

# WILDBOAR CONCRETE FREE FOOTING SYSTEM

## PURPOSE

The Wildboar concrete free footing system (Wildboar system) is a proprietary alternative to standard NZS 3604 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, posts for signs or street 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 components comprise:

Surepile: Grade 350 MPa steel, hot dipped galvanised 70 µm (500 g/m<sup>2</sup>) 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/m<sup>2</sup>) coating thickness.

Model	No. x model / bolting pattern	Load capacity
Multifix-90	4 x 25NB / Tek Screw or m12 bolt	25 kN
Multifix-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 and 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
<b>Location</b> In all soil categories and ground conditions.	<ul style="list-style-type: none"> <li>Where a building consent is required for the installation of the Wildboar system, a geotechnical investigation of the ground conditions specific to the allotment must be carried out prior to the design of the system by a suitably qualified geotechnical engineer.</li> <li>Where a building consent is not required for the installation of the Wildboar system, load capacities may be established using the Wildboar system capacity tables (version 8.5).</li> </ul>
In wind zones up to and including very high as defined in NZS 3604:2011.	<ul style="list-style-type: none"> <li>Load capacities must be established by a suitably qualified structural engineer in conjunction with the Wildboar system design spreadsheet and AS/NZS 1170.0 or the Wildboar system capacity tables (version 8.5).</li> </ul>
In all exposure zones in accordance with NZS 3604:2011.	<ul style="list-style-type: none"> <li>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, the stainless steel (316) components may be used.</li> </ul>
In any seismic zone.	<ul style="list-style-type: none"> <li>Load capacities must be established by a suitably qualified structural engineer in conjunction with the Wildboar system design spreadsheet and AS/NZS 1170.0 or the Wildboar capacity tables (version 8.5).</li> </ul>
<b>Building</b> 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"> <li>Where a building consent is required for the installation of the Wildboar system, the system is subject to specific design from a suitably qualified structural engineer using the Wildboar system design spreadsheet based on the findings of the geotechnical report and conformation of soil conditions at the time of installation.</li> <li>Where a building consent is not required for the installation of the Wildboar system, load capacities may be established using the Wildboar system capacity tables (version 8.5).</li> <li>The Wildboar system must be used in conjunction with a timber or steel subfloor or proprietary floor assembly.</li> </ul>
As a foundation system for other structures such as hoardings, fencing, posts for signs or street lighting, and ground-mounted solar PV panel racking systems.	<ul style="list-style-type: none"> <li>Where a building consent is required for the installation of the Wildboar system, the system is subject to specific design from a suitably qualified structural engineer using the Wildboar system design spreadsheet based on the findings of the geotechnical report and conformation of soil conditions at the time of installation.</li> <li>Where a building consent is not required for the installation of the Wildboar system, load capacities may be established using the Wildboar system capacity tables (version 8.5).</li> </ul>



For further assistance please contact:

- 09 9475034
- info@wildboar.nz
- www.wildboar.nz



## USEFUL INFORMATION

For information on the design, installation, and maintenance of the Wildboar system and for our warranty, refer to [www.wildboar.nz](http://www.wildboar.nz).

## CONDITIONS OF USE

- A building consent must be obtained for the installation of 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 Installation Manual requirements.
- Prior to installation, an underground services investigation must be undertaken.

## PERFORMANCE CLAIMS

If designed, installed, and maintained in accordance with all Wildboar requirements, the 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
<b>B1 STRUCTURE</b> 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"> <li>➤ Testing and evaluation of static loads, compressive capacity, tension capacity, and bending capacity [Swinburne University of Technology, 12/2015].</li> <li>➤ Soil characteristics established in accordance with section 3 of NZS 3604:2011.</li> <li>➤ Load capacities calculated in accordance with NZS 1170.1.</li> </ul>
<b>B2 DURABILITY</b> B2.3.1 (a) B2.3.2 (a)	VERIFICATION METHOD B2/VM1	<ul style="list-style-type: none"> <li>➤ Coating is hot-dipped galvanised and achieves an average of 80 µm zinc cover.</li> <li>➤ Material in accordance with AS/NZS 2312.2:2012, cited in TS 3404:2018, cited in B2/VM1.</li> </ul>
<b>F2 HAZARDOUS BUILDING MATERIALS</b> F2.3.1	ALTERNATIVE SOLUTION	<ul style="list-style-type: none"> <li>➤ Materials used are referenced in Acceptable Solution B2/AS1.</li> <li>➤ Use in accordance with safety information.</li> </ul>

## SOURCES OF INFORMATION

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



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[www.wildboar.nz](http://www.wildboar.nz)



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 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™.

Wildboar Footings confirms that if the 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 s14 G of the Building Act.

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*Kevin Brunton*

Kevin Brunton, Technical Director, TBB confirms that this pass has been prepared on behalf of Wildboar Footings and 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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14E Flexman Place, Silverdale, Auckland 0932 ➤ [info@wildboar.nz](mailto:info@wildboar.nz) ➤ 09 9475034 ➤ [www.wildboar.nz](http://www.wildboar.nz)

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