

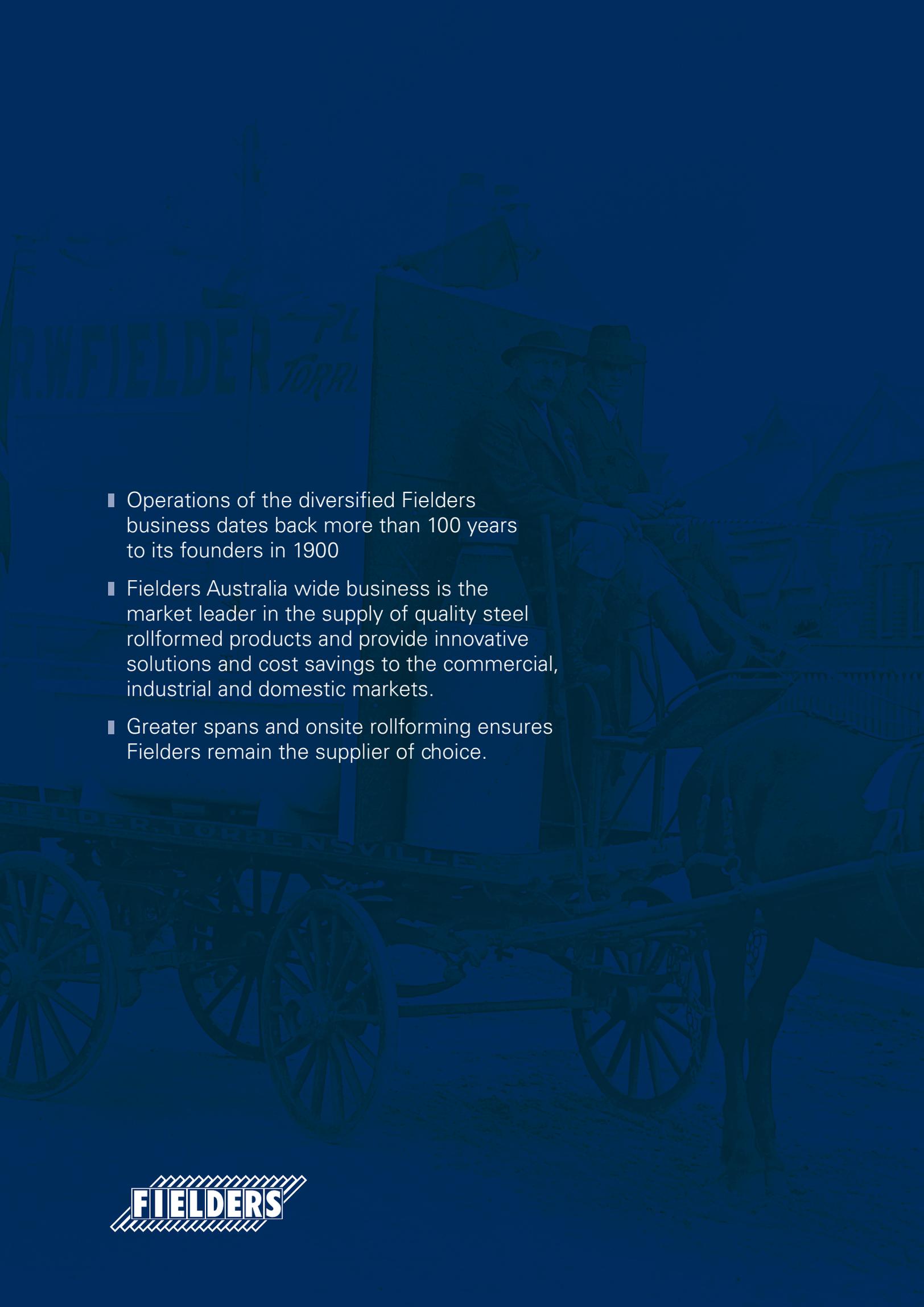
# ARAMAX

FREESPAN



**FIELDERS BUILDING SYSTEMS**  
Ideas to Shape the Future



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- Operations of the diversified Fielders business dates back more than 100 years to its founders in 1900
  - Fielders Australia wide business is the market leader in the supply of quality steel rollformed products and provide innovative solutions and cost savings to the commercial, industrial and domestic markets.
  - Greater spans and onsite rollforming ensures Fielders remain the supplier of choice.





Innovation is all about new ideas – ideas that work. The Fielders ARAMAX FreeSpan structural cladding system meets this criterion perfectly because it is unlike any other. ARAMAX FreeSpan is bigger, bolder and deeper than conventional steel cladding profiles.

### ARAMAX FreeSpan Key Benefits

#### Advantages

ARAMAX FreeSpan allows huge reductions in conventional structural framing and very low roof pitches. Long, clean spans provide a joint-free cover. These advantages give significant savings in materials cost, fabrication and installation.

#### High Strength

The ARAMAX FreeSpan system develops its excellent structural properties from its base material, high tensile steel and its unique profile.

#### Colours

Fielders ARAMAX FreeSpan is available in various steel colours and finishes which highlight the modern appeal of its clean lines.

#### Material Specification

ARAMAX FreeSpan is rollformed from prepainted steel and aluminium which is available in a wide range of long lasting colours (both single & double sided applications). Prepainted steel utilises Zinc/Aluminium alloy-coated steel G550 AZ150 (550MPa minimum yield strength, 150g/m<sup>2</sup> minimum coating mass). Aluminium is available in many different grades and tempers (commonly aluminium grade 5052 - H38 temper) however, this may vary depending on application. Complies with AS 1397-2011 and AS/NZS 2728-2007.

#### Profile Designation

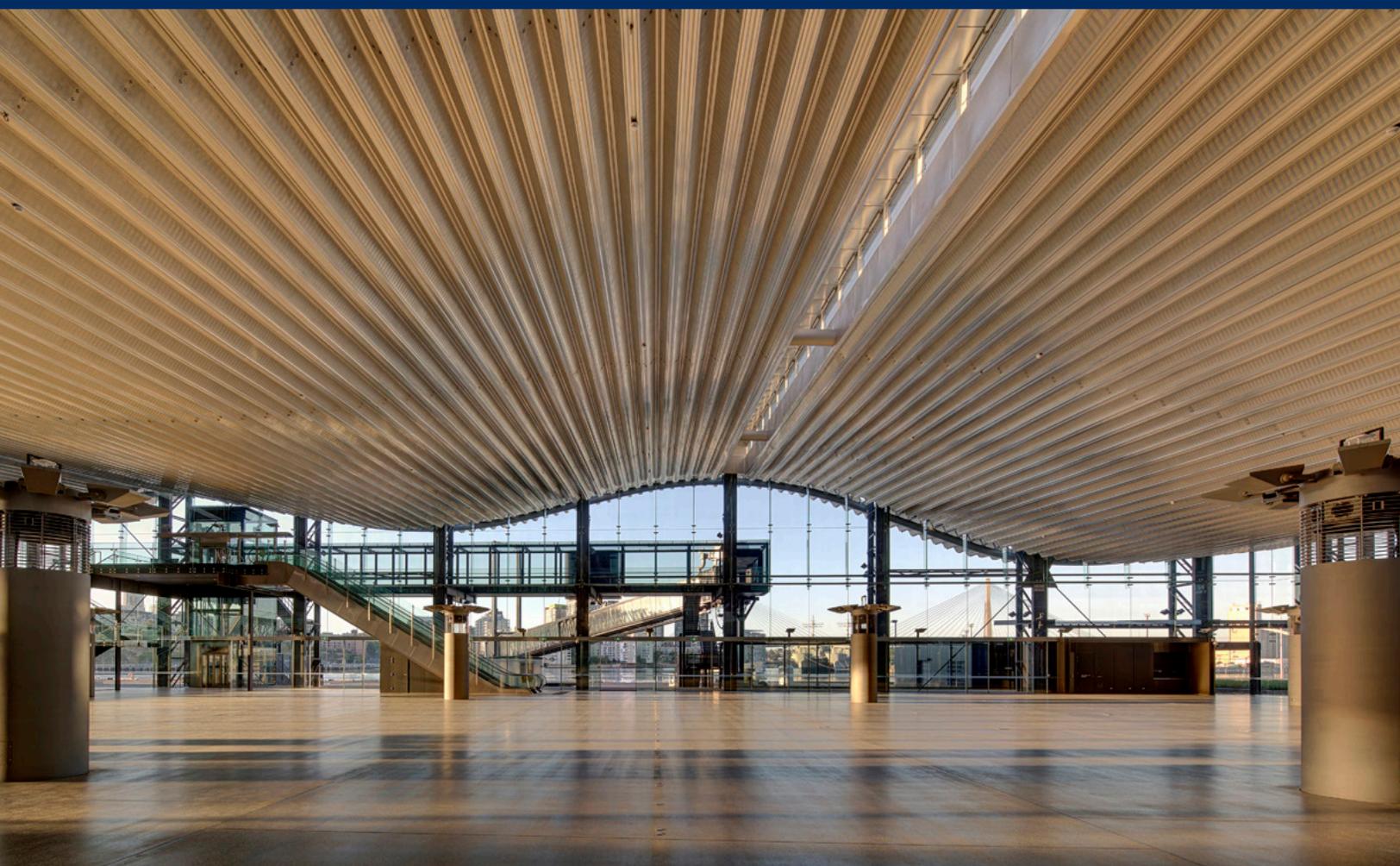
Profiles of ARAMAX FreeSpan are coded designating the cover, followed by two digits designating the base metal thickness.



**THE HANGAR** | LOCATION Cessnock, NSW | ARCHITECT Peter Stutchbury Architecture

The Hangar is a gallery, public museum and operation facility for a collection of World War II aircraft. The incorporation of ARAMAX FreeSpan as the cantilevered roofing and walling profile allows the design to be technically sophisticated yet a romantic enclosure with sufficient volume to provide for the movement of aircraft.

# ARAMAX FREESPAN APPLICATIONS



**WHITE BAY PASSENGER TERMINAL** | LOCATION Sydney, NSW | ARCHITECT Johnson Pilton Walker

This impressive structure comprises of an undulating ARAMAX FreeSpan perforated ceiling, complemented with a visually striking ARAMAX FreeSpan roof.



**WIN STADIUM** | LOCATION Wollongong, NSW | ARCHITECT Michael Heenan

WIN Stadium, Wollongong's sports and entertainment precinct, received a revitalising facelift when ARAMAX FreeSpan was used to re-roof the grandstand. The predominant grandstand now boasts a new, large spanning ARAMAX FreeSpan roof with 99 metre continuous sheet lengths.

# ARAMAX FREESPAN APPLICATIONS



## THE STOCKYARD | LOCATION Carcoar, NSW

The Australian livestock industry has changed a little over the decades. The Stockyard has moved towards the integration of design and functionality. With its large spanning capability, ARAMAX FreeSpan played an important part in meeting the design specification on such a large project. The stockyard holds the record for Australia's longest continuous roof sheets. At a length of 144 metres, the roof sheeting was rolled onsite, providing both cost and time saving benefits.



**NATIONAL PORTRAIT GALLERY** | LOCATION Canberra, ACT | ARCHITECT Johnson Pilton Walker

ARAMAX FreeSpan contributes to the elegant planning and formal expression of this building.

# ARAMAX FREESPAN APPLICATIONS



**CARITAS COLLEGE** | LOCATION Port Augusta, SA | ARCHITECT Tridente Architects

The result was an under utilised outdoor area transformed into a multipurpose hub, used both at day and night for many years to come, thanks to the durability of ARAMAX FreeSpan.



**AIICS MULTI-PURPOSE HALL** | LOCATION Brisbane, QLD | ARCHITECT Richard Kirk Architect

ARAMAX FreeSpan was selected for its unsurpassed spanning capacity enabling the roof sheeting to span unsupported between steel portals, eliminating the need for roof purlins. Perforated ARAMAX FreeSpan sheeting is also used internally on the ceiling to provide consistent finish and acoustic attenuation.

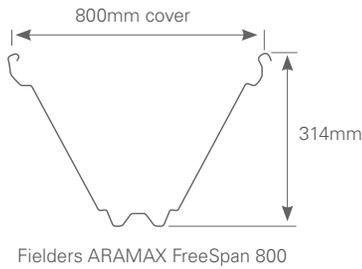


Figure 1: The FreeSpan 800 profile.

### Lengths

ARAMAX FreeSpan is rollformed to any transportable length. For large volume projects or those with long continuous spans, rollforming may be done on site.

### Limit State Wind Pressures

ARAMAX Wind Capacity tables are based on theoretical structural analysis to AS/NZS 4600:2005 Cold-formed Steel Structures. All pressure capacities are based on a nominal overhang of 150mm, however ARAMAX is capable of providing very large cantilevers.

The tables show strength limit state pressure capacities for various spans as well as serviceability limit state pressure capacities based on deflection ratio of span/150.

Please contact Fielders Manufacturing technical department/structural engineers for individual project engineering design consultancy. Economical design solutions are provided by our expert engineering team on a job by job basis.

\*Please note: Other material thicknesses are available in steel and aluminium. Adjacent tables are intended to provide a guideline and indication of ARAMAX'S spanning capabilities, showing 1.0mm G550 steel only.



Figure 2: Typical connection showing use of connection plates.

Section Properties							
Profile	Cover Width (mm)	Thickness (mm)	Depth (mm)	Dead Load (Kpa)	Area (mm <sup>2</sup> /sheet (0.8m))	Ixx (10 <sup>6</sup> mm <sup>4</sup> /sheet (0.8m))	Iyy (10 <sup>6</sup> mm <sup>4</sup> /sheet (0.8m))
800A100	800	1.00	314	0.12	718.50	11.73	53.35

### FreeSpan 800 A100 Bending capacity strength limit state (For 1.0mm G550 steel only)\*

Wind capacity for inward or outward pressures (Kpa)

Span (m)	1 Span		2 Spans		3 Spans	
	In	Out	In	Out	In	Out
6	4.11	4.11	3.12	3.07	3.30	3.26
8	3.08	3.08	2.26	2.19	2.41	2.36
10	2.47	2.47	1.73	1.66	1.87	1.81
12	2.02	1.95	1.38	1.30	1.50	1.44
14	1.48	1.44	1.12	1.05	1.24	1.17
16	1.14	1.10	0.93	0.86	1.04	0.97
18	0.90	0.87	0.78	0.72	0.88	0.82
20	0.73	0.70	0.67	0.60	0.76	0.70

### FreeSpan 800 A100 Bending capacity serviceability limit state (For 1.0mm G550 steel only)\*

Wind capacity for inward or outward pressures (Kpa)

Span (m)	1 Span		2 Spans		3 Spans	
	In	Out	In	Out	In	Out
6	6.89	6.89	16.60	16.60	13.18	13.18
8	2.91	2.91	7.00	7.00	5.56	5.56
10	1.49	1.49	3.59	3.59	2.85	2.85
12	0.86	0.86	2.08	2.08	1.65	1.65
14	0.54	0.54	1.31	1.31	1.04	1.04
16	0.36	0.36	0.88	0.88	0.70	0.70
18	0.26	0.26	0.61	0.61	0.49	0.49
20	0.19	0.19	0.45	0.45	0.36	0.36

