

WILDBOAR CONCRETE FREE FOOTING SYSTEM

PURPOSE

The Wildboar Concrete Free Footing System (Wildboar System) is a proprietary alternative to standard NZS 3604-type timber pile footings and is designed to withstand applied loads associated with residential construction. The system is also suitable for use as a foundation system for other structures such as playground equipment, shade structures, hoardings, fencing, sign or street posts, lighting and ground-mounted solar PV-panel racking systems.

EXPLANATION

The Wildboar System is an engineered alternative to the current conventional piling method of standard timber piles cast in concrete. The Wildboar System can be installed without disturbance or damage to the ground and concrete is not required. The components for the Wildboar System allow the designer several options to accommodate applied loads such as relevant soil conditions, wind loads, gravity loads, live loads and earthquake loads. The Wildboar System components comprise:

Surepile: Grade 350 MPa steel, hot-dipped galvanised 70 µm (500 g/m²) coating thickness.

Model, O/A Diameter 42.4 mm	25NB 2.6	25NB 3.2	32NB 2.6	32NB 3.2	32NB 4
Wall thickness (mm)	2.6	3.2	2.6	3.2	4.0

Surefoot pile cap: Pile caps are grade 350 MPa steel, hot-dipped galvanised 90 µm (640 g/m²) coating thickness.

Model	No. x model / bolting pattern	Load capacity
Multifix-90	4 x 25NB / Tek screw or m12 bolt	25 kN
Ecopile EP-125	4 x 25NB / Tek screw or m12 bolt	40 kN
S150-4W	4 x 25NB / 4 x 14 mm holes	90 kN
S150-8W	8 x 25NB / 4 x 14 mm holes	90 kN
S250-4w	4 x 32NB / 4 x 22 mm holes	110 kN

Model	No. x model / bolting pattern	Load capacity
S250-6w	6 x 32NB / 4 x 22 mm holes	150 kN
S400-6w	6 x 32NB / 4 x 22 mm / 4 x 26 mm holes	160 kN
S400-8w	8 x 32NB / 4 x 22 mm / 4 x 26 mm holes	200 kN
S400-12w	12 x 32NB / 4 x 22 mm / 4 x 26 mm holes	250 kN
S600	16 x 32NB / 4 x 26 mm / 4 x 32 mm holes	360 kN

Various base plate, stump tops, top-plate connections and bracing-systems components are available.

The system is also available in stainless steel (316) for marine applications.

SCOPE AND LIMITATIONS OF USE

Scope	Limitations
Location In all soil categories and ground conditions.	<ul style="list-style-type: none"> Where building consent is required to install the Wildboar System, a geotechnical investigation of the ground conditions specific to the allotment by a suitably qualified geotechnical engineer must be carried out prior to the design of the Wildboar System. Where a building consent is not required to install the Wildboar System, load capacities may be established using the Wildboar System capacity tables (version 8.5).
In wind zones up to and including very high as defined in NZS 3604:2011.	<ul style="list-style-type: none"> Load capacities must be established by a suitably qualified structural engineer in conjunction with the Wildboar System design spreadsheet and AS/NZS 1170.0:2002 or the Wildboar System capacity tables (version 8.5).
In all exposure zones in accordance with NZS 3604:2011.	<ul style="list-style-type: none"> Where used in exposure zone D, the above-ground portion of the Wildboar System must be protected (coated or enclosed) or regularly washed down. Alternatively, stainless steel (316) components may be used.
In any seismic zone.	<ul style="list-style-type: none"> Load capacities must be established by a suitably qualified structural engineer in conjunction with the Wildboar System design spreadsheet and AS/NZS 1170.0:2002 or the Wildboar System capacity tables (version 8.5).
Building As a foundation system for all buildings with a UDL of 1.5 kPa or a live load of 2 kPa.	<ul style="list-style-type: none"> Where a building consent is required to install the Wildboar System, the system is subject to specific design by a suitably qualified structural engineer using the Wildboar System design spreadsheet based on the findings of the geotechnical report and subject to confirmation of soil conditions at the time of installation. Where building consent is not required to install the Wildboar System, load capacities may be established using the Wildboar System capacity tables (version 8.5). The Wildboar System must be used with a timber or steel subfloor or proprietary floor assembly.
As a foundation system for other structures such as hoardings, fencing, posts for sign and street lighting posts, and ground-mounted solar PV-panel racking systems.	<ul style="list-style-type: none"> Where building consent is required to install the Wildboar System, the system is subject to specific design by a suitably qualified structural engineer using the Wildboar System design spreadsheet based on the findings of the geotechnical report and subject to confirmation of soil conditions at the time of installation. Where a building consent is not required to install the Wildboar System, load capacities may be established using the Wildboar System capacity tables (version 8.5).



For further assistance please contact:

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- wildboar.nz

USEFUL INFORMATION

For design, installation and maintenance information, refer to wildboar.nz.

CONDITIONS OF USE

- Building consent must be obtained to install the Wildboar system if one is required under sections 41 and 42 of the Building Act.
- Where the design and installation of the Wildboar System is subject to a building consent:
 - the geotechnical engineer must establish by investigation ground conditions specific to the allotment and issue a report.
 - the structural engineer must issue a Producer Statement for the design (PS1).
- Where a building consent is not required, appropriate design values must be selected from the Wildboar System capacity tables (version 8.5). All assumptions must be confirmed by a suitably qualified structural engineer.
- Installation must be carried out in accordance with all Wildboar System Installation requirements.
- An underground services investigation must be undertaken before installation.

PERFORMANCE CLAIMS

If designed, installed and maintained in accordance with all Wildboar requirements, Wildboar System will comply with or contribute to compliance with the following performance claims:

NZ Building Code clauses	Compliance statement	BASIS OF COMPLIANCE Demonstrated by
B1 STRUCTURE B1.3.1 B1.3.2 B1.3.3 (a), (b), (d), (f), (g), (h), (m) and (q) B1.3.4 (a, b, c, d, e)	ALTERNATIVE SOLUTION and ACCEPTABLE SOLUTION B1/AS1 and VERIFICATION METHOD B1/VM1	<ul style="list-style-type: none"> ➤ Testing and evaluation of static loads, compressive capacity, tension capacity and bending capacity [Swinburne University of Technology, 12/2015]. ➤ Soil characteristics established in accordance with section 3 of NZS 3604:2011. ➤ Load capacities calculated in accordance with NZS 1170.1:2002.
B2 DURABILITY B2.3.1 (a) B2.3.2 (a)	VERIFICATION METHOD B2/VM1	<ul style="list-style-type: none"> ➤ Coating is hot-dipped galvanised and achieves an average of 80 µm zinc cover. ➤ Material in accordance with AS/NZS 2312.2:2012, cited in TS 3404:2018, cited in B2/VM1.
F2 HAZARDOUS BUILDING MATERIALS F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> ➤ Materials used are referenced in Acceptable Solution B2/AS1. ➤ Use in accordance with safety information.

SOURCES OF INFORMATION

- Swinburne University of Technology. [12/2015] Evaluation of Innovative Concrete-Free Footing System for Residential Construction. Application/IVP-BRD-264A.1.

SCAN OR CLICK THIS QR CODE TO ACCESS OR REQUEST THE RELEVANT SUPPORTING DOCUMENTATION FOR THIS PASS™.

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1. Where a standard is referenced it is to be read as amended by the acceptable solution or verification method as applicable. 2. Sources of information also include the Building Act 2004 and its regulations, including the Building Code (Schedule 1 of the Building Regulations 1992), Acceptable Solutions and Verification Methods, and relevant cited standards. 3. The product is not subject to a warning or ban under section 26 of the Building Act. 4. For overseas manufacturer details, where applicable, refer to the company that is the holder of this pass™. 5. The quality and assurance that the supplied products meet the performance claims stated in this pass™ are the responsibility of the company that is the holder of this pass™. 6. The availability of the information about the supplied products required to be disclosed under s14G(3) is the responsibility of the company that is the holder of this pass™.

Wildboar Footings Ltd confirms that if Wildboar System is used in accordance with the requirements of this pass™ the product will comply with the NZ Building Code and other performance claims set out in this pass™ and the company has met all of its obligations under s14G(2) of the Building Act.

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Kevin Brunton

Kevin Brunton, Technical Director, TBB confirms that the process used to prepare this pass™ on behalf of Wildboar Footings Ltd has been undertaken in accordance with MBIE PTS guidelines and in accordance with the TBB pass™ process which is within the scope of TBB's ISO 9001 certification.

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