perth

Product: Evolution Axis

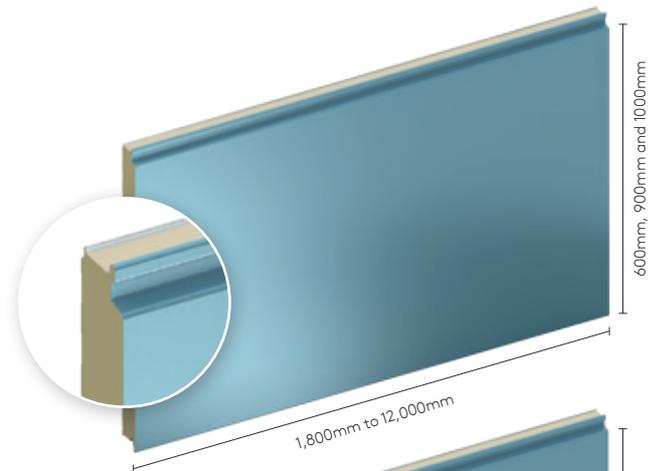
Architects: Sandover Pinder + dwp | suters



Evolution - Axis

Evolution Axis is a highly streamlined, sleek unprofiled insulated panel system; the perfect solution if you are looking to achieve a minimalist façade on buildings with large flat surface areas. Smooth and flawless in appearance.

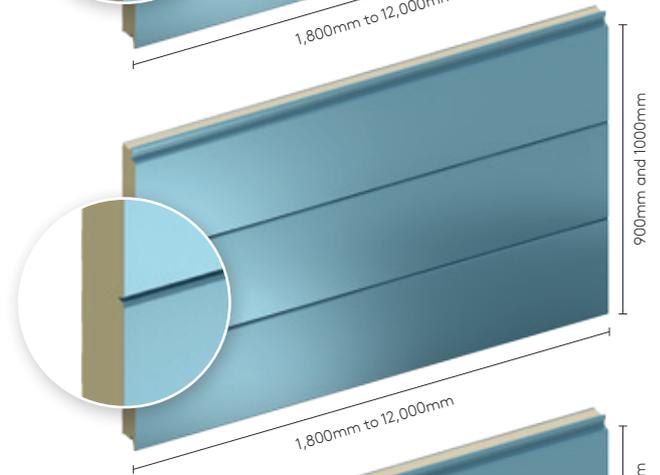
Length 1.8 to 12m, cover widths of 600mm, 900mm and 1000mm. Maximum length 11.8m for all orders outside of Australia.



Evolution - Multi-Groove

Evolution Multi-Groove is a premium flat panel that has one, two or three grooves engineered into its surface, creating subtle shadow lines on the building's façade and an illusion of smaller panel widths without the installation time constraints.

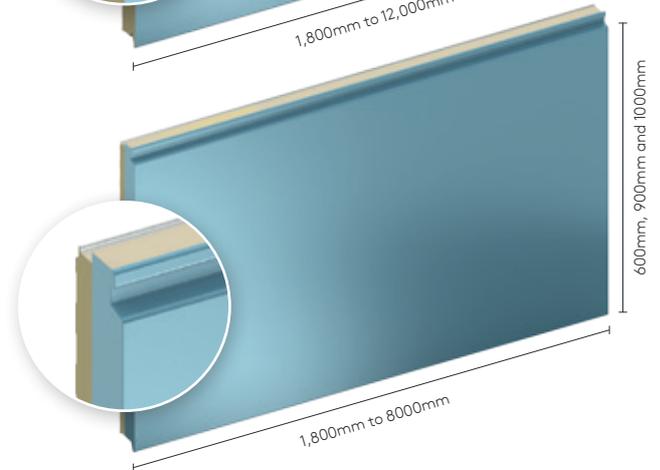
Length 1.8 to 12m, cover widths of 600mm, 900mm and 1000mm. Maximum length 11.8m for all orders outside of Australia.



Evolution - Recess

Evolution Recess features depth and dimension through the folding of the panel edge and the insertion of a 10mm or 20mm gasket between the panels, creating a unique 3D effect.

Length 1.8 to 8m, cover widths of 600mm, 900mm and 1000mm. Maximum length 7m for all orders outside of Australia.



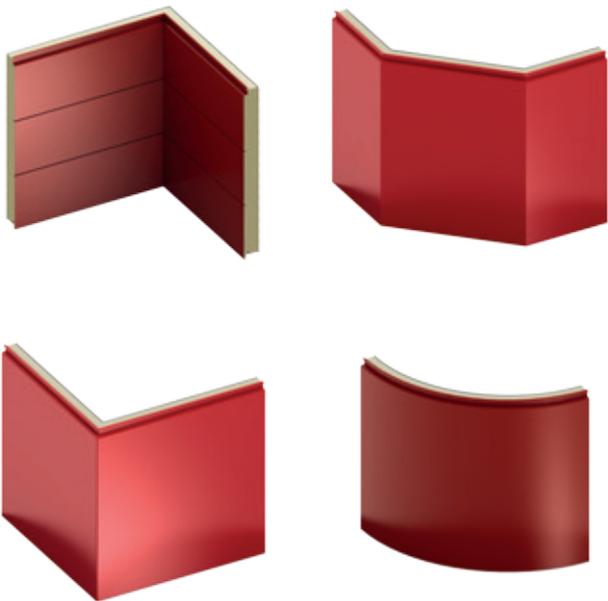
Performance

R - Value

Core Thickness (mm)	50	80	100	140
R-Value (W/m ² K)	2.63	4.15	5.15	7.15

Curves & Corners

Curved elevations and neatly formed secret-fix corners are easily achieved with the Evolution range. Panels can be curved vertically and horizontally to create large sweeping elevations or used for more understated corner sections. Panels can also be cranked and mitred to form internal or external corner units or to create depth to a boxed and recessed window detail.



Flashings & Fabrications

We can manufacture complementary flashings, gutters and accessories for all projects.



To complement the super smooth aesthetics of the Evolution range the panels are available in a large colour palette in three collections, Kingspan Altaris, highly polished and two tone colour coatings; Kingspan Textured, coarse rendered effect coatings; and Kingspan Spectrum, smooth solid, metallic and diamond coatings.

Customising your building design

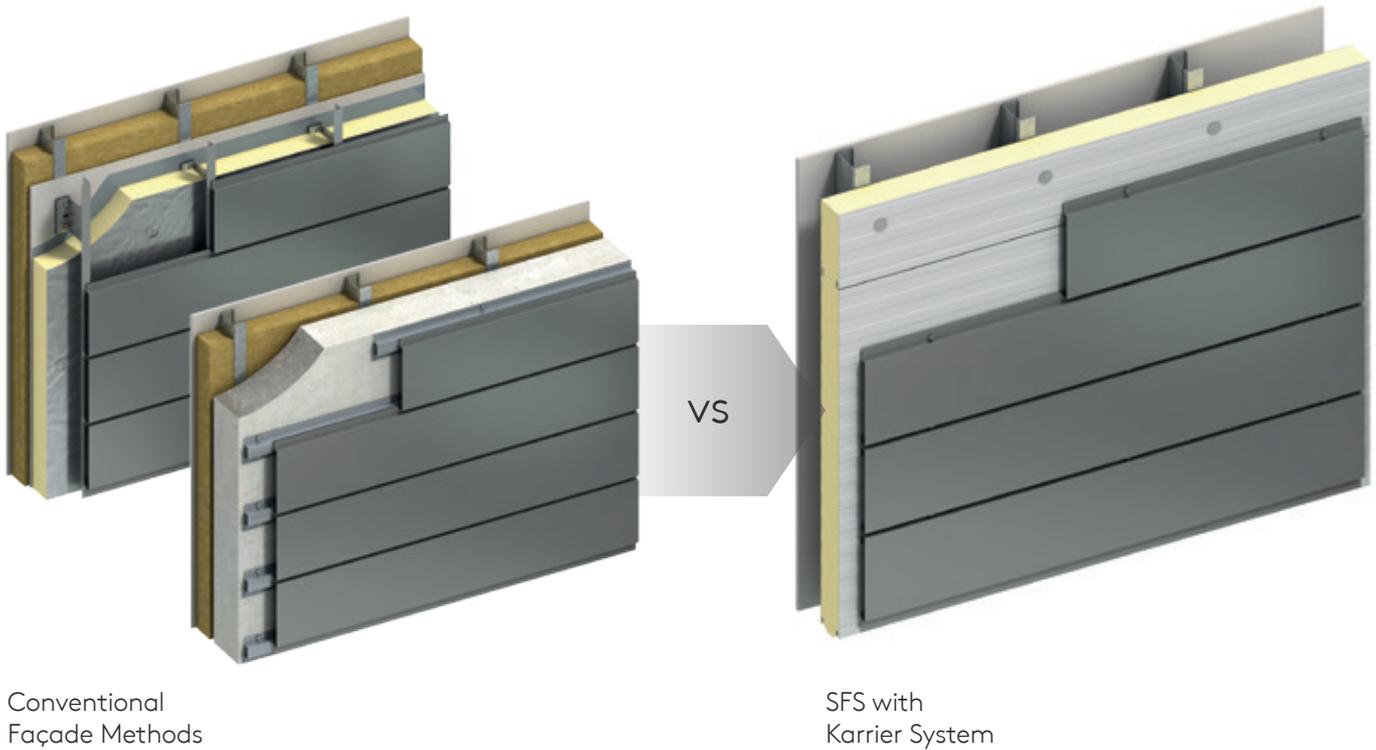
Joint Options

The Evolution range has five joint options or top hats that can be used vertically or horizontally giving more design freedom.



Karrier System

Safe, quick easy install

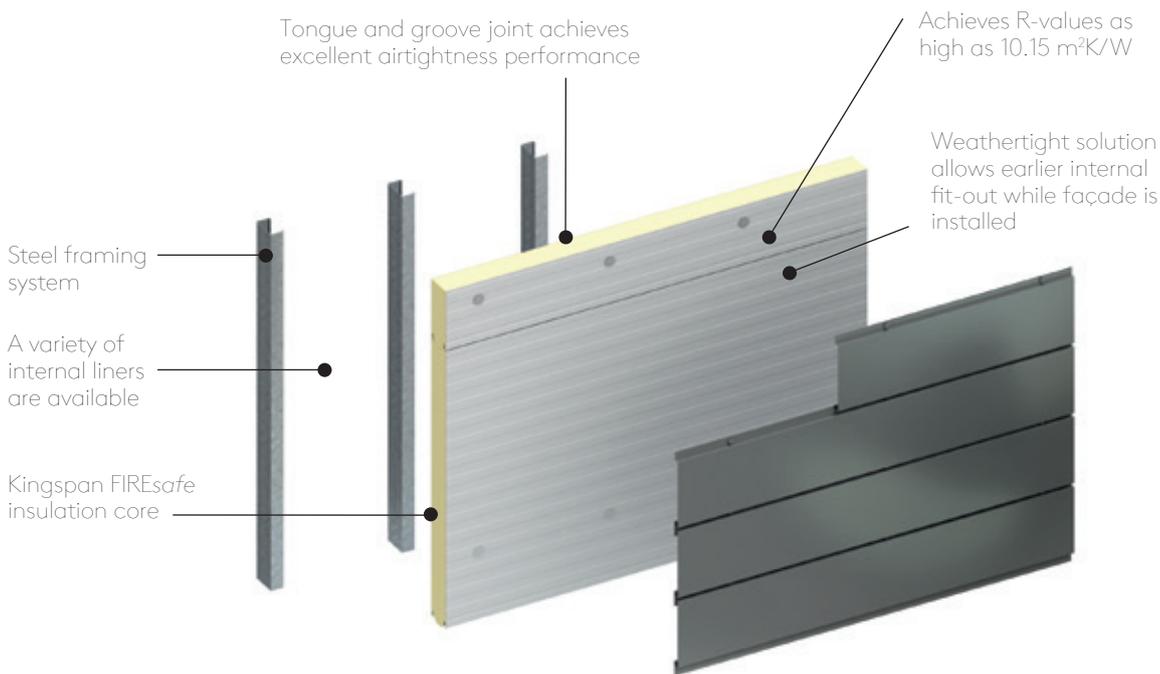


Standard panels are available in a width of 1100mm, and can be cut making them ideal for projects with close window arrangements.

The lightweight panels can be manually lifted into position or can be installed with mechanical handling devices. This option is extremely flexible and can be considered at design and post design stages of a project.

Karrier panels can be fixed to a lightweight steel framing system (SFS) or a braced purlin and rail system.

The Karrier System combines the aesthetic flexibility of rainscreen façades with the practical benefits of a composite panel - quick installation, excellent airtightness, high R-values coupled with enormous design choice in colour, shape and material.



Rainscreen Substructure
Karrier System

Safe and easy to install, the Karrier System provides a weathertight building envelope in a fraction of the time of other systems, without compromising creativity or design. The panels can be used in conjunction with BENCHMARK's broad selection of rainscreen façades and with a range of other materials, please contact Technical Services for more details.

Karrier System

Standard lengths 1.8 to 11.8 metres. 11.8 to 13.7 metres can be supplied but may be subject to a transport surcharge and restrictions. Panels less than 1.8m long will be charged at full 1.8m price, plus cutting cost.

Performance

R - Value

Core Thickness (mm)	50	75	100	125	150	200
R-Value (m²K/W)	2.65	3.90	5.15	6.40	7.65	10.15
U-Value (W/m²K)	0.38	0.26	0.19	0.16	0.13	0.10

Rainscreen Façades

For buildings with complex designs, high aesthetics or requiring a ventilated façade, our system provides fast build, high technical performance solutions.

We can achieve this with our extensive range of cassette types and finishes, including a patented SuperFast install Dri-Design metallic rainscreen cassette which is installed over our Karrier System wall panel. The Dri-Design cassettes are available in highly durable PPC or anodised aluminium, stainless steel, weathered steel, zinc or copper, across a range of shapes and sizes.

SuperFast Install



Nebraska Public Power District Operations Center

Product: Dri-Design Flat

Rainscreen Façades
Dri-Design Flat



Dri-Design Flat patented design installs at least twice as fast as most comparable systems and can be direct fix or ventilated cavity cassettes. No sealants, gaskets or butyl tape in the cassette joints, means no dirty streaks or a legacy of maintenance for the building owner.

Iowa West Community College

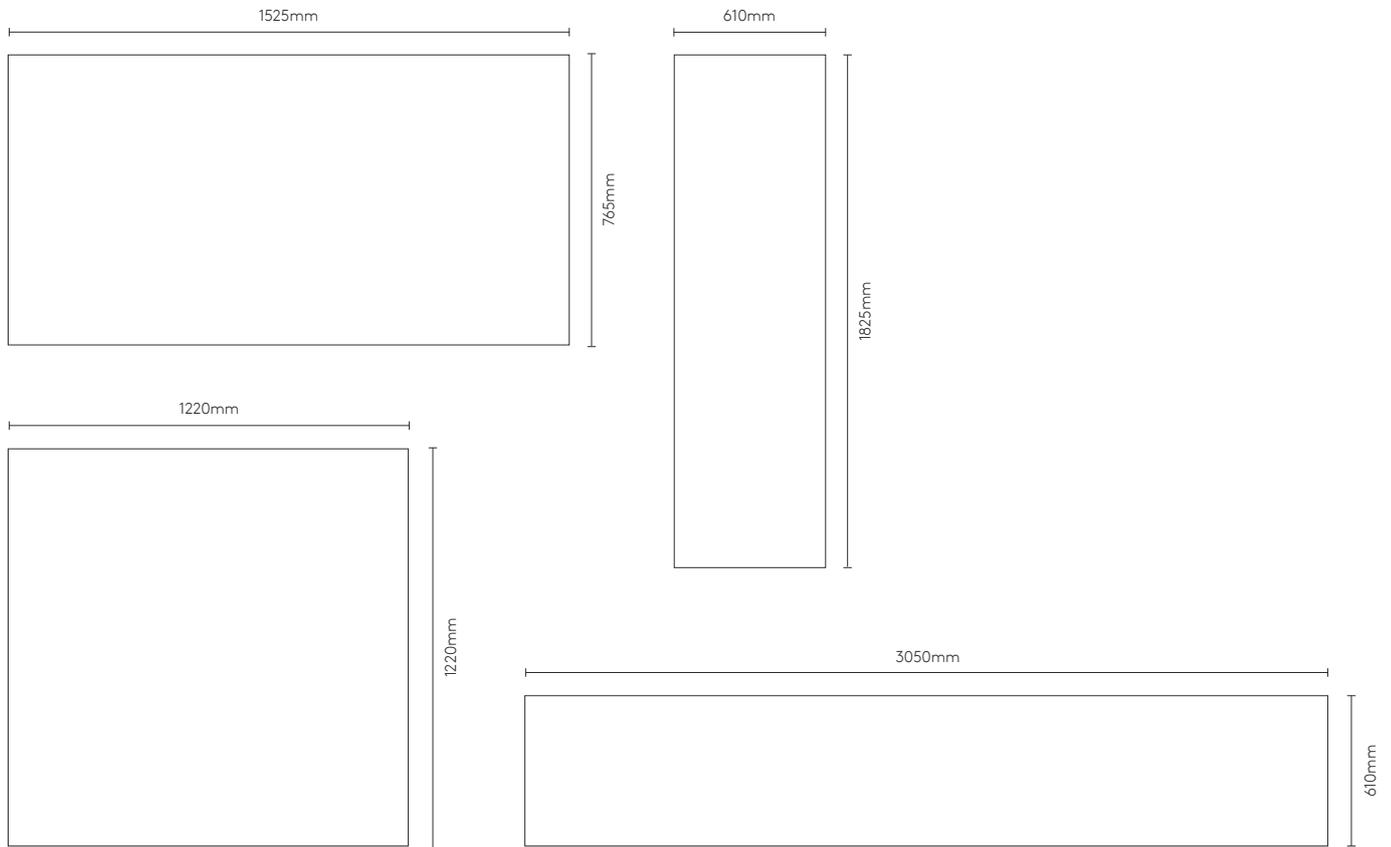
Product: Dri-Design Flat in Corten

Karrier Panel

Dri-Design Flat

Dimensions

These are the recommended maximum size cassette guides for aluminium. If the cassette you would like fits inside these guides, BENCHMARK can easily manufacture it. For larger sizes, or for other metals please contact BENCHMARK Technical Services to discuss your specific requirements.



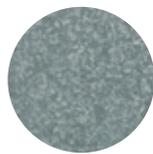
Metal Types



Aluminium



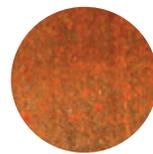
Copper



Zinc



Stainless Steel



Corten

SuperFast Install

Millwoods Library Edmonton

Product: Dri-Design Tapered
Architect: HCMA Architecture + Design, Vancouver and
Dub Architects Ltd, Edmonton

Rainscreen Façades
Dri-Design Tapered

Dri-Design Tapered cassettes can be angled in any direction with varying depths and degree of slope. This freedom to design each specific cassette gives you an unlimited capacity to create a dynamic, one-of-a-kind surface on nearly any façade, without the need to modify the substrate or weather barrier.

As with all Dri-Design, the Tapered cassette is a patented design that installs much faster than most similar systems, available as direct fix or ventilated cavity. There are no seals or gaskets so it is easily maintained.

Tishomingo Health Clinic Oklahoma

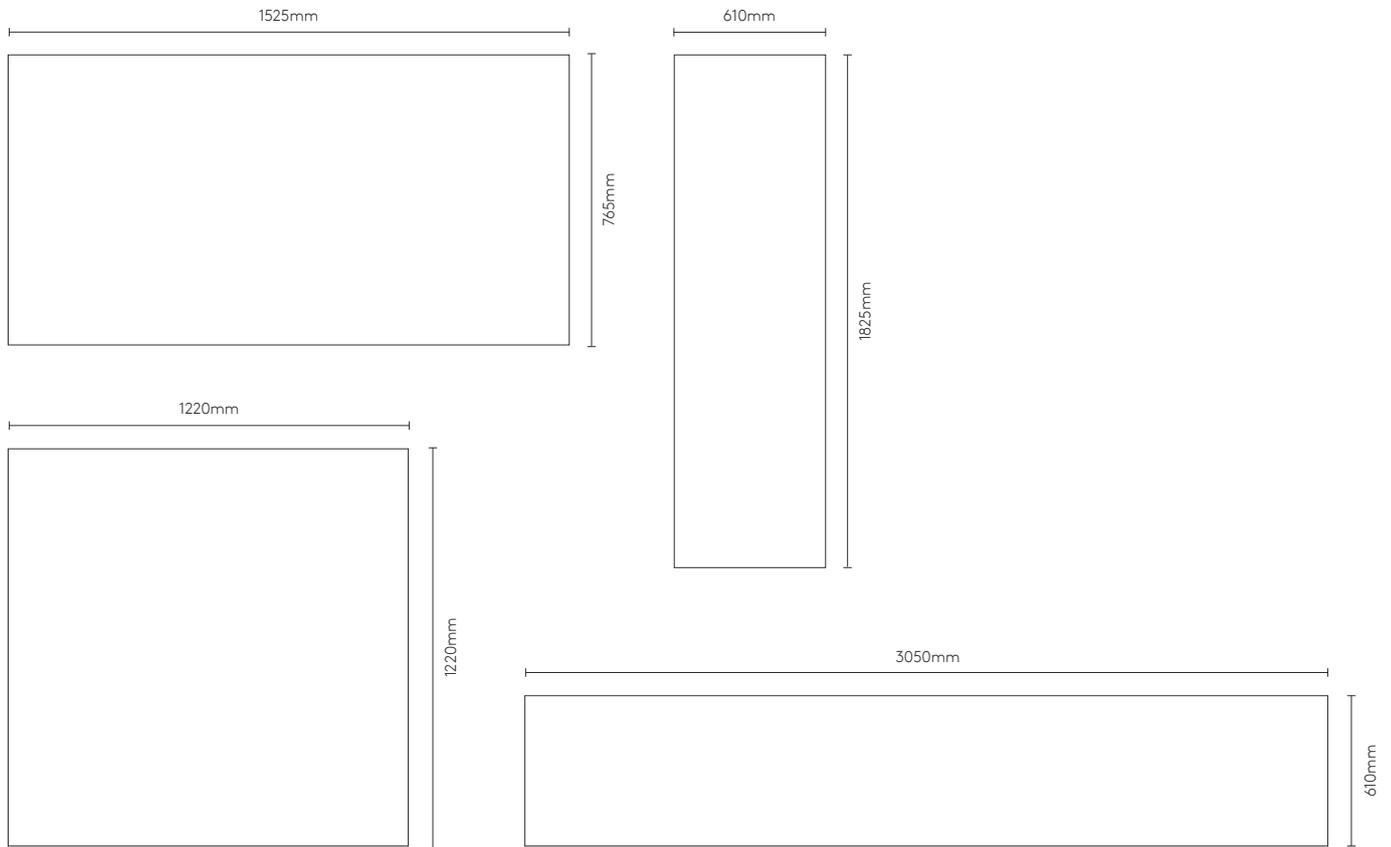
Product: Dri-Design Tapered
Architect: Childers Architect

Karrier Panel

Dri-Design Tapered

Dimensions

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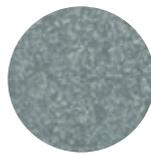
Metal Types



Aluminium



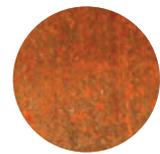
Copper



Zinc



Stainless Steel



Corten

SuperFast Install

Veterinary Specialty & Emergency Center Levittown, PA

Product: Dri-Design Shadow
Material: Aluminium
Architect: PZS Architects, Inc

Rainscreen Façades
Dri-Design Shadow

Dri-Design Shadow cassettes let you add depth and definition to any architectural design. Individual panels can be extended at varying depths to create texture or a dynamic variation in patterns, all while keeping the substrate and weather barrier in the same plane.

As with our other patented Dri-Design systems, the Shadow cassettes install much faster than most similar systems, available as direct fix or ventilated cavity. There are no seals or gaskets so it is easily maintained.

General Mitchell International Airport Milwaukee

Product: Dri-Design Shadow

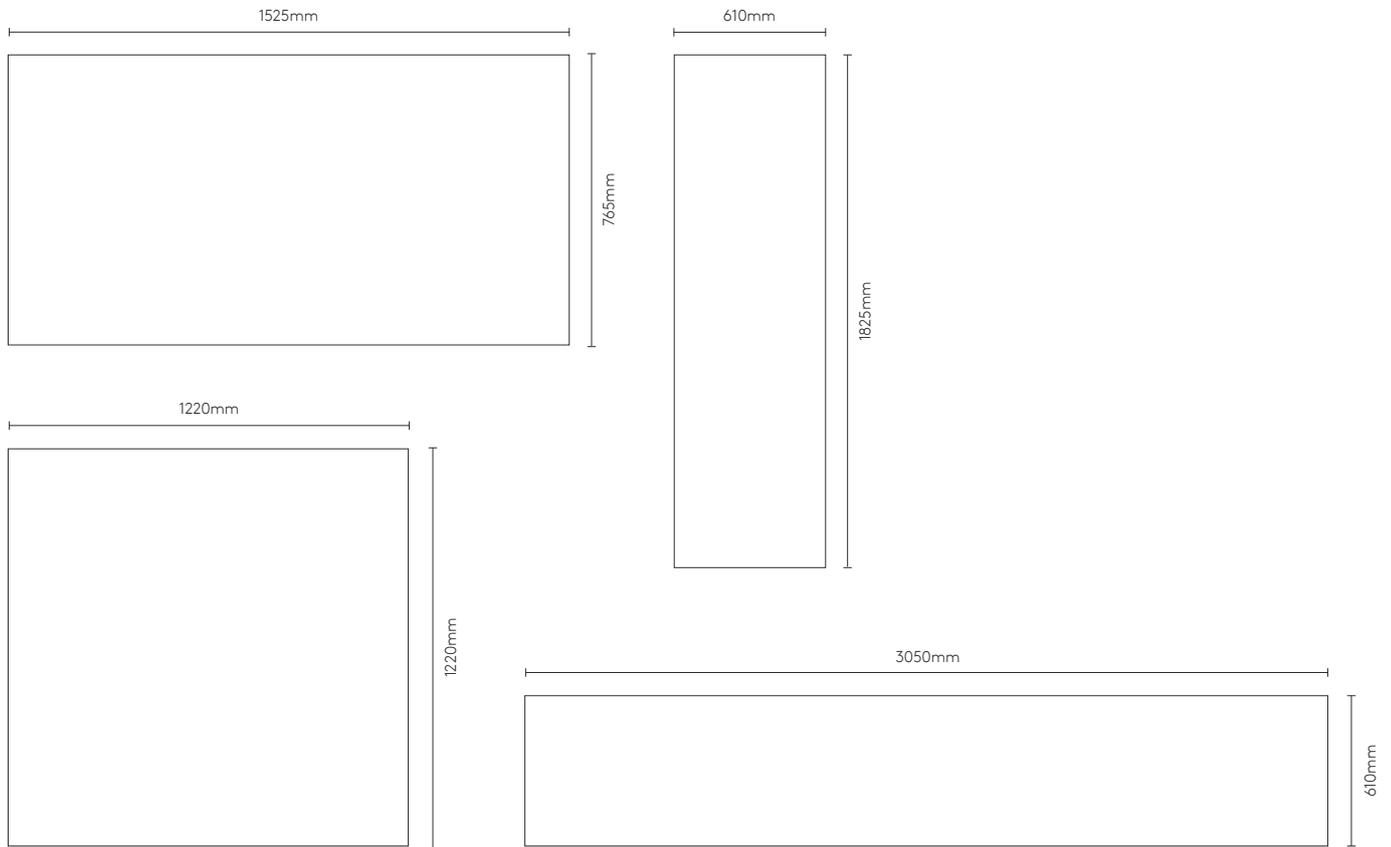
Architect: Engberg Anderson Architects, Milwaukee

Karrier Panel

Dri-Design Shadow

Dimensions

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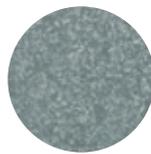
Metal Types



Aluminium



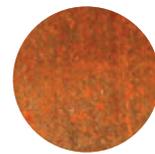
Copper



Zinc



Stainless Steel



Corten

SuperFast Install

St. Joseph Parking Garage Tacoma

Product: Dri-Design Perforated
Architect: Perkins + Will

Rainscreen Façades

Dri-Design Perforated

Dri-Design Flat, Tapered and Shadow patented design cassettes can be perforated using advanced computer based manufacturing to create complex images using perforations. By varying the size, location and density of the perforations, areas of light, dark and shades in between are created to form an image. These perforations also allow the cassette to provide needed airflow and/or shade to a structure. Since the images can be created from any digital picture, you are only limited by your imagination.

Forbes Regional Hospital Monroeville

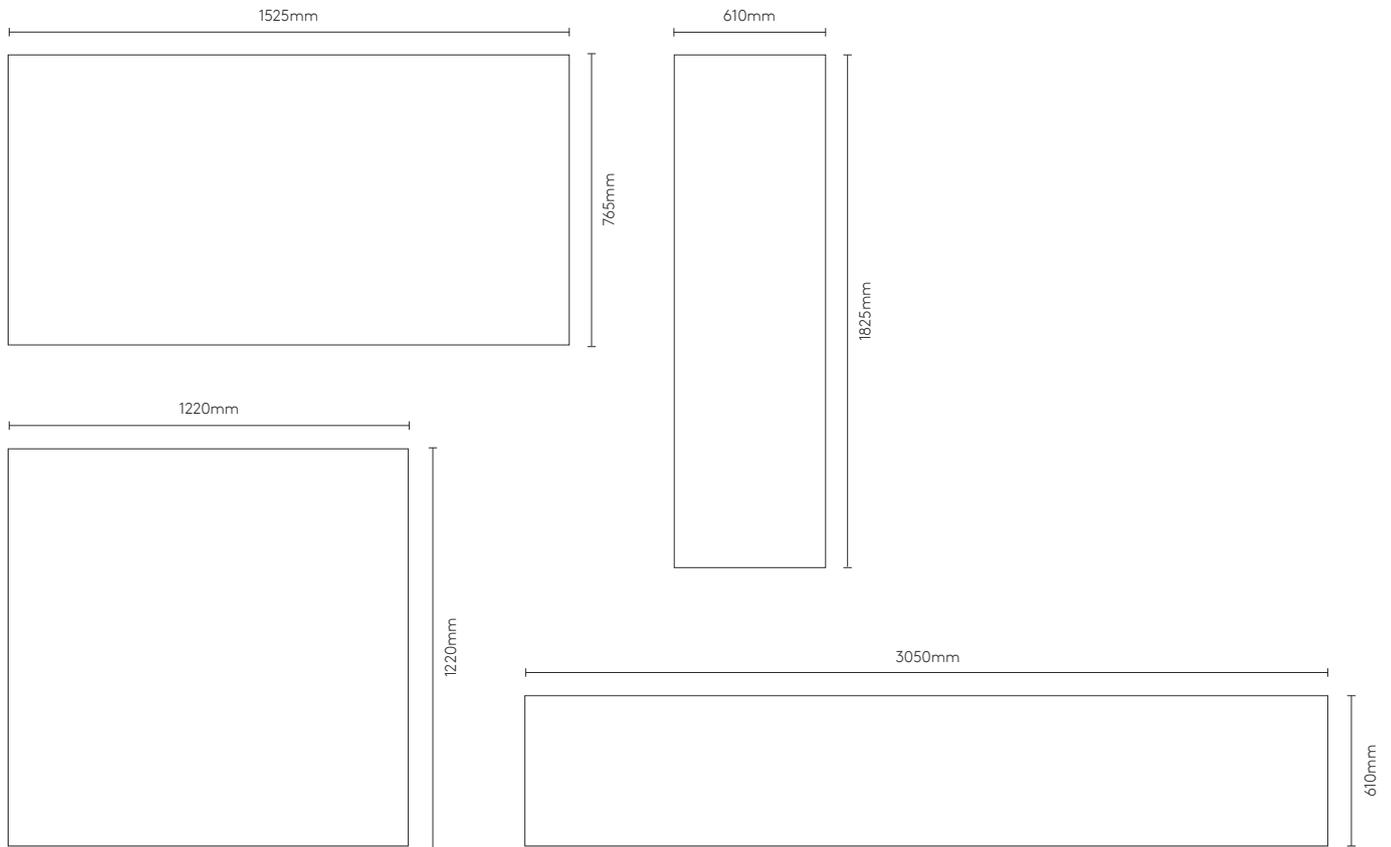
Product: Dri-Design Perforated
Architect: IKM Architects

Karrier Panel

Dri-Design Perforated

Dimensions

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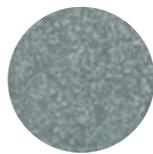
Metal Types



Aluminium



Copper



Zinc



Stainless Steel



Corten



Silverburn Shopping Centre Glasgow

Product: Stainless Steel Shingle
Architect: BDP

Rainscreen Façades
Shingle

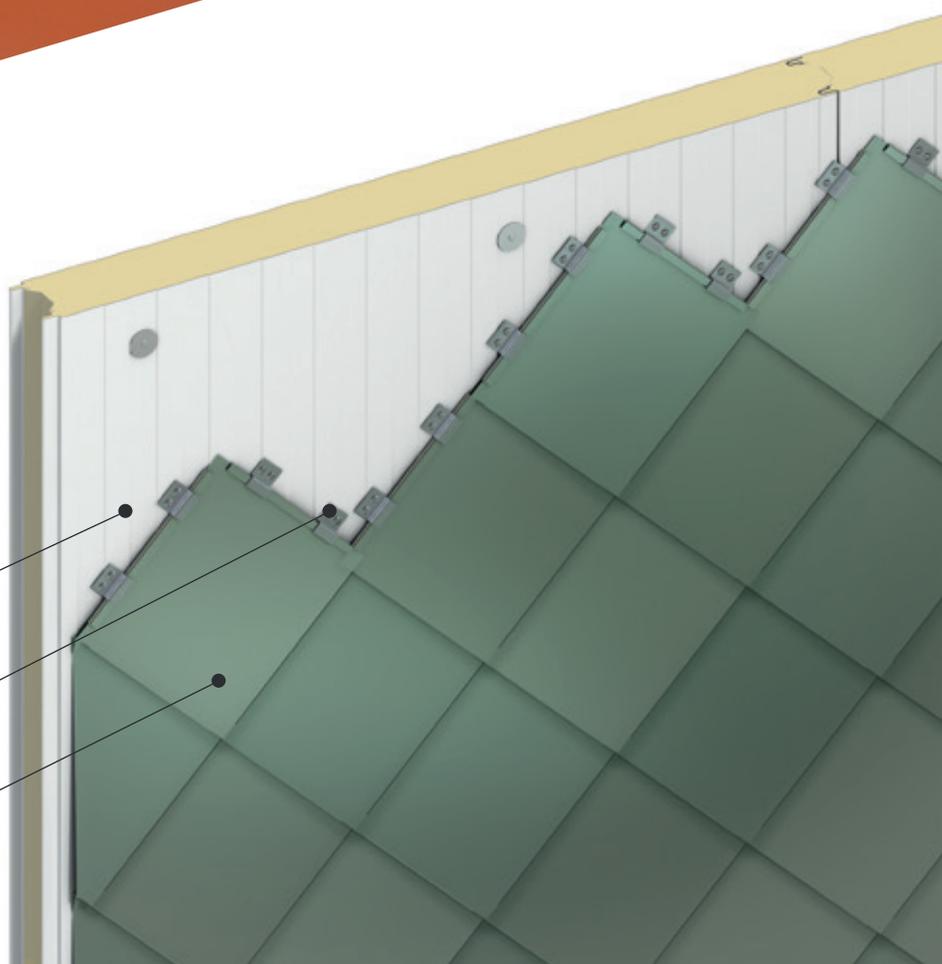


Shingle is available in various sizes and polygon shapes, providing a distinctive façade solution. This is a cost-effective method as a secondary support/railing solution is not required as standard.

The Shingle is designed with a series of return folds on all four sides and is fixed directly to the structural face of the BENCHMARK Karrier Engineered System by stainless steel clips and rivets. The next shingle interlocks with the previous one hiding the stainless steel clips, creating a concealed secret-fix solution.

Elutec Dagenham

Product: Shingle
Architect: LSI Architects



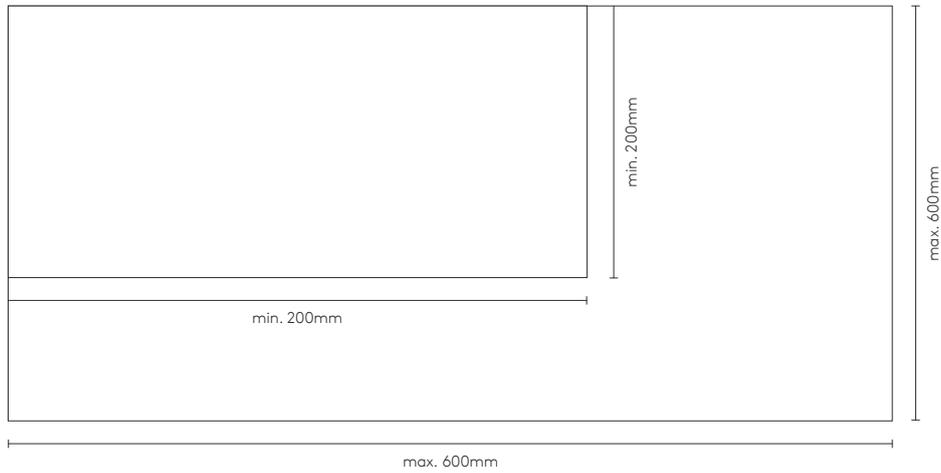
Karrier Panel

Shingle clip

Shingle

Dimensions

Minimum size for shingle, 200mm x 200mm. Maximum size for shingle, 600mm x 600mm. Larger sizes available. Please contact BENCHMARK Technical team for details



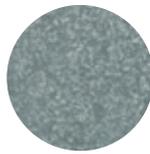
Metal Types



Aluminium



Copper



Zinc



Stainless Steel

Knightstone House Weston-super-Mare

Product: Interlocking Plank
Architect: Barton Willmore

Rainscreen Façades
Interlocking Plank



Interlocking Plank is secret-fix with flexibility in joint and face widths creating slim, linear designs. This system produces striking lines on buildings creating a bespoke look.

Interlocking Plank is a very competitive option as there are minimal requirements for a secondary support/rail system.

Knightstone House Weston-super-Mare

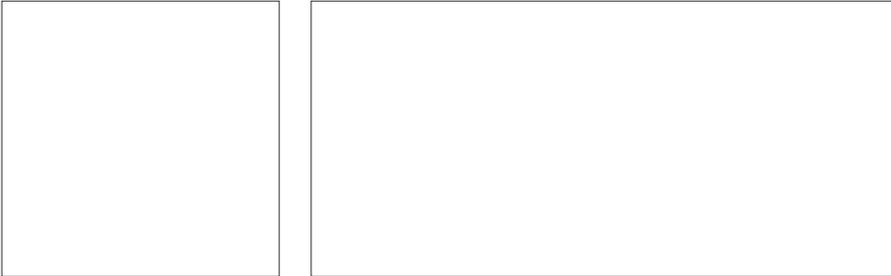
Product: Interlocking Plank

Architect: Barton Willmore

Karrier Panel

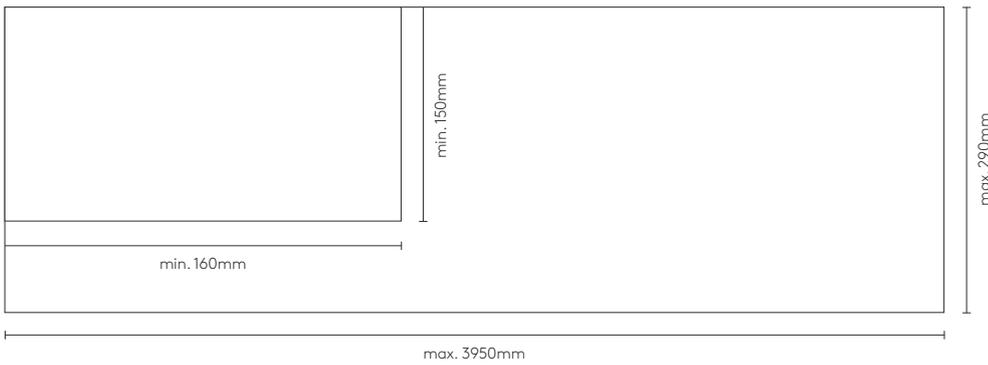
Interlocking Plank

Shapes



Dimensions

Minimum size for plank, 160mm x 150mm. Maximum size for plank, 3950mm x 290mm.



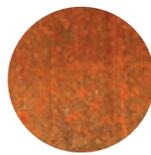
Metal Types



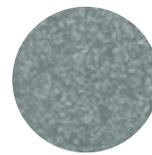
Aluminium



Copper



Corten



Zinc



INEOS Office
Grangemouth

Product: Hook-on Cassette
Architect: Michael Laird Architects

Rainscreen Façades
Hook-on Cassette

Hook-on Cassette is a secret-fix solution that can be installed in either a landscape or portrait orientation. Large cassettes can be fabricated due to the structural design. It is easily serviceable and has various joint widths.

Friars Walk Shopping Centre Newport, UK

Product: Hook-on Cassette

Material: Aluminium

Architect: Leslie Jones Architecture

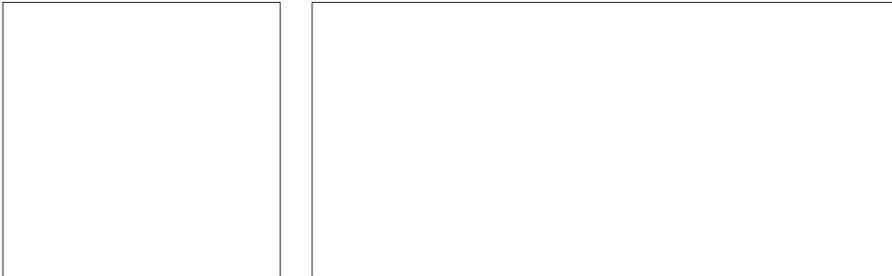
Karrier Panel

Vertical support rails

Hook-on Cassette

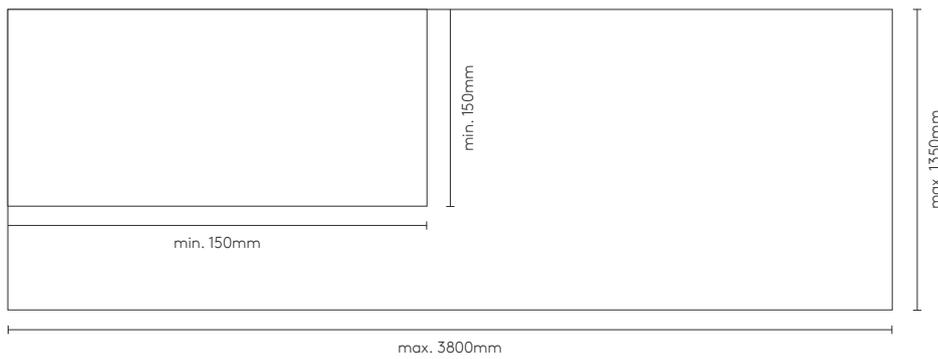
Shapes

Hook-on Cassettes are available in both standard and bespoke shapes and can be perforated if required.



Dimensions

Minimum size for cassettes, 150mm x 150mm. Maximum size for cassettes, 3800mm x 1350mm.



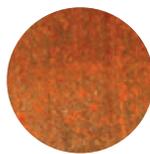
Metal Types



Aluminium



Copper



Corten



Stainless Steel



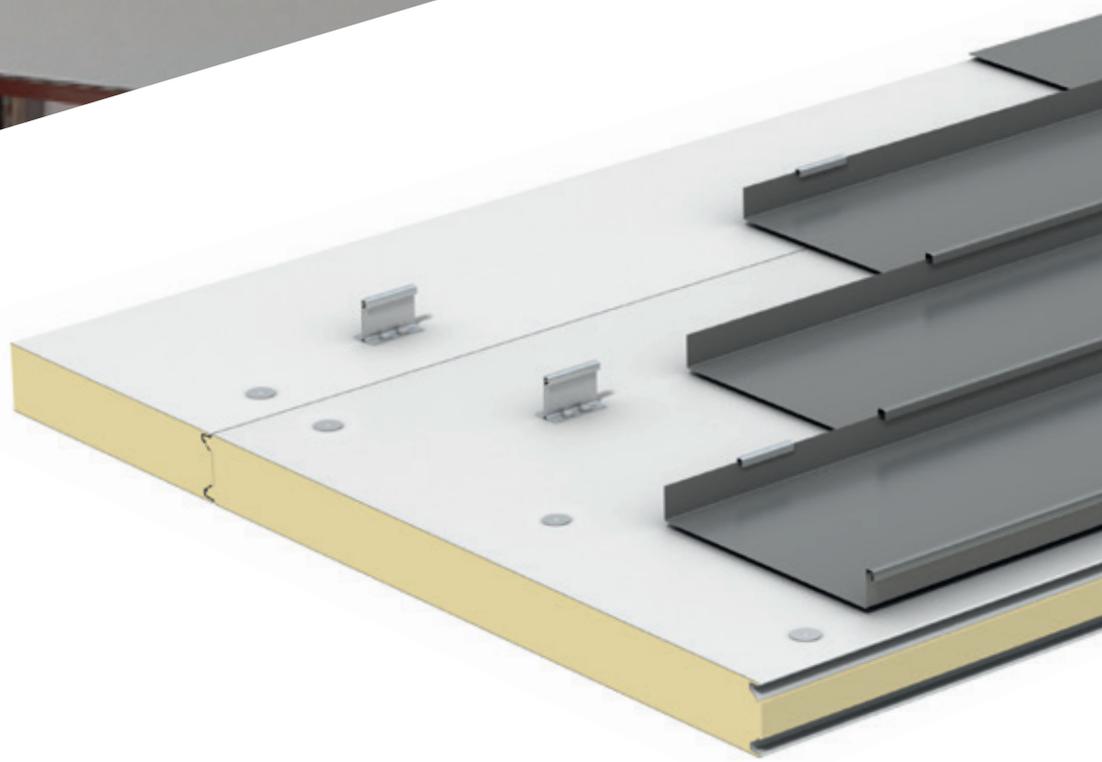
Service Station Castlebellingham

Product: Roofliner

Roofing Systems
Roofliner



Roofliner is an insulated roof panel that is ideal for standing seam finishes. The panels are suitable for all metal types, membranes and liquid plastics, they enhance weathertightness, thermal, airtightness, fire resistance and the structural performance of a building. They are suitable for buildings with flat, pitched and curved roofs with a convex or concave radius of 50 metres, when used on a frame-to-frame long spanning structure.



Dimensions

Standard lengths 1.8 to 11.8 metres. 11.8 to 19.7 metres can be supplied but may be subject to a transport surcharge and restrictions. Panels less than 1.8m long will be charged at full 1.8m price, plus cutting cost.

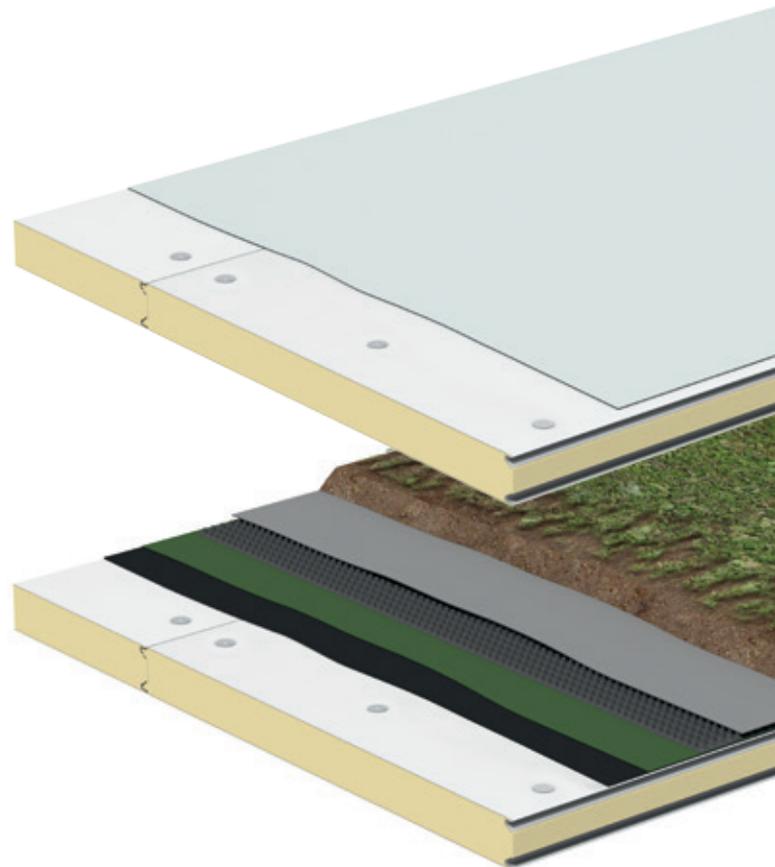


Performance

R - Value

Core Thickness (mm)	50	75	100	125	150	200
R-Value (m ² K/W)	2.65	3.90	5.15	6.40	7.65	10.15

- Safe, quick and easy to install.
- Ideal for all metal standing seam systems and single-ply membranes.
- Suitable for flat, low pitch and curved roof applications.
- Convex or concave radius of 50 metres can be achieved.
- Available in a larger range of thicknesses.
- Achieves an R-value as high as 10.15m²K/W with a 200mm thick insulated panel.
- Attractive flat internal liner profile.
- Creates a safe working platform, allowing early removal of safety nets.





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