



National Construction Code of Australia Compliance Statement for Fielders ARAMAX® FreeSpan

The National Construction Code of Australia (NCC) provides the minimum necessary requirements for safety, health, amenity and sustainability the design and construction of new buildings (and new building work in existing buildings) throughout Australia.

The NCC outlines deem-to-satisfy requirements for metal claddings based on compliance to Australian standards. Whilst the applicable Australian standards differ between Residential and Non-Residential buildings the underlying common tenants are;

- a) that installed metal claddings and structural elements must be able to meet expected Structural, Wind and installation loads as per the Australian Standards.
- b) that installed metal claddings must be sufficiently durable to meet the amenity and sustainability requirements of the Australian Standards.

To determine a metal cladding's capacities and ability to comply with Australian design standards, metal cladding products must be tested in accordance with AS 4040.1. Additionally steel structural elements such as Fielders ARAMAX® FreeSpan must be tested to the requirements outlined in AS 4100 and AS/NZS 4600.

The determination of design capacities for light gauge structural cladding systems incorporating the complex interactions with structural connections, as used in ARAMAX® FreeSpan, cannot be determined without a comprehensive testing regime. Fielders have worked closely with The University of Sydney Engineering faculty to undertake such testing and build predictive design software, based on the outcomes of the testing regime.

Metal Cladding products that cannot demonstrate testing to AS 4040.1 and compliance with relevant AS 4100 and AS/NZS provisions do not meet the deemed-to-comply provisions of the NCC.

Following recent high-profile building product failures, regulators are extending the "chain of responsibility" concept, common in OH&S legislation, to building design and construction in Australia. The primary responsibility of each person in the chain, from designer to supplier to installer to builder being that products used on a building are;

- a) Suitable for the intended use
- b) Comply with relevant Australian Standards and NCC provisions

Increasingly regulatory authorities are requiring documentary evidence of a products compliance to the requirements of the NCC. Recent Queensland legislation goes further placing an onus on all members of the chain of responsibility to report the use of non-conforming product.

Using non-confirming products can leave installers, builders and suppliers liable for cost of replacement, rectification and consequential damages.

The Compliance statements overleaf outline Fielders compliance with both the National Construction Code of Australia and the relevant Australian Standards for both Residential and Non-residential buildings.

Product Attributes	ARAMAX® FREESPAN				
Base Metal Thickness Range	0.75mm - 1.2mm				1.2mm
Min Yield Strength	500 - 550 MPA				220-225 MPA
Base Material Brand Name	Zincalume® ZINCALUME® Steel	Colorbond® COLORBOND® Steel	Colorbond® COLORBOND® Ultra Steel	Colorbond® COLORBOND® Metallic Steel	Pre-painted aluminium
Typical Environments	For Benign environments; > 200m from breaking surf > 100m from calm marine	For Benign environments; > 200m from breaking surf > 100m from calm marine	For coastal and industrial environments; > 100m from breaking surf > 0m from calm marine	For Benign environments; > 400m from breaking surf > 200m from calm marine	For severe coastal and industrial environments; < 0m from breaking surf
Coating	AM125	AM100	AM150	AM100	5251 / 5052 marine grade Aluminium alloy
	125 g/m² minimum metallic coating mass, (aluminium/zinc/ magnesium alloy) with Activate™ technology to AS 1397:2011	100 g/m² minimum metallic coating mass, (aluminium/zinc/ magnesium alloy) with Activate™ technology to AS 1397:2011	150 g/m² minimum metallic coating mass, (aluminium/zinc/ magnesium alloy) with Activate™ technology to AS 1397:2011	100 g/m² minimum metallic coating mass, (aluminium/zinc/ magnesium alloy) with Activate™ technology to AS 1397:2011	N/A
Paint	N/A	Paint Coating to AS2728 : 2013 includes Thematech® solar reflectance technology	Paint Coating to AS2728 : 2013 Type 4 includes Thematech® solar reflectance technology	Paint Coating to AS2728 : 2013 Type 3 includes Thematech® solar reflectance technology	Paint Coating to AS2728 : 2013 includes Thematech® solar reflectance technology
Solar Absorptance Value		range from 0.32 to 0.96		range from 0.32 to 0.96	
Roofing application Warranty²	Up to 36Years*	Up to 36Years*	Up to 36Years*	Up to 30Years*	up to 40 years*
Walling application Warranty²	Up to 18Years* (Non - residential) Up to 15Years (Residential)	Up to 20Years* (Non - residential) Up to 15Years (Residential)	Up to 20Years* (Non - residential) Up to 15Years (Residential)	Up to 20Years* (Non - residential) Up to 15Years (Residential)	Up to 30 years*
Combustibility	Fielders products manufactured from COLORBOND®, ZINCALUME® or galvanised steel materials all have an Ignitability Index, Spread of Flame index and Heat Evolved Index of 0 (zero) and as such are considered non-combustible materials in accordance with the National Construction Code clauses C1.19.(e).(v) and 3.7.1.1.(e). Aluminium products manufactured from pre-painted aluminium materials have a Spread-of-Flame index of 0 (zero) and as such are considered non-combustible materials in accordance with the National Construction Code clauses C1.19.(e).(v) and 3.7.1.1.(e).				
Compliance with the deemed-to-satisfy provision of the NCC	NCC Volume 1 - For class 2 to 9 Buildings (Non-Residential)				
	B1.0 Deem-to-Satisfy provisions B1.4 Determination of structural resistance of materials and form of construction (j) (iv) Metal roofing: AS1562.1 : 2018 (except in cyclone areas) (c) (i) Steel Structures AS4600 :2018 (ii) Cold Formed steel structures AS4100 : 1998 (R2016)				
	Section F1.0 Deemed - to - Satisfy Provisions - F1.5 Roof coverings Metal Sheet roofing complying with AS1562.1 : 2018				
	NCC Volume 2 - For class 1 and 10 Buildings (Housing Provisions) 3.5.1 Roof cladding Published Capacity tables in reference manuals noted below are suitable to determine structural and serviceability of nominated products for individual projects referencing the following Australian Standards and NCC requirements: NCC 2016, Volume One, Section B - Structure, Part B1 -Structural provisions (Deemed-to-Satisfy Provisions), Clause B1.1 Resistance to actions, and Clause B1.2 Determination of individual actions NCC 2016, Volume One, Section B - Structure, Specification B1.2 - Design of Buildings in Cyclonic Areas				
Acceptable Construction and Design manuals:	AS1562.1 : 2018 - Design and Installation of sheet and wall cladding - Metal				
	Fielders ARAMAX® Freespan Profile data at https://specifying.Fielders.com.au/aramax/aramax-freespan/ Fielders project specific Custom design assessment to AS/NZS 4600:2018 Cold-Formed Steel Structures Code and AS 1664.1-1997 Aluminium Structures Code				
Australian Standards Compliance	Fielders published Limit State Capacities for Strength and Serviceability have been determined from testing at NATA¹ accredited facilities in compliance with the following standards;				
	AS 1562.1: 2018 Design and installation of sheet roof and wall cladding. Part 1: Metal AS 4040.0 – 1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 0 : Introduction, list of methods and general requirements AS 4040.1 – 1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 1 : Resistance to concentrated loads AS 4040.2 – 1992 (Reconfirmed 2016) Methods of testing sheet roof and wall cladding. Method 2 : Resistance to wind pressures for non-cyclone regions AS 4040.3:2018 Methods of testing sheet roof and wall cladding. Method 3 : Resistance to wind pressures for cyclone regions AS/NZS 4600 : 2018 Cold Formed Steel Structures Section 8 8.1 Testing for determining material properties 8.2 Testing for assessment or verification 8.3 Coefficient of variation of structural characteristics 8.4 Design Values AS 4100:1998 (R2016) Steel Structures : Section 17 Testing of Structures or Elements				
	Limit state capacities contained within the Acceptable Construction & Design Manuals are suitable to determine structural and serviceability in accordance with; AS/NZS 1170.0:2002 Structural design actions, Part 0: General principles AS/NZS 1170.1:2002 (Reconfirmed 2016) Structural design actions, Part 1: Permanent, imposed and other actions AS/NZS 1170.2:2011 (Reconfirmed 2016) Structural design actions, Part 2: Wind actions AS/NZS1170.3:2011 (Reconfirmed 2016) Structural design actions, Part 3: Snow and ice actions				
	AS/NZS 4600:2018 Cold-Formed Steel Structures Code when used in accordance with Fielders project specific Custom design assessment				AS 1664.1 -1979 Aluminium Structures Code : Limit State Design when used in accordance with Fielders project specific Custom design assessment
	AS1562.1:2018 Design and Installation of sheet and wall cladding Part 1 : Metal Section 2.1.3 Steel: Requires metallic coated products to comply with ; - AS1397-2011 - Continuous hot dip metallic coated steel sheet and strip - Coatings of zinc and zinc alloyed aluminium and magnesium and Pre-painted products to comply with ; - AS 1397-2011 - Pre-finished /pre-painted sheet metal products for interior/ exterior applications - AS1397 defines the coating types and classes and steel grades for hot dip metallic coated steel. Product made to other standards may not meet the ductility or strength requirements assumed by design standards or the minimum coating class requirements critical to building durability. Fielders product coating compliance is nominated at Coating above. AS/NZS2728 specifies requirements for the physical properties and long-term durability of pre-finished/pre-painted sheet metal products. Fielders pre-painted compliance is nominated at Paint above for Performance requirement 1.3.1 Metal products Hot dipped metallic coated steel (types Z, MM, AZ, AM) complying with AS1397, stainless steel, aluminium or aluminium ally in the form of sheet, coil or strip.				Aluminium feed coil complies to AS/NZS 1734:1997 Aluminium and Aluminium alloys - Flat sheet, coil sheet and plate. Pre-painted aluminium complies with AS/NZS 2728 Pre-finished /pre-painted sheet metal products for interior/ exterior applications AS / NZS 1664 .1 : 1999 Aluminium Structures code

¹ National Association of Testing Authorities

* visit bluescope.com.au/warranties to obtain a pre-approved warranty for your project

² Warranties apply against corrosion to peroration due to weathering in the natural environment only

