



Certification - ENDUROWALL® Framing System

Project	REDWOOD_DW4
Job number	TSF_4413
Builder	BERT FARINA CONSTRUCTION
Revision Number	VERS3
Site address	4 REDWOOD ST, ROSTREVOR (DW4)
Municipality	

On 21-10-2019, TRUE STEEL FRAMES ("the Fabricator/Dealer") certifies to the Customer that the wall framing members detailed using ENDUROCADD® software for the Site Address in relation to Job number TSF_4413 have been selected by the Trained Software User (identified at the end of this certificate), on behalf of the Fabricator/Dealer, using ENDUROWALL® Building System Design Manual, and that:-

- the input design criteria, as shown in Table 1, are correct for the project. The Trained Software User is solely responsible for ensuring that inputs are correct;
- the Trained Software User has been trained in the application and functionality of the ENDUROWALL® Building System Design Manual. Details of the Trained Software User must appear at the end of this Certificate for it to be valid;
- The Trained Software User has used the latest version of the ENDUROWALL® Building System Design Manual, and the capacities of the sections selected are within the values shown in this Design Manual.
- the Trained Software User has received confirmation in writing from a registered professional engineer for the application of any sections or design parameters not covered by the ENDUROWALL® Building System Design Manual.
- The internal wind pressure coefficient used for the design is based on the assumption that all openings including windows/doors/roller doors are capable of resisting applied wind pressure. It is the building designer's responsibility to ensure that the windows and doors are compliant to the relevant Australian Standards
- all rollformed steel components are manufactured using TRUECORE® steel complying with AS1397:2011 in the base metal thickness specified in the engineering sheets within the tolerances indicated on drawings:
PRFID1295-001-001 Std Smart Profile Details S75x38/40 & S90x38/40
quality control sheet ENDURO-QA-001 rev A/0
quality control sheet ENDURO-QA-002 rev A/0 or the latest versions;
- All fasteners, tie downs, connections, and bracings have been selected in accordance with the minimum capacities specified in the ENDUROWALL® Building System Design Manual,
- wall frames have been assembled according to the wall fabrication sheets generated by the ENDUROCADD® program the ENDUROWALL® Walling System Installation Manual, and the Assembly Checklist or quality control sheet ENDURO-QA-003 rev A/0, and;
- structural designs and calculations are not covered by the ENDUROCADD® software or the ENDUROWALL® Building System Design Manual for post and beam construction, including connections, in any open structures including, but not limited to, car ports, gazebos, verandahs, al fresco areas, and the like.

The Fabricator/Dealer notes that BlueScope Steel Limited has advised the Fabricator/Dealer that the latest version of the ENDUROWALL® Building System Design Manual complies with the following standards:

- AS/NZS 4600: 2018 Cold formed steel structures
- AS 4055-2012 Wind loads for Housing
- AS/NZS 1170.0:2002 General Principles
- AS/NZS 1170.1:2002 Permanent, imposed and other actions
- AS/NZS 1170.2:2011 Wind Actions
- NASH standard Residential and Low rise steel Framing Part:1 Design criteria 2005
- AS4100:1998 Steel Structures

Table 1 - Design Criteria Walls:

Wind load inputs

Wind load simple as per AS4055-2012			Classification N1		
Wind-Speed DS/SS*	34/26	Roof Cladding - Sheet	0.20 kPa	Roof Pitch	22 deg
Truss Spacing	1200 mm	Ceiling Lining	13 mm	Endurocadd version no	10.00.21
2nd floor live load		2nd floor dead load			
Exterior cladding type	CLAD	Equiv wind-class	N1		

* DS = Limit-state strength-design wind-speed, SS = Limit-state serviceability wind-speed.

Table 2 - Wall Framing Component Selection:

Upper floor.

Detailing option: TSF_600Ctrs_2700mm Walls: 100 101 102 103 104 105 106 107 108 109 110 111 112 113							
114 115 116 117 118 119 120 121 122 123							
Wall frames	Height	Stud Spacing	Stud selection	Nogging	Top plates	Bottom plates	Bracing
Load-brg studs (std)	2745	600	C9075ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550
Load-brg studs (non-std)	2745	600	C9075ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550
Non-lb-brg studs	2710	600	C9055ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550

Lower floor.

Detailing option: TSF_600Ctrs_2700mm_Int Walls: 7 8 9 13 14							
Detailing option: TSF_600Ctrs_2700mm Walls: 1 2 3 4 5 6 10 11 12							
Wall frames	Height	Stud Spacing	Stud selection	Nogging	Top plates	Bottom plates	Bracing
Load-brg studs (std)	2745	600	C9075ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550
Load-brg studs (non-std)	2745	600	C9075ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550
Non-lb-brg studs	2710	600	C9055ra	U904475G550	U904475G550	U904475G550	BRA-1.0x30-550

Refer to individual wall panel drawings for Details.

Trained Software User Name: Rebecca Kelly Endurocadd User No.: 021 Address: 31 Hewittson Road, Edinburgh North 5113 Contact Number: 8252 0046 Email: rebecca@truesteelframes.com.au Signature:  Date: 22-10-19	Project Engineer Approval (if required) Name: _____ Professional Reg No.: _____ Address: _____ Contact Number: _____ Email: _____ Signature: _____ Date: _____
Manufacturer: TRUE STEEL FRAMES Address: 31 HEWITTSON ROAD EDINBURGH NORTH 5114 Contact: TRUE STEEL FRAMES, OWNER Phone: (08) 8252 0046 Email: info@truesteelframes.com.au Signature: _____ Date: _____	Fabricator/Dealer Name: (if different from manufacturer) Name: _____ Position: _____ Signature: _____ Date: _____

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Certification of design calculations - ENDUROTRUSS® Roof Framing

Project	REDWOOD_DW4	Job number	TSF_4413
Builder	BERT FARINA CONSTRUCTION	Revision	VERS3
Site address	4 REDWOOD ST, ROSTREVOR (DWA)		

On 21-10-2019, TRUE STEEL FRAMES ('the Fabricator/Dealer') advises the Customer that BlueScope Steel Limited has certified to the Fabricator/Dealer that the engineering calculations performed in respect of roof trusses in Job number TSF_4413 which have been designed using version 10.00.21 of the ENDUROCADD® software program comply with the following documents:

- Lysaght Technology Design Philosophy Doc. Report 4
- NCC Building Code of Australia BCA-2017
- AS/NZS 4600: 2018 Cold formed steel structures
- AS 4055: 2012 Wind loads for Housing
- AS/NZS 1170.0: 2002 General Principles
- AS/NZS 1170.1: 2002 Permanent, imposed and other actions
- AS/NZS 1170.2: 2011 Wind Actions
- NASH standard Residential and Low rise steel Framing Part:1 Design criteria 2005

PROVIDED that:-

- the input design criteria, as shown in Table 1, are correct for the relevant project. The Trained Software User (identified at the end of this certificate), is solely responsible for ensuring that inputs used are correct and appropriate.
- the Trained Software User has been trained in the application and functionality of the ENDUROCADD® software. Details of the Trained Software User must appear at the end of this Certificate for it to be valid.
- The latest version of the ENDUROCADD® software is used.
- the ENDUROCADD® software passes all trusses. A list of trusses that have been passed by this software is contained in Table 2. Any trusses or structural elements that are not in Table 2 are not included in this certificate.
- all rollformed steel components are manufactured using TRUECORE® steel complying with AS1397:2011 in the base metal thickness specified in the engineering sheets within the tolerances indicated on drawings:
PRFID1295-001-001 Std Smart Section Profile Details S75x38/40 & S90x38/40
and quality control sheets ENDURO-QA-001 rev A/0, or the latest version.
- all fasteners, connections, and bracings have the minimum capacities specified in the ENDUROCADD® Steel Building System Design Manual;
- trusses are assembled according to the truss fabrication sheets generated by the ENDUROCADD® program and the ENDUROTRUSS® Roofing System Installation Manual, and the Assembly Checklist or quality control sheet ENDURO-QA-004 rev A/0; and
- trusses are installed at the spacings indicated in the Truss Layout Drawing and shall be delivered, unloaded, stored and installed in accordance with the following installation guide:
ENDUROTRUSS® Installation Guide - Using ENDUROTRUSS® for Roofing System Installation Manual.

This Certification only covers roof framing up to two storey constructions, which fall within the geometrical limitations of AS 4055-2012 and NASH Standard Residential and Low rise steel Framing Part:1 Design Criteria 2005.

Disclaimer and limitation of liability

This certificate is not valid, and BlueScope Steel gives no warranties and accepts no liability:

- where the ENDUROCADD® software is used for products manufactured other than in accordance with BlueScope Steel's documented quality control specifications set out in the Fabrication Inspection Records - ENDURO-QA-004 rev A/0 or manufactured using steel other than TRUECORE® steel. The ENDUROCADD® software cannot be used for products manufactured from other steel, including those that are similar in profile but are not manufactured from TRUECORE® steel, as those products may vary significantly in, among other things, grade, thickness, size, material standard compliance (including chemical composition, mechanical properties, tolerances) and quality to products manufactured using TRUECORE® steel;

- for the use of correct fasteners, connections or bracings and the design capacities or information in relation to fasteners, connections, bracings or any other engineered products required to assemble or install roof trusses. (The Customer should refer directly to third parties for advice; or
- in relation to the manufacture, assembly or installation of roof trusses.

Further, while every effort has been made to ensure the accuracy of the information provided by the ENDUROCADD® software, to the maximum extent permitted by law, BlueScope Steel accepts no liability to the Customer or any third party:

- for any errors or omissions, whether caused by negligence or any other reason;
- in respect of any act or omission by the Fabricator/Dealer, the Customer or the third party; or
- for any direct or indirect, consequential, special, punitive or incidental loss or damage, loss of profit or anticipated profit, data, use, goodwill or business, for any interruption to business, however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which may be suffered or incurred,

in reliance, in whole or in part, on any or all information provided by the software.

The recommendations and information provided by the ENDUROCADD® software are provided to you by the Fabricator/Dealer or BlueScope Steel based on good building practice but are not an exhaustive statement of all relevant factors relating to the ENDUROTRUSS® roof framing system. Strict compliance with all applicable laws and relevant standards remains the Customer's sole responsibility. In addition, it also remains the Customer's responsibility at all times to ensure that the methods used are adequate for the particular situation and the Customer's specific circumstances.

All information provided by the ENDUROCADD® software is a guide only for competent design professionals in the selection and design of roof trusses by this software. This software should only be used in conjunction with independent qualified expert advice confirming the suitability of the information provided in this software to your specific project. The information provided by this software should not be used or relied on as a substitute for the knowledge, expertise, professional judgement or advice of an independent qualified expert.

Always ensure that you are using current information on the ENDUROTRUSS® range of roof framing systems.

Table 1 - Design Criteria Roof

Wind load inputs

Wind load simple as per AS4055-2012	Classification N1
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Note: Design parameters that may vary for each truss are noted against each truss elevation

Wind-speed DS/SS*	34/26 m/sec	Roof Cladding - Sheet	0.20 kPa	Top Chord Restraint(s)	1200 mm
Truss Spacing(s)	1200 mm	Top chord live load(s)	0.25 kPa	Bottom Chord Restraint(s)	600 mm
Ceiling Type(s)	13 mm	Bottom chord live load	0 kPa	Top/Bot point live load	1.1 kN
Roof Slope(s)	22 deg	Internal Pressure	Non-cyclonic	Ceiling lining(s)	Sealed
Endurocadd	10.00.21	Chord Type(s)	C9075ra	Web Type(s)	C9075ra

* DS = Limit-state strength-design wind-speed, SS = Limit-state serviceability wind-speed.

Table 2 - Summary of Trusses Designed by this program

Truss	Result	Truss	Result	Truss	Result	Truss	Result	Truss	Result
T001	PASS	T002	PASS	T003	PASS	T004	PASS	T005	PASS
T006	PASS	T007	PASS	T008	PASS	T009	PASS	T050	PASS
T051	PASS	T052	PASS	T053	PASS	T054	PASS	T055	PASS
T056	PASS	T057	PASS	T058	PASS	T059	PASS	T100	PASS
T101	PASS	T102	PASS	T103	PASS				

Note: 1) Certification does not exist for any trusses or components not listed in this table.

2) Design of Tie downs, Tie down brackets, battens, roof bracing and rafters are outside the scope of the design software. Refer batten manufacturers' design data for batten design and ENDUROTRUSS® Roofing System - Installation manual for details of roof bracing, tie downs, and rafters.

3) The software does not consider fire action, earthquake action or snow action.

4) The internal wind pressure coefficient used for the design is based on the assumption that all openings including windows/doors/roller doors are capable of resisting applied wind pressure.

It is the building designer's responsibility to ensure that the windows and doors are compliant to the relevant Australian Standards

5) An engineer's approval is required where:

a) The distance from ground level to the underside of eaves exceeds 6.0 m.

b) The distance from ground level to the highest point of the roof, neglecting chimneys exceeds 8.5 m.

c) The building width including roofed verandas, excluding eaves exceeds 16m.

d) The building length exceeds five times the building width.

e) The roof pitch exceeds 35 degrees.

f) The structure is located closer than 300 metres from the high water mark of "surf" and/or "exposed" salt marine influences or 100 meters from the high water mark of "calm" salt marine or brackish influences.

6) Refer to the Truss Fabrication Sheets and Truss Engineering Sheets detailed on 21-10-2019.

The ENDUROCADD® design and detailing software has been developed by BlueScope Steel Ltd t/a Enduroframe complies with Section A2.2 (Vol 1) and 1.2.2 (Vol 2) of the BCA 2017. The Compliance Document, list of trained users, and latest software version number can be obtained by contacting info@enduroframe.com.au.

Trained Software User Name: Rebecca Kelly Endurocadd User No.: 021 Address: 31 Hewittson Road, Edinburgh North 5113 Contact Number: 8252 0046 Email: rebecca@truesteelframes.com.au Signature..... Date <u>22-10-19</u>	Project Engineer Approval (if required) Name:..... Professional Reg No.:..... Address:..... Contact Number:..... Email:..... Signature..... Date.....
Manufacturer: TRUE STEEL FRAMES Address: 31 HEWITTSON ROAD EDINBURGH NORTH 5114 Contact: TRUE STEEL FRAMES, OWNER Phone: (08) 8252 0046 Email: info@truesteelframes.com.au Signature..... Date.....	Fabricator/Dealer Name: (if different from manufacturer) Name..... Position..... Signature..... Date.....

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Certification - ENDUROFLOOR™ Floor Framing System

Project	REDWOOD_DW4	Job number	TSF_4413
Builder	BERT FARINA CONSTRUCTION	Revision	VERS3
Site address	4 REDWOOD ST, ROSTREVOR (DW4)		

On 21-10-2019, TRUE STEEL FRAMES ('the Fabricator/Dealer') certifies to the Customer that the floor joists detailed using ENDUROCADD® software for the site address in relation to job number TSF_4413 have been selected by the Trained Software User (identified at the end of this certificate), on behalf of the Fabricator/Detailer, using the ENDUROFLOOR(tm) Design manual, and that:-

- The input design criteria, as shown in Table 1, are correct for the project. The Trained Software User (identified at the end of this certificate), is solely responsible for ensuring that inputs used are correct and appropriate, and the support structure for the floor trusses is adequate for the indicated loads and truss locations.
- The Trained Software User has been trained in the application and functionality of the ENDUROFLOOR(tm) Design Manual. Details of the Trained Software User must appear at the end of this Certificate for it to be valid.
- The fabricator has used the latest version of the ENDUROFLOOR(tm) Design manual and the joist spans selected are within the values shown in the Design Manual.
- All rollformed steel components are manufactured using TRUECORE® steel complying with AS1397:2011 in the base metal thickness specified in the engineering sheets within the tolerances indicated on drawings:
PRFID1295-001-001 Std Smart Section Profile Details S75x38/40 & S90x38/40 and quality control sheets ENDURO-QA-001 rev A/0, or the latest version.
- All fasteners, connections, and bracings have the minimum capacities specified in the ENDUROFRAME® Steel Building Frame Design Manual;
- Trusses are assembled according to the truss fabrication sheets generated by the ENDUROCADD® program and the ENDUROFLOOR® Floor System Installation Manual, and the Assembly Checklist or quality control sheet ENDURO-QA-004 rev A/0; and
- Structural designs and calculations are not covered by the ENDUROCADD® software or the ENDUROFLOOR(tm) Design Manual for tiedown brackets, ceiling battens, bracing and support beams and the like.
- Trusses are installed at the locations indicated in the Truss Layout Drawing and shall be delivered unloaded, stored and installed in accordance with the following installation guide:
ENDUROFLOOR(tm) Installation Guide - Using ENDUROFLOOR(tm) Floor System Installation Manual.

The Fabricator/Detailer notes that Bluescope Steel Limited has advised the Fabricator/Detailer that the latest version of the ENDUROFLOOR(tm) Design Manual complies with the following standards:

- Building Code of Australia BCA-2017
- AS/NZS 4600: 2018 Cold formed steel structures
- AS/NZS 1170.0: 2002 General Principles
- AS/NZS 1170.1: 2002 Permanent, imposed and other actions
- NASH standard Residential and Low rise steel Framing Part:1 Design criteria 2005

Disclaimer and limitation of liability

This certificate is not valid, and Bluescope Steel gives no warranties and accepts no liability:

- Where the ENDUROCADD® software is used for products manufactured other than in accordance with BlueScope Steels documented quality control specifications set out in the Fabrication Inspection Records - ENDURO-QA-003 rev A/0 and ENDURO-QA-004 rev A/0 or manufactured using steel other than TRUECORE® steel. The ENDUROCADD® software cannot be used for products manufactured from other steel, including those that are similar in profile but are not manufactured from TRUECORE® steel, as those products may vary significantly in, among other things, grade, thickness, size, material standard compliance (including chemical composition, mechanical properties, tolerances) and quality to products manufactured using TRUECORE® steel;
- For the use of correct fasteners, connections, or blocking/bracings and the design capacities or information in relation to fasteners, connections, blocking/bracings or any other engineered products required to assemble or install floor trusses. The Customer should refer directly to third parties for advice; or
- In relation to the manufacture, assembly or installation of floor trusses.

Further, while every effort has been made to ensure the accuracy of the information provided by the ENDUROCADD® software, to the maximum extent permitted by law, Bluescope Steel accepts no liability to the Customer or any third party:

- for any errors or omissions, whether caused by negligence or any other reason;
- in respect of any act or omission by the Fabricator/Dealer, Customer or a third party; or
- for any direct or indirect, consequential, special, punitive or incidental loss or damage, loss of profit or anticipated profit, data, use, goodwill or business, for any interruption to business, however caused (including, without limitation, breach of contract, negligence and/or breach of statute), which may be suffered or incurred, in reliance, in whole or part, on any or all information provided by the software.

The recommendations and information provided by the ENDUROCADD® software are provided to you by the Fabricator, Dealer or BlueScope Steel based on good building practice but are not an exhaustive statement of all relevant factors relating to the ENDUROFLOOR™ floor framing system. Strict compliance with all applicable laws and relevant standards remains the Customer's sole responsibility. In addition, it also remains the Customer's responsibility at all times to ensure that the methods used are adequate for the particular situation and the Customer's specific circumstances.

All information provided by the ENDUROCADD® software is a guide only for competent design professionals in the selection and design of floor trusses by this software. This software should only be used in conjunction with independent qualified expert advice confirming the suitability of the information provided in this software to your specific project. The information provided by this software should not be used or relied on as a substitute for the knowledge, expertise, professional judgement or advice of an independent qualified expert.

Always ensure that you are using current information on the ENDUROFLOOR™ range of floor framing systems.

<p>Trained Software User</p> <p>Name: Rebecca Kelly Endurocadd User No.: 021 Address: 31 Hewittson Road, Edinburgh North 5113 Contact Number: 8252 0046 Email: rebecca@truesteelframes.com.au</p> <p>Signature..... Date: 22-10-19</p>	<p>Project Engineer Approval (if required)</p> <p>Name: AUSTRICT CONSULTING. Professional Reg No.: Address: Contact Number: Email: REFER TO LAYOUT.</p> <p>Signature..... Date.....</p>
<p>Manufacturer: TRUE STEEL FRAMES Address: 31 HEWITTSON ROAD EDINBURGH NORTH 5114</p> <p>Contact: TRUE STEEL FRAMES, OWNER Phone: (08) 8252 0046 Email: info@truesteelframes.com.au</p> <p>Signature..... Date.....</p>	<p>Fabricator/Dealer Name: (if different from manufacturer)</p> <p>Name.....</p> <p>Position.....</p> <p>Signature..... Date.....</p>

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