### PC PILES

#### DESCRIPTION

**Type of Piles**
- Prestressed Concrete Square Piles
- Prestressed Concrete Spun Piles
- Prestressed Concrete Spun Square Piles
- Prestressed Concrete Triangular Piles

**System of Joints**
- Welded at steel joint plate

**Type of Shoe**
- Concrete Pencil Shoe (Standard) for PC Spun Piles, Spun Square Pile & Square Piles
- Mamira Shoe (Special Order) for PC Spun Pile

**Method of Driving**
- Dynamic Pile Driving: Diesel Hammer and Hydraulic Hammer
- Static Pile Driving: Hydraulic Static Pile Driver (Jacking Pile)

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- Dynamic Pile Driving: Diesel Hammer and Hydraulic Hammer
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#### SPUN PILE WITH TEKCON TECHNOLOGIES, WIKA CLT STANDARD

**Upper / Middle Pile (Double Joint)**

![Diagram of Upper / Middle Pile (Double Joint)]

<table>
<thead>
<tr>
<th>Outer Diameter of Piles D (mm)</th>
<th>Wall Thickness T (mm)</th>
<th>Spiral Wire Diameter (mm)</th>
<th>Pitch Zone L1 (mm)</th>
<th>Pitch Zone L2 (mm)</th>
<th>Length of Pitch L1 (mm)</th>
<th>Length of Pitch L2 (mm)</th>
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January - 2015
### PRE-TENSIONED SPUN CONCRETE PILES SPECIFICATION

#### Structural Properties

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<th>Outer Diameter (mm)</th>
<th>Concrete Wall Thickness (mm)</th>
<th>Class</th>
<th>PC Bar</th>
<th>Concrete Sectional Area (cm²)</th>
<th>Concrete Moment Inertia (cm⁴)</th>
<th>Effective Prestress (kg/cm²)</th>
<th>Allowable Axial Load (ton)</th>
<th>Bending Moment Nominal Weight (kg/m)</th>
<th>Cracking (t.m)</th>
<th>Ultimate (t.m)</th>
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Note: 1) TEKCON PC Piles are manufactured in compliance with JIS A 5335-1987 Pretensioned Spun Concrete Piles and generally conforming to other specifications (ACI 543-1979 & BS.8004-1986 / BS.8110-1985 (ACI 543-1979))
2) PC Bar and Spiral Wires comply with JIS G 3137-1994 and BS.4482 respectively
3) Allowable Axial Load is applicable for pile acting as a short strut. Calculation is based on BS.8004-1986 Foundation & ACI 543-1979
4) Minimum compressive strength of concrete at age 28 days shall be 60 N/mm²
5) Standard piles length is 6 M, 9 M, 10 M and 12 M
6) Modification of the properties can be made upon orders
7) We have a right to modify our manufacturing specification without any prior notice

### PRE-TENSIONED SPUN HIGH STRENGTH CONCRETE PILES SPECIFICATION

#### Grade 80 Piles

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<th>Concrete Sectional Area (cm²)</th>
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Note: 1) TEKCON PC Piles are manufactured in compliance with JIS A 5335-1987 Pretensioned Spun Concrete Piles and generally conforming to other specifications (ACI 543-1979)
2) PC Bar and Spiral Wires comply with JIS G 3137-1994 and BS.4482 respectively
3) Allowable Axial Load is applicable for pile acting as a short strut. Calculation is based on ACI 543-1979
4) Minimum compressive strength of concrete at age 28 days shall be 80 N/mm²
5) Standard piles length is 6 M, 9 M, 10 M and 12 M
6) Modification of the properties can be made upon orders
7) We have a right to modify our manufacturing specification without any prior notice
### MATERIAL SPECIFICATION

<table>
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<th>ITEM</th>
<th>REFERENCE</th>
<th>DESCRIPTION</th>
<th>SPECIFICATION</th>
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<td>Making and Curing Concrete Sample</td>
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<td>ASTM A 416 / A 416M - 99</td>
<td>Standard Specification for Steel Strand, Uncoated Seven-Wire for Prestressed Concrete</td>
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<td>PC Wire</td>
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<td>Uncoated Stress-Relieved Steel Wires and Strands for Prestressed Concrete</td>
<td>SWPD1 (Deformed Wire Type)</td>
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<td>Small Size-Deformed Steel Bars for Prestressed Concrete</td>
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### PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE SPUN PILES

![Pile Shape Diagram](image-url)
PRESTRESSED CONCRETE SPUN PILES SPECIFICATION
Concrete Compressive Strength $f_{c'} = 52$ MPa (Cube 600 kg/cm²)

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<th>Section Inertia (cm⁴)</th>
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</tbody>
</table>

Note: *) Crack Moment Based on JIS A 5335-1987 (Prestressed Spun Concrete Piles)
**) Length of pile may exceed usual standard whenever lifted in certain position
***) Type of Shoe for Bottom Pile is Mamira Shoe

Unit Conversion: 1 ton = 9.8060 kN

PILE SHAPE & SPECIFICATION | PRESTRESSED CONCRETE SQUARE PILES

[Diagram of pile shapes and specifications]
PRESTRESSED CONCRETE SQUARE PILES SPECIFICATION

Concrete Compressive Strength f_c' = 42 MPa (Cube 500 kg/cm²)

Unit Conversion: 1 ton = 9.8060 kN

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Cross Section (cm²)</th>
<th>Section Inertia (cm⁴)</th>
<th>Unit Weight (kg/m)</th>
<th>Class</th>
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<tbody>
<tr>
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<td>32,552</td>
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<td>625</td>
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</table>

**Note:** *Length of pile may exceed usual standard whenever lifted in certain position*

**Typical Splice Specification**

**Examples of Splice Selection**

**Case 1:** Compatible to Body Moment Crack

Splice of PC Piles having equivalent performance to the crack bending moment of the main body.

**Case 2:** Optional Splice

Application of optional splices should be approved by structure designer.

**Pile Shape & Specification** | Prestressed Concrete Triangular Piles
### PRESTRESSED CONCRETE SPUN SQUARE PILES SPECIFICATION

Concrete Compressive Strength $f'_c = 52$ MPa (Cube 600 kg/cm²)

<table>
<thead>
<tr>
<th>Size (mm)</th>
<th>Thickness (mm)</th>
<th>Cross Section (cm²)</th>
<th>Section Inertia (cm⁴)</th>
<th>Unit Weight (kg/m)</th>
<th>Class</th>
<th>Bending Moment (ton.m)</th>
<th>Allowable Compression (ton)</th>
<th>Decompression Tension (ton)</th>
<th>Length of Pile (m)</th>
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Unit Conversion: 1 ton = 9.8060 kN

### PRODUCT APPLICATION

- Piles foundation for Power Plant or Industrial Factory
- Piles for Marine Structure
- Piles Foundation for Building
- Piles Foundation for Bridges

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