Overview

Instant Screw Piles are used for a range of applications for structures where the founding soils have inadequate bearing strength.

The benefits of Instant Screw Piles include:-

- Speed of installation (10 mins - 6m pile)
- Loads in excess of 100 Tonne
- Unlimited pile lengths (30m++) and reach (25m)
- No mess or waste (concrete or soil)
- Environmentally friendly - no vibration or noise
- Continuous load capacity record
- Segmented Piles where there is limited head height
- Rock anchoring into medium strength rock
- The best way to anchor into fissured clay soils

Instant screw piles are being specified by designers for more cost effective solutions in place of traditional methods of piling for the following types of projects:-

1. Commercial and Residential
2. Earth Reinforcement Anchors
3. Pipelines and Conveyor Systems
4. Lightweight and Entertainment Structures
5. Temporary Buildings and Shade Structures
6. Towers and Signage Structures
7. Environmental Boardwalks and Jetty’s

Scour Piles for beach front development

Research and Development

A great deal of testing has taken place in the theoretical and practical development of Instant Screw Piles. Theoretical models have been developed for sand, clay and rock strata and calibrated back to field results for the performance of Instant Screw Piles. Relationships between soil strength parameters, strata density, installation torque and load bearing capacity have been established which provide a quality control method for utilisation in the field. This has resulted in the greatest engineering and consumer confidence in Instant Screw Piles.

Specifically designed environmentally friendly for minimum vibration, noise & pollution in built up areas with no soil to be removed from site

With a reach in excess of 25m & Vertical or multi directional installation
Structural Strength

The Instant Screw Pile is designed in accordance with AS 2159-1995 and AS 4100-1990 for structural strength and serviceability. Piles can be core filled with concrete to greatly increase structural capacity. The load capacity can be limited by the torsional strength of the steel circular shaft component.

The effective length is determined in accordance with AS 4100 with due consideration being given to soil shear strength and helix location in the profile.

Corrosion allowance is made in accordance with AS 2159-1995 Table 6.3 and 6.4 for the five exposure classifications described. A minimum design life of 75 years is adopted.

<table>
<thead>
<tr>
<th>Max. Load SWL (kN)</th>
<th>Shaft CHS (mm)</th>
<th>Max. Torque (Nm)</th>
<th>Helix Diameter (mm)</th>
</tr>
</thead>
<tbody>
<tr>
<td>50</td>
<td>76.1 x 3.6</td>
<td>9,000</td>
<td>250 x 8</td>
</tr>
<tr>
<td>110</td>
<td>88.9 x 4.0</td>
<td>14,000</td>
<td>300 x 10</td>
</tr>
<tr>
<td>150</td>
<td>88.9 x 5.5</td>
<td>14,400</td>
<td>300 x 10</td>
</tr>
<tr>
<td>250</td>
<td>114.3 x 6.0</td>
<td>30,000</td>
<td>400 x 12</td>
</tr>
<tr>
<td>340</td>
<td>168.3 x 4.8</td>
<td>52,000</td>
<td>500 x 16</td>
</tr>
<tr>
<td>470</td>
<td>168.3 x 6.4</td>
<td>67,000</td>
<td>600 x 20</td>
</tr>
<tr>
<td>520</td>
<td>168.3 x 7.1</td>
<td>75,000</td>
<td>700 x 20</td>
</tr>
<tr>
<td>670</td>
<td>219.1 x 6.4</td>
<td>120,000</td>
<td>800 x 25</td>
</tr>
<tr>
<td>870</td>
<td>219.1 x 8.2</td>
<td>160,000</td>
<td>900 x 25</td>
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<tr>
<td>1300</td>
<td>219.1 x 12</td>
<td>245,000</td>
<td>2/900 x 25</td>
</tr>
</tbody>
</table>

*Indicative Only. Subject to design by suitably qualified professional engineer. Based on stiff clay (cu = 100 kPa), maximum eccentricity = 0.05 D, Steel Grade 350Mpa.

Quality

Instant Screw Piles are manufactured under a quality assurance system. First quality, high-grade steel is used. Under the requirements of the Steel Structures Code, AS4100, no second-hand steel is used whatsoever. Under state regulatory control, only licensed contractors and installing contractors are permitted by law to operate. Instant Screw Piling fulfills every requirement for design, manufacture and installation of Screw Piles. Instant Screw Piling employs professional engineers and offers nothing but the most professional services including design and contracting for piling work around the globe.

When the W.A Water Pipelines traditional supports failed, Instant Screw Piling expertise succeeded at substantially lower cost than any other method.
For further information
Visit our informative website, where you can download CAD drawings and other interesting items:
http://www.piling.com.au

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