

**KREATE**  
WITHOUT  
COMPROMISE



**BENCHMARK**  
**KREATE**

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FAÇADE &  
ROOF SYSTEMS

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## THE FIRST TRULY INTEGRATED FAÇADE SYSTEM

A revolutionary development in metal façade systems, BENCHMARK Kreate is set to transform the industry.

Our pioneering system is truly integrated, combining seamless aluminium cassette façades with insulated panel technology, to deliver a single component that offers almost limitless design capability, while at the same time providing fast build single-fix installation and guaranteed thermal continuity.

Its ground-breaking design offers a world of benefits compared to traditional rainscreen systems. The seamless cassettes of BENCHMARK Kreate are cleverly integrated into each insulated panel making it totally unique - the only one-component metallic façade system on the market.

With the ability to specify the colour, size and configuration of each cassette, including rounded corners, BENCHMARK Kreate offers new ways to truly achieve any vision.

An integrated system requiring just one simple installation, BENCHMARK Kreate also delivers outstanding all-round performance throughout its lifecycle, across environmental sustainability, fire safety, structural and thermal performance.

BENCHMARK Kreate also carries the BENCHMARK Total Guarantee.

To find out more about the other systems available throughout the BENCHMARK Range, visit [www.kingspanpanels.com.au/Products/BENCHMARK-by-Kingspan](http://www.kingspanpanels.com.au/Products/BENCHMARK-by-Kingspan)

# MARKET SECTORS



# THE FIRST CHOICE FACADE SOLUTION FOR EVERY MARKET SECTOR

The endless versatility of BENCHMARK Kreate means it is the perfect façade solution across a broad range of market sectors, whether it is a new build or refurbishment project.

COMMUNITY  
& AMENITY  
EDUCATION  
HEALTH  
HOTELS & LEISURE  
INDUSTRIAL  
INFRASTRUCTURE  
OFFICES  
PRIVATE HOUSING  
RETAIL  
SOCIAL HOUSING  
UTILITIES

# IMAGINE THE POSSIBILITIES

BENCHMARK Kreate offers bespoke design flexibility combined with all the advantages of an insulated panel.

## DESIGN FLEXIBILITY

Our revolutionary façade system is completely flexible. With an infinite range of panel lengths, widths, core thicknesses, cassette sizes, cassette arrangements and colour options to choose from, BENCHMARK Kreate allows complete freedom at design stage.

It can also be installed vertically or horizontally to suit your design.

## VERSATILE CASSETTE SIZES

By integrating the cassettes with the insulated panel, the structure of the aluminium cassettes is also reinforced. This extra strength means that larger cassette sizes of up to 3800mm x 1174mm can easily be achieved.

## ROUNDED CORNERS

Unlike the angular corners found on traditional cassettes, BENCHMARK Kreate cassettes have been engineered with rounded corners. They provide a smooth, contoured finish and give each façade a fresh and contemporary appearance.



# ALL THE ADVANTAGES OF AN INSULATED PANEL

## EASE & SPEED OF BUILD

Unlike multiple-component traditional rainscreen systems, BENCHMARK Kreate is a single-component, in-built factory assembled quality panel that is supplied and delivered by just one company. For this reason, our revolutionary façade system can be quickly and easily installed with the aid of mechanical lifting equipment through a single-fix installation process.

The rapid speed of installation can help to reduce the risk of accidents, as less time is spent working at height. It also means that the building is weather tight sooner, achieving a significant reduction of overall build programme and cost.

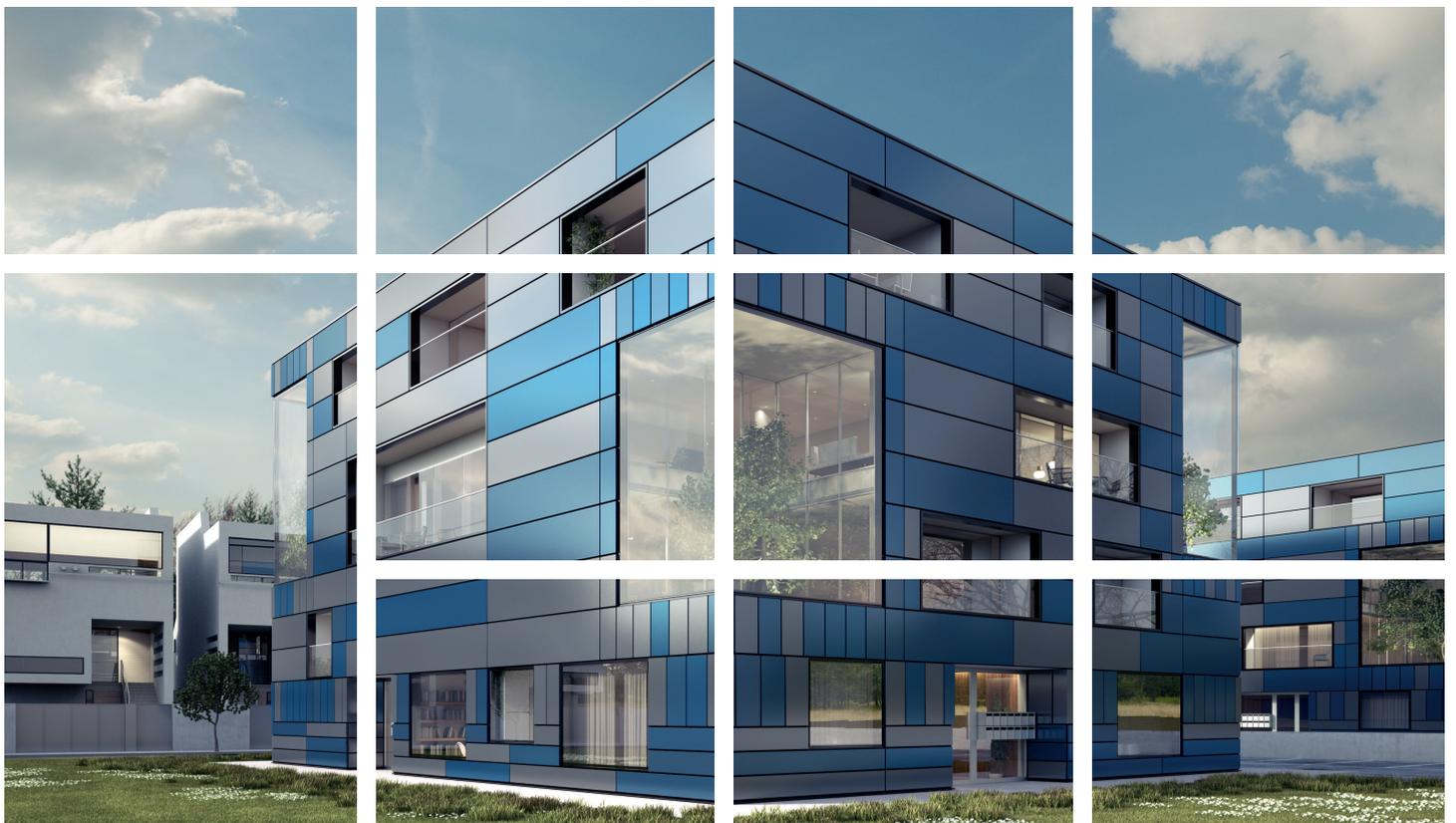
## SUPERIOR PERFORMANCE

Manufactured from the highest quality materials, BENCHMARK Kreate has been designed to deliver exceptional lifetime performance for durability, fire prevention, sustainability and thermal insulation.

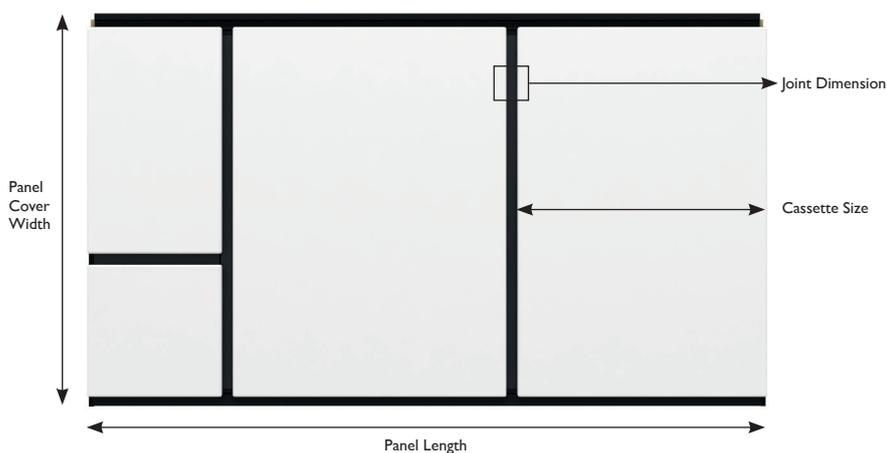
It achieves airtightness of less than  $5\text{m}^3/\text{hr}/\text{m}^2$  and is fully recyclable at the end of its life.

With factory-engineered precision we can deliver guaranteed thermal integrity for the lifetime of the building.

BENCHMARK Kreate is supplied with the BENCHMARK Total Guarantee that covers structural, thermal and coating performance for up to 25 years.



# ULTIMATE PERFORMANCE AND COMPLETE VERSATILITY



## DIMENSIONS

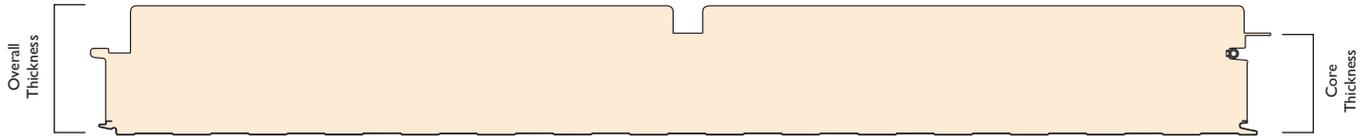
<b>Panel Cover Width (mm)</b>	600 - 1200
<b>Panel Length (mm)</b>	1000 - 6000
<b>Min. Cassette Size (mm)</b>	307 x 307
<b>Max. Cassette Size (mm)</b>	1174 x 3800
<b>Joint Dimension (mm)</b>	24
<b>Aluminium Cassette Thickness (mm)</b>	3

## CASSETTE CONFIGURATIONS

The following table illustrates the maximum number of cassettes possible with the 'cut off' points being indicated below in 1m increments.

	Columns of Cassettes															
Rows	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18
<b>1</b>	1	2	3	4	5	6	7	8	9	10	11	12	13	14	15	18
<b>2</b>	2	4	6	8	10	12	14	16	18	20	22	24	26	28	30	36
<b>3</b>	3	6	9	12	15	18	21	24	27	30	33	36	39	42	45	54
<b>Length Restriction</b>	1m			2m			3m			4m			5m			6m

## DIMENSIONS



## R-VALUE

<b>Overall Thickness (mm)</b>	104	124	174
<b>Core Thickness (mm)</b>	80	100	150
<b>U-value (W/m<sup>2</sup>K)</b>	0.26	0.21	0.13
<b>R-values (m<sup>2</sup>K/W)</b>	4.15	5.15	7.65

## PANEL & CASSETTE TOLERANCES

<b>Cover Width/Height</b>	+2mm	-2mm
<b>Length</b>	+2mm	-2mm
<b>Squareness</b>	+1mm	-1mm

Additional tolerances are available. Please contact the BENCHMARK Technical Department for further information.

## JOINT DIMENSIONS

Both the horizontal and vertical joints between each cassette/ panel are 24mm. The joints between the panels are formed using an EPDM push-in gasket.

## FACTORY-APPLIED SIDE JOINT SEAL

All side joints have a factory-applied seal fitted into the groove to automatically seal the joint between panels.

## PANEL CORE

BENCHMARK Kreate is ECOsafe with a polyisocyanurate (PIR) insulation core that contains no CFC's or HCFC's and has a low Global Warming Potential.

## FIRE

BENCHMARK Kreate panels meet: LPS1181 PART 1-1.1 achieved grade EXT-B max thickness 150mm. EN1361-1:1999 Fire resistance, 100mm & above. Achieved 31mins insulation & 37mins integrity. EN13501:2:2009 Fire classification EI30 achieved, 100mm & above.

## ACOUSTICS

BENCHMARK Kreate panels achieve a single-figure weighted sound reduction of  $R_w=24$ dB.

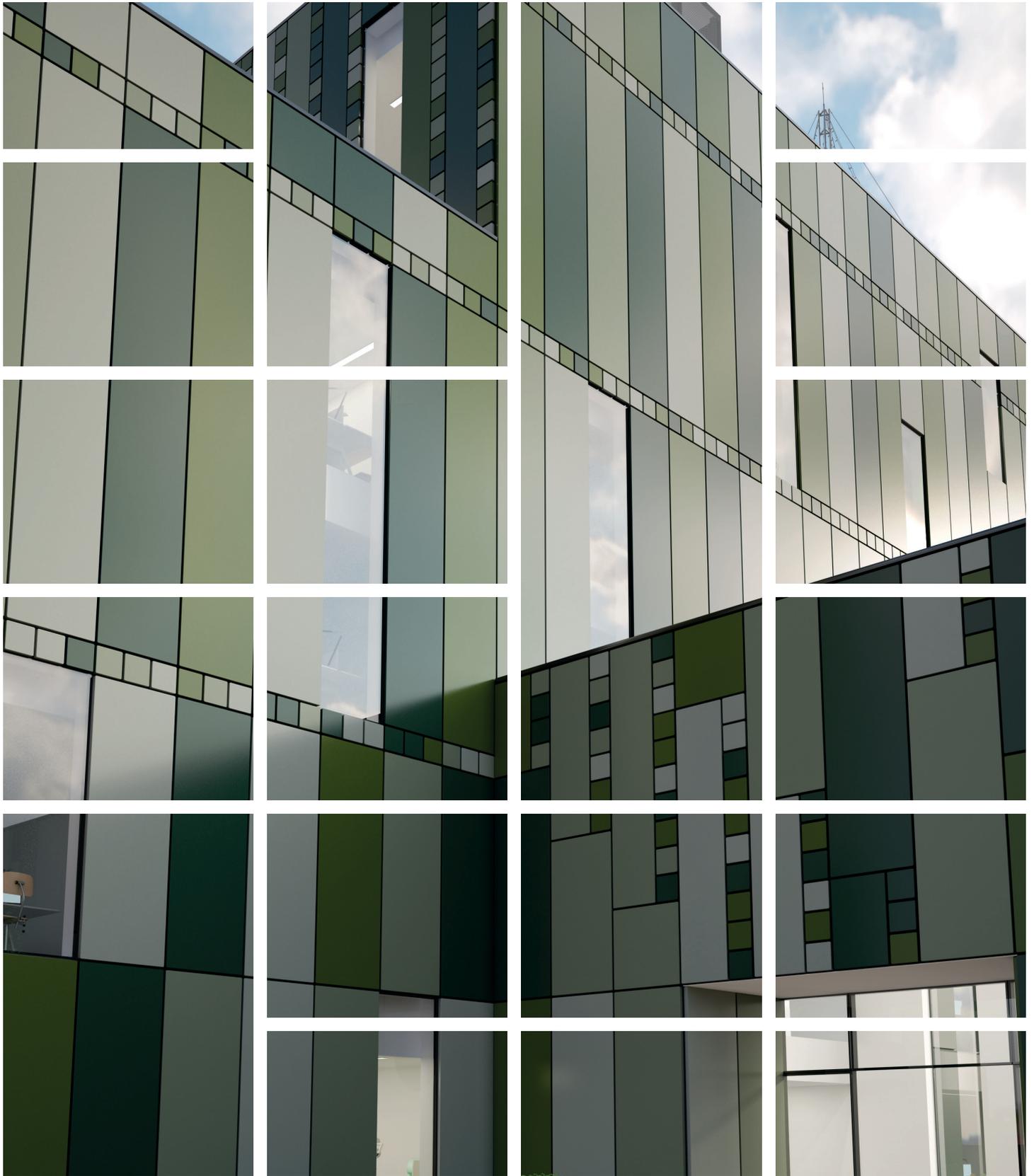
$F_r^*$	63	125	250	500	1K	2K	4K	8K
SRI	20	15	17	23	18	25	40	46

\* Frequency (Hz)

## BIOLOGICAL

BENCHMARK Kreate panels are normally immune to attack from a range of external factors, including mould, fungus, mildew and vermin. No urea formaldehyde is used in the construction and the panels are not considered deleterious.

# PRODUCT DATA



## STRUCTURAL

### Load/Span Tables

#### Single Span Condition

Core Thickness (mm)	Load Type	Uniformly Distributed Loads kN/m <sup>2</sup>								
		Span L in metres								
		2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
<b>Ultimate Limit State</b>										
80	Pressure	7.04	5.63	4.69	3.68	2.82	2.23	1.80		
	Suction	6.03	3.86	2.68	1.97	1.51	1.19	0.96		
100	Pressure	8.70	6.96	5.80	4.46	3.42	2.70	2.19	1.81	1.52
	Suction	7.59	4.86	3.37	2.48	1.90	1.50	1.21	1.00	0.84
150	Pressure	9.01	7.21	6.01	5.15	4.50	3.67	2.98	2.46	2.07
	Suction	9.01	7.21	5.13	3.77	2.89	2.28	1.85	1.53	1.28
<b>Serviceability Limit State</b>										
80	Pressure	7.10	4.69	3.22	2.27	1.64	1.22	0.92		
	Suction	6.50	4.19	2.79	1.92	1.35	0.96	0.70		
100	Pressure	8.97	6.15	4.36	3.17	2.35	1.78	1.37	1.07	0.85
	Suction	8.37	5.63	3.91	2.78	2.02	1.49	1.12	0.85	0.66
150	Pressure	11.68	8.53	6.43	4.95	3.87	3.07	2.46	1.99	1.63
	Suction	11.18	8.07	6	4.56	3.52	2.75	2.18	1.74	1.4

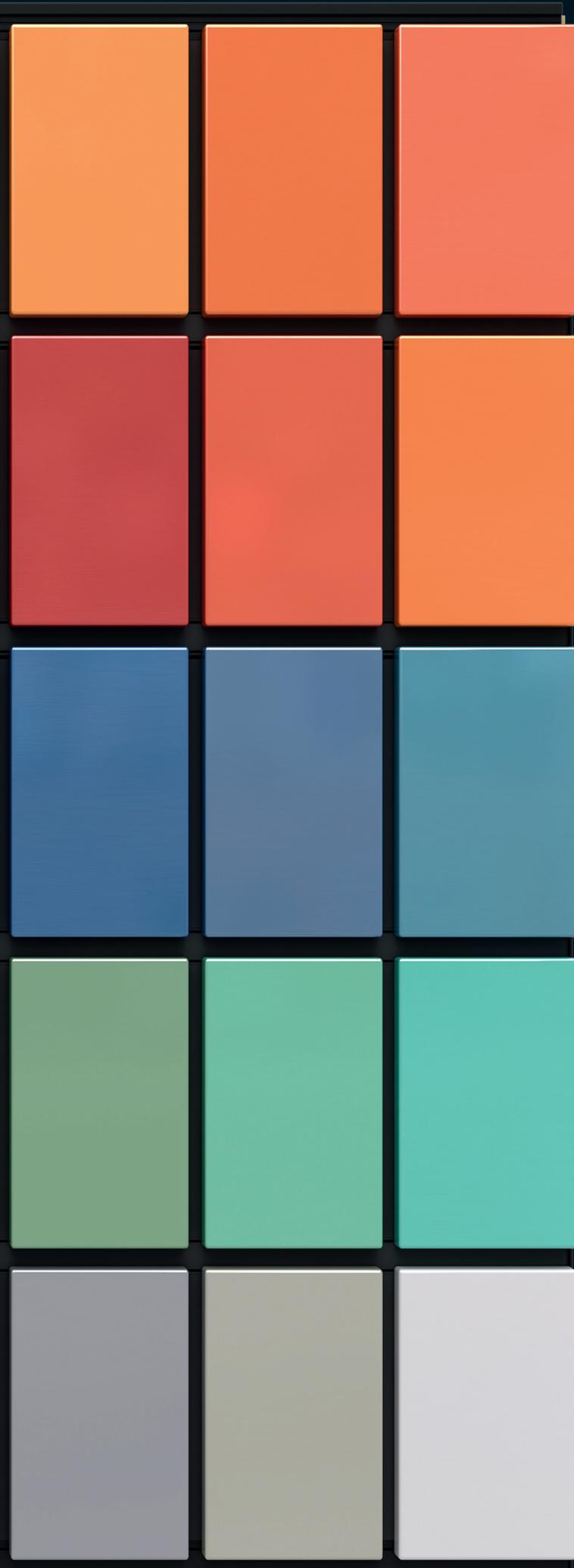
#### Double Span Condition

Core Thickness (mm)	Load Type	Uniformly Distributed Loads kN/m <sup>2</sup>								
		Span L in metres								
		2.0	2.5	3.0	3.5	4.0	4.5	5.0	5.5	6.0
<b>Ultimate Limit State</b>										
80	Pressure	7.04	5.63	4.69	3.68	2.82	2.23	1.80	1.49	
	Suction	6.03	3.86	2.68	1.97	1.51	1.19	0.96	0.80	
100	Pressure	8.97	6.15	4.36	3.17	2.35	1.78	1.37	1.07	0.85
	Suction	8.37	5.63	3.91	2.78	2.02	1.49	1.12	0.85	0.66
150	Pressure	9.01	7.21	6.01	5.15	4.5	3.67	2.98	2.46	2.07
	Suction	9.01	7.21	5.13	3.77	2.89	2.28	1.85	1.53	1.28
<b>Serviceability Limit State</b>										
80	Pressure	5.77	3.58	2.19	1.48	1.07	0.81	0.64	0.51	
	Suction	5.47	4.31	3.30	2.16	1.48	1.07	0.81	0.63	
100	Pressure	6.31	4.94	3.02	2.00	1.42	1.06	0.83	0.66	0.54
	Suction	5.98	4.69	3.87	3.00	2.07	1.47	1.09	0.84	0.67
150	Pressure	6.25	4.87	3.98	3.36	2.57	1.85	1.4	1.1	0.88
	Suction	5.9	4.59	3.75	3.18	2.76	2.44	2.14	1.62	1.25

#### Notes:

- Values have been calculated using the methods described in EN 14509:2006 titled 'Self-supporting double skin metal faced insulating panels - Factory made products - Specifications', taking imposed loads and temperature into account.
- The serviceability limit state is defined by local buckling, bending or crushing failure at an intermediate support or the exceedance of a specified deflection limit.
- A deflection limit of L/150 was used.
- The table is for an ambient internal temperature, with flat external and ribbed internal faces.
- The actual wind suction load resisted by the panel is dependant on the number of fasteners used and the support width as well as the fastener material. This table is based on a support width of 60mm.
- The fastener calculation should be carried out in accordance with the appropriate standards. For further advice please contact Kingspan Technical Services.
- The allowable steelwork tolerance between bearing planes of adjacent supports is +/- 5mm.
- Load span tables for the panel specifications not shown are available from Kingspan Technical Services.





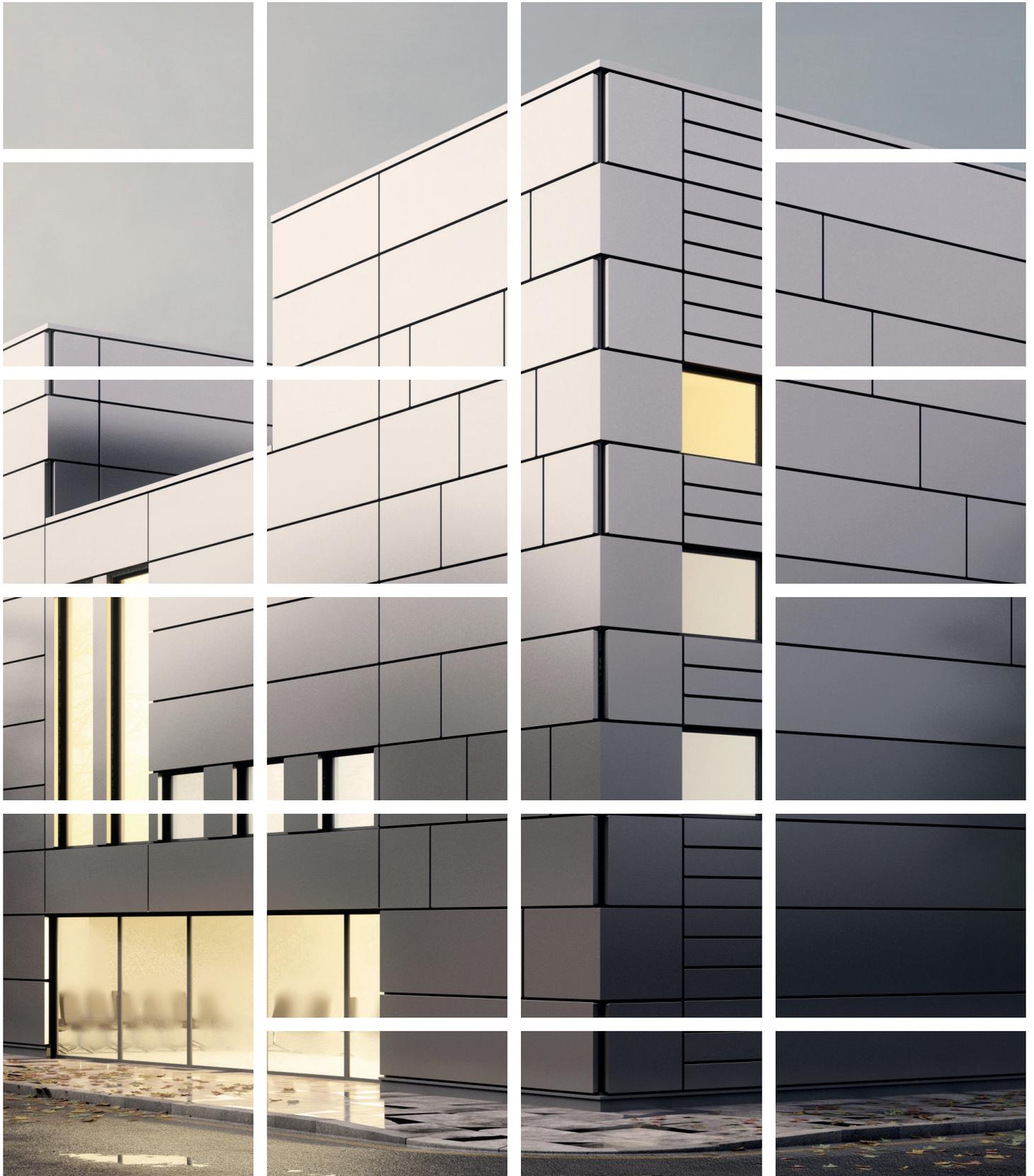
## MAKE YOUR MARK

BENCHMARK Kreate offers an extensive choice of configurations and colour combinations, meaning the design possibilities are truly limitless.

With a wide range of finishes and complete freedom in terms of colour, each individual cassette on the same panel can be finished in a different post-powder coating\* and in any BS or RAL colour of your choice.

\* Chrome-free pre-treatment and powder coating are Qualicoat approved.

# SUPPORT SERVICES



# WE ARE WITH YOU FROM CONCEPT TO COMPLETION

## TECHNICAL ADVICE

The smooth running of your project is of paramount importance and our technical advisory service is on-hand to assist you with any building design, application or installation issues that may arise. Whether you are seeking help and advice on testing, CWCT or fire performance, our experienced team can provide the technical designs and economical construction solutions for a vast range of projects, including any that require complex internal environments.

## MARKETING SUPPORT

Our specialist marketing services team understands the importance of working to tight deadlines and will assist with providing samples and literature on request, ensuring there are no delays with planning or client approval of material. In addition, we also provide supplementary marketing support through the use of project case studies and if required, relevant imagery can be provided on request.

## FIELD SERVICE SUPPORT ENGINEERS

We recognise that our product range is evolving all the time and in order to help you understand the latest updates and modifications, we have established a series of free contractor training sessions on the installation of new and existing products at our specially-designed facilities. In addition, we also offer a site inspection service throughout the construction stage as well as advice on mechanical handling solutions.

## CUSTOMER SERVICE & SALES

Customer Service will always remain our top priority and to ensure we maintain our high standards, we conduct regular surveys to assess every aspect of our service offering. This means you can be assured we are committed to processing orders quickly and efficiently to guarantee deliveries are made on-time in full and arrive in immaculate condition.

## AREA SALES MANAGERS

Our fully trained and highly experienced Sales Team is available to provide advice, presentations and a dedicated one-to-one service to ensure your vision becomes a reality. Whether you wish to discuss architectural detailing, product integration or bespoke design concepts, our team is on-hand to assist you every step of the way.

To find your nearest area manager, simply visit  
Australia

**<http://www.kingspanpanels.com.au/Contact>**

New Zealand

**<http://www.kingspanpanels.co.nz/Contact>**

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A  
TURNING  
POINT  
IN  
BUILDING  
DESIGN

**One single component**

INTEGRATED FAÇADE  
**One supplier cassettes Aluminium**

HIGH PERFORMANCE ROUNDED CORNERS  
6000mm panel length  
**Insulated panel technology**  
**Rapid installation**  
Variable cassette arrangement

Guaranteed

**BENCHMARK Create**

Design flexibility

**DESIGN FREEDOM**

**One delivery**

LPCB approved

**Pioneering**

seamless **SYSTEM**

**cleverly integrated**

Variable panels Truly bespoke

**ANY RAL**  
metallic **Unique**

**BENCHMARK** 38-52 Dunheved Circuit, St Marys, NSW 2760, Australia.

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January 2014