

# Piling rig - Tripod – A30

## Learning for CPCS

### Outcomes

Through a combination of targeted training and experience, an individual with the piling rig will be able to:

<b>Roles and responsibilities</b>	<ul style="list-style-type: none"> <li>Describe the nature of the sector of industry and their role and responsibilities as a plant operator</li> </ul>
<b>Preparing equipment</b>	<ul style="list-style-type: none"> <li>Name and explain the purpose of principal components, the basic construction, controls and terminology</li> <li>Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation</li> </ul>
<b>Setting up for work</b>	<ul style="list-style-type: none"> <li>Undertake all pre-use checks</li> <li>Position, configure and set for driven and bored works</li> <li>Explain actions required for hazards, underground and overhead services</li> </ul>
<b>Working tasks</b>	<ul style="list-style-type: none"> <li>Accurately form bored piles to completion</li> <li>Comply with signals and instructions</li> <li>Maintain safe working situations</li> <li>Explain lifting requirements and limitations using a tripod piling rig</li> </ul>
<b>Completing work</b>	<ul style="list-style-type: none"> <li>Carry out shut down procedures</li> <li>De-rig the tripod and prepare for movement</li> </ul>

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### Syllabus

Learning outcome	Training content	
<ul style="list-style-type: none"> <li>Describe the nature of the sector of industry and their role and responsibilities as a plant operator</li> </ul>	<ul style="list-style-type: none"> <li>Industry type</li> <li>Customer / client needs</li> <li>Sector contribution</li> <li>Role</li> <li>Reporting structures</li> <li>Lifelong skills</li> <li>Working practices</li> <li>Social responsibilities</li> </ul>	<ul style="list-style-type: none"> <li>Communication with colleagues / management / other trades</li> <li>Health and Safety at Work Act</li> <li>Environmental issues</li> <li>Other trades</li> </ul>
<ul style="list-style-type: none"> <li>Name and explain the purpose of principal components, the basic construction, controls and terminology</li> </ul>	<ul style="list-style-type: none"> <li>Differing types</li> <li>Functions and applications</li> <li>Power units</li> <li>Stability / ground pressure</li> </ul>	<ul style="list-style-type: none"> <li>Winching systems</li> <li>Piling equipment / attachments</li> <li>Lifting attachments</li> <li>Safety systems</li> <li>Pile types</li> </ul>
<ul style="list-style-type: none"> <li>Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation</li> </ul>	<ul style="list-style-type: none"> <li>Manufacturer's information</li> <li>Machine decals</li> <li>Health and Safety at Work Act</li> <li>PPE</li> <li>Codes of Practice</li> <li>Piling specifications</li> </ul>	<ul style="list-style-type: none"> <li>Method statements</li> <li>Lifting requirements and limitations</li> <li>Risk assessments / COSHH</li> <li>Inspection and reporting forms / procedures</li> <li>Site plans / drawings</li> </ul>
<ul style="list-style-type: none"> <li>Undertake all pre-use checks</li> </ul>	<ul style="list-style-type: none"> <li>Regular and non-scheduled maintenance procedures</li> </ul>	<ul style="list-style-type: none"> <li>Sequence of pre-use checks</li> <li>Defect reporting</li> </ul>
<ul style="list-style-type: none"> <li>Position, configure and set for driven and bored works</li> </ul>	<ul style="list-style-type: none"> <li>Rig positioning</li> <li>Required configuration / attachments</li> <li>Boring settings / equipment</li> <li>Winching systems</li> <li>Hazards</li> </ul>	<ul style="list-style-type: none"> <li>Environmental conditions</li> <li>Counterweights</li> <li>Stability / ground pressure</li> <li>Levelling / inclines</li> <li>Site markings</li> <li>Falls of rope</li> </ul>
<ul style="list-style-type: none"> <li>Explain actions required for hazards, underground and overhead services</li> </ul>	<ul style="list-style-type: none"> <li>Types of typical services</li> <li>Warning / identification systems</li> </ul>	<ul style="list-style-type: none"> <li>Reporting procedures for damage to services</li> <li>Minimum distances and clearance</li> </ul>

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### Learning for CPCS

#### Syllabus (continued)

Learning outcome	Training content	
<ul style="list-style-type: none"> <li>• Accurately form bored piles to completion</li> </ul>	<ul style="list-style-type: none"> <li>• Types of piles</li> <li>• Ground / soil types</li> <li>• Specification</li> <li>• Measuring for pile positioning</li> <li>• Environmental factors</li> </ul>	<ul style="list-style-type: none"> <li>• Maintaining stability and positioning</li> <li>• Productive cycles of operation</li> <li>• Maintaining vertical piles</li> </ul>
<ul style="list-style-type: none"> <li>• Comply with signals and instructions</li> </ul>	<ul style="list-style-type: none"> <li>• Methods and types of signals</li> <li>• Methods of verbal instruction</li> <li>• Multiple signalling</li> </ul>	<ul style="list-style-type: none"> <li>• Electronic communication / setting-up</li> <li>• Codes of Practice</li> <li>• Radio protocol</li> </ul>
<ul style="list-style-type: none"> <li>• Maintain safe working situations</li> </ul>	<ul style="list-style-type: none"> <li>• Stability</li> <li>• Noise / vibration</li> <li>• Visibility</li> </ul>	<ul style="list-style-type: none"> <li>• Environmental</li> <li>• Hazards</li> </ul>
<ul style="list-style-type: none"> <li>• Explain lifting requirements and limitations using a tripod piling rig</li> </ul>	<ul style="list-style-type: none"> <li>• Legislation and regulations</li> <li>• Load connecting</li> </ul>	<ul style="list-style-type: none"> <li>• Load securing</li> <li>• Lifting and load-rating charts</li> </ul>
<ul style="list-style-type: none"> <li>• Carry out shut down procedures</li> </ul>	<ul style="list-style-type: none"> <li>• Shut down procedures</li> <li>• Site conditions</li> </ul>	<ul style="list-style-type: none"> <li>• Cleaning area and equipment</li> </ul>
<ul style="list-style-type: none"> <li>• De-rig the tripod and prepare for movement</li> </ul>	<ul style="list-style-type: none"> <li>• Transporting</li> <li>• Egress arrangements</li> <li>• Security</li> <li>• Manual handling</li> </ul>	<ul style="list-style-type: none"> <li>• De-rigging procedures</li> <li>• Stowage of materials / accessories</li> </ul>

**Note:** The listed training content should not be considered exhaustive and subjects may be added to reflect the individuals' working environment.

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## Learning for CPCS

### Safety critical

Emphasis to be placed on the following topics:

Topic	Emphasis
<ul style="list-style-type: none"> <li>• Manual handling</li> </ul>	<ul style="list-style-type: none"> <li>• Correct procedure during transportation and rigging / de-rigging</li> </ul>

### Duration / Ratios

To allow effective learning, these training times are recommended for this category. Candidates must be profiled to establish learning needs. Durations should be of a length to ensure the learning outcomes are met.

Experience	Accumulated hours
<ul style="list-style-type: none"> <li>• Novice operators with no industry or machine experience</li> </ul>	28
<ul style="list-style-type: none"> <li>• Novice operators with industry experience but no machine experience</li> </ul>	21
<ul style="list-style-type: none"> <li>• Operators with unrelated (piling) machine experience</li> </ul>	14
<ul style="list-style-type: none"> <li>• Operators with similar (piling) machine experience</li> </ul>	7
All candidates must have received the equivalent to 7 hours of site safety and induction training	

***To allow effective learning, the listed candidate / machine / instructor ratio is the maximum recommended for this category***

3 candidates : 1 machine: 1 instructor

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### Resources

Practical equipment	Theory equipment
<ul style="list-style-type: none"> <li>• Piling rig (tripod) that meets current legislation</li> <li>• Suitable attachments for bored piling</li> <li>• Winching support unit</li> <li>• Selection of supporting temporary casings</li> <li>• Concrete supply</li> <li>• Sufficient area of ground suitable for placing piles to various depths</li> </ul> <p><b>PLUS</b></p> <ul style="list-style-type: none"> <li>• Suitable PPE</li> <li>• Risk assessment for all areas where training is occurring</li> </ul>	<ul style="list-style-type: none"> <li>• PUWER 1998 Regulations</li> <li>• LOLER 1998 Regulations</li> <li>• HSE GS6</li> <li>• BS 7121 (parts 1, 2 and 3)</li> <li>• Operator’s Manual</li> <li>• Specifications for types of piling rigs</li> </ul> <p><b>PLUS</b></p> <ul style="list-style-type: none"> <li>• Suitable room for theory training purposes</li> <li>• Welfare and rest facilities during training.</li> </ul>

### Category

#### Category description and types

CPCS defines a category as an item of plant or equipment used within the construction or allied industries and worked in accordance with the manufacturer’s basic design. Although this category can have varying uses within industry and used with many attachments, for CPCS training and assessment standards, the descriptions reflect basic core use.

To identify a machine within this category, a typical driven piling rig would normally have the listed features and be used within the described characteristics.

Category features	Category characteristics
<ul style="list-style-type: none"> <li>• Tripod support unit</li> <li>• Winching unit powered by internal combustion, electric or pneumatic systems</li> <li>• Winch operated lifting metal-stranded hoist rope mounted on pulleys</li> <li>• Percussive attachment suspended by hoist rope at the top of the tripod</li> </ul>	<ul style="list-style-type: none"> <li>• Can work on uneven and loose ground and slopes, and confined areas or with difficult access</li> <li>• Positions and forms small piles by percussive methods</li> </ul>