

Certificate no: CMNZ30097

Version: G

Original issue date: 18/09/2019

Version date: 12/12/2024

Renewal Date: 01/02/2026

## 1. Certificate Holder Details

**Patented Foundations Pty Ltd**  
Trading as Katana Piles  
37 Gravel Pit Road, Darra QLD 4076  
Tel: +61 412 422 758  
www.katanafoundations.com.au

## 2. Product Certification Body

**Global-Mark Pty Ltd**  
Trading as Global-Mark  
57 Willis Street, Wellington, 6011  
customer.service@global-mark.co.nz  
+64 9 889 0622  
www.global-mark.co.nz

**Complaints:** The complaints process for this certificate can be found here:  
[www.global-mark.co.nz/complaints](http://www.global-mark.co.nz/complaints)

Global-Mark Managing Director.



Herve Michoux



# Product Certificate

## Katana Piles 80kN, 100kN & 150kN Series

### 3. Description of Building Method or Product

Katana Piles 80kN, 100kN & 150kN Series (Katana piles) are steel screw piles with capacities of 80 kN, 100 kN and 150 kN utilising a proprietary designed screw thread and cutting comb.  
KATANA piles are available in lengths of 1 to 4 metres, with extension, connector and capping accessories available.

### 4. Intended use of Building Method or Product

Katana piles are used to transfer the building loads from the building structure down to a suitable bearing stratum below ground surface. Katana piles are often used to support concrete slabs on ground. Common reasons for specifying screw piles are very large design loads, poor soil conditions at shallow depth, or site constraints like property lines.  
The placement and size of piles is dependent on the engineering design and geotechnical information for each site.

### 5. New Zealand Building Code Provisions

The Katana piles if designed and installed in accordance with this Certificate, will meet the following provisions of the NZBC:

Clause B1 STRUCTURE:	Performance B1.3.1, B1.3.2 and B1.3.4, for the relevant physical conditions of B1.3.3 (a), (b), (c), (d), (e), (f), (g), (h), (l), (m), (n) & (q)
Clause B2 DURABILITY:	Performance B2.3.1(a)

### 6. Conditions and Limitations of Use

- 1) Katana piles are certified for use:
  - a) with slab-on-ground floors with occupancy loading up to 3kPa with a maximum dimension of 24m either way between free joints, or between free joints and slab edges, or
  - b) in foundations subject to specific engineering design (SED).
- 2) The Katana piles shall not be used:
  - a) in soils that have an exposure classification "Very severe" as defined by AS 2159:2009 including amendment 1, or
  - b) in saturated sands subjected to liquefaction during earthquake loading and sensitive clays that have a rapid decrease in undrained shear strength once peak strength has been reached.



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- 3) When used in soils that have an exposure classification “Moderate” or “Severe” as defined by AS 2159:2009 including amendment 1, the wall thickness and sealing of the Katana piles shall be in accordance with Katana Screw Pile Corrosion Review on Void Slab System - RLH:VLK:213306 – 8 May 2013.
- 4) This certification excludes:
  - a) materials not identified in the Katana Foundations Product Statement (Issue 7.0, 17 October 2024). Substitutions are not allowed, and
  - b) piles filled with concrete.
- 5) Specification of Katana Piles into a building design shall:
  - a) be undertaken by a chartered professional engineer (CPENG), for the applicable loads defined in accordance with AS/NZS 1170 series of standards (referenced as AS/NZS 1170 set) including all amendments published at the time of issuance of this certificate as referenced by Verification Method B1/VM1 Structure, and
  - b) specify the location, diameter, thickness, depth of the piles and on-site rapid test requirements (number of piles and load), based on a site-specific geotechnical study carried out by a chartered geotechnical engineer to the depth of piles establishing as a base the minimum:
    - i) Soil type and strength parameters (i.e. undrained shear strength, bearing capacity (cohesive or granular))
    - ii) Soil pH levels
    - iii) Chloride concentrations (in soil and in groundwater)
    - iv) Resistivity
    - v) Permeability of soils, and
  - c) be in accordance with the following set of documents referenced as the Applicable Technical Documentation:
    - i) AS 2159:2009: Piling – Design and Installation (including Amendment 1),
    - ii) AS 2870 -2011: Residential Slabs and Footings,
    - iii) IPENZ Practice Note 28: Screw Piles: Guidelines for Design, Construction and Installation, (version 1.0, October 2015),
    - iv) Earthquake Geotechnical Engineering Practice: Module 4: Earthquake resistant foundation design (Revision 1, 29 November 2021),
    - v) KATANA Screw Pile Product Statement: 80kN, 100kN, 150kN and 200kN Series (Issue 7, 17 October 2024),
    - vi) KATANA Screw Pile Performance Guide (Revision Z, 1 October 2024),
    - vii) KATANA Foundations Product Specifications – (Codemark – Pile Products Only), Issue 3, 15 October 2024,
    - viii) KATANA Foundations Product Specifications – (Codemark – Attachment Products Only), Issue 3, 15 October 2024,
    - ix) KATANA Screw Piles Guidelines for Design Flood Loads (Version 2.0, 19 October 2018),
    - x) Either:
      - (1) Basic Helical Screw Pile Design Guidelines, 21 February 2005, or
      - (2) KATANA Screw Pile Capacity Worksheet V3, 28 November 2018)
- 6) Katana Piles shall be installed in accordance with Applicable Technical Documentation by a Patented Foundation Pty Ltd approved person.



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- 7) Site testing shall be undertaken as follows:
  - a) Rapid uplift test as described in KATANA Screw Pile PERFORMANCE GUIDE (Rev Z, 1 October 2024) shall be undertaken for each project, unless not suitable due to depth limitations, to validate and verify the performance achieved by the piles, and
  - b) when required by the designing engineer, a load test in accordance with AS 2159:2009 including amendment 1 shall be undertaken on the number of piles and load defined by the designing engineer to validate and verify the performance achieved by the piles.
- 8) Installation documentation as required by the Applicable Technical Documentation shall be provided to the certifying Engineer including a declaration that the Katana Piles are:
  - a) Installed in accordance with the Applicable Technical Specification, and
  - b) Within the scope, conditions and limitation of this Certificate, and
  - c) Achieved the performance level expected as demonstrated by the site test(s).
- 9) The designer shall provide a signed Declaration for submission with the building consent application that the use of this product in the proposed building work falls within the scope of this certificate and that all design conditions of this certificate have been met.
- 10) The installer shall supply a signed Declaration that the product has been installed in accordance with the installation conditions of this certificate, for consideration for issuing a Code Compliance Certificate (CCC).

## 7. Health and Safety Information

Health, safety, and well-being declarations associated with installation, maintenance, and use of the building method or product, and their specific editions and dates necessary to ensure the performance requirements of clauses F1 to F9 of the Building Code can be met.

## 8. Basis for Certification

The certification decision is based on independent technical review(s) of test report(s), engineering opinion(s) and other documented evidence(s), factory audit(s) and site review(s).

Code Clause	Compliance pathway	Evidence
B1 STRUCTURE	Alternate solution	1, 2, 3, 4, 5, 6, 7, 8, 9, 10 & 11
B2 DURABILITY	Alternate solution	1, 2, 5, 6, 7 & 9

## 9. Supporting Documentation for Certification

Rev	Author	Description	Date and/or Revision
1	KATANA Foundations	KATANA Screw Pile Performance Guide	Rev Z 1 Oct 2024
2	KATANA Foundations	KATANA Screw Pile Product Statement: 80kN, 100kN, 150kN & 200kN	Iss 7 17 Oct 2024



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3	STA Consulting Engineers	KATANA Foundations Product Specifications – (Codemark – Pile Products Only)	Iss 3	15 Oct 2024
4	STA Consulting Engineers	KATANA Foundations Product Specifications –(Codemark – Attachment Products Only)	Iss 3	15 Oct 2024
5*	Gilmore Engineers (e3k)	KATANA Screw Pile Corrosion Review (Ref: RLH:VLK:213306	-	8 May 2013
6*	Gilmore Engineers (e3k)	KATANA 15 Tonne Screw Pile Corrosion Review (Ref: RLH:VLK:213324)	-	19 Dec 2013
7*	KATANA Foundations	KATANA Screw Piles Guidelines for Design Flood Loads	Ver 2.0	19 Oct 2018
8*	STA Consulting Engineers	KATANA Screw Pile Capacity Calculation Worksheet	V3	28 Nov 2018
9	Stoddart Manufacturing	KATANA Screw Pier and Connectors Material Specifications	Rev B	23 Oct 2018
10	Earth Contact Products	Basic Helical Screw Pile Design Guidelines	-	21 Feb 2005
11	IPENZ Engineers New Zealand	Practice Note 28 – Screw Piles: Guidelines for Design Construction & Installation	Ver 1.0	Oct 2015

\* These documents were provided commercial in confidence and are not publicly available

### 10. Supporting Information About Description (Optional)

Nil

### 11. Supporting Information About Intended Use (Optional)

Nil

### 12. Supporting Information About Conditions and Limitations of Use (Optional)

Nil

**All CodeMark certificates that are current much be registered with MBIE. MBIE maintains a register of valid product certificates. [Please find the register here.](#)**

**If the certificate is not listed on this register or it appears as (SUSPENDED), it is not a valid CodeMark certificate and does not have to be accepted by a building consent authority as establishing compliance with the New Zealand Building Code.**



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