

Piling rig bored above 20 tonnes - A48 Learning for CPCS



Outcomes

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

| | |
|-----------------------------------|---|
| Roles and responsibilities | <ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator |
| Preparing for work | <ul style="list-style-type: none"> Name and explain the purpose of principal components, the basic construction, controls and terminology Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation Undertake all pre-use checks |
| Travelling and manoeuvring | <ul style="list-style-type: none"> Configure and ready for travel Explain the procedures and precautions to be taken when travelling over rough, undulating ground Manoeuvre in confined spaces |
| Setting up for work | <ul style="list-style-type: none"> Position, configure and set for driven works Explain actions required for hazards, underground and overhead services |
| Working tasks | <ul style="list-style-type: none"> Accurately form bored piles to completion Comply with signals and instructions Maintain safe working situations Explain lifting requirements and limitations using a piling rig |
| Shutting down | <ul style="list-style-type: none"> Carry out shut down and securing procedures Explain the de-rigging, loading and unloading procedures for machine transporting |

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Learning for CPCS



Syllabus

| Learning outcome | Training content | |
|---|--|--|
| <ul style="list-style-type: none"> Describe the nature of the sector of industry and their role and responsibilities as a plant operator | <ul style="list-style-type: none"> Industry type Customer / client needs Sector contribution Role Reporting structures Lifelong skills Working practices Social responsibilities | <ul style="list-style-type: none"> Communication with colleagues / management / other trades Health and Safety at Work Act Environmental issues Other trades |
| <ul style="list-style-type: none"> Name and explain the purpose of principal components, the basic construction, controls and terminology | <ul style="list-style-type: none"> Differing types Functions and applications Power units Hydraulic systems Undercarriage Counterweights Tracks Stability / ground pressure | <ul style="list-style-type: none"> Boring equipment / augers Slewing arrangements Booms / masts (leaders) Lifting attachments Pile types / methods RCIs / RLIs / safety systems ROPS / FOPS |
| <ul style="list-style-type: none"> Conform with manufacturer's requirements as per the operator's handbook, other types of information source and relevant regulations and legislation | <ul style="list-style-type: none"> Operator's Manual Machine decals Health and Safety at Work Act PPE Duties charts Codes of Practice Piling specifications | <ul style="list-style-type: none"> Site plans / drawings Method statements Lifting requirements and limitations Risk assessments / COSHH Inspection and reporting forms / procedures |
| <ul style="list-style-type: none"> Undertake all pre-use checks | <ul style="list-style-type: none"> Regular and non-scheduled maintenance procedures | <ul style="list-style-type: none"> Sequence of pre-use checks Defect reporting |
| <ul style="list-style-type: none"> Configure and ready for travel | <ul style="list-style-type: none"> Travel controls Attachments / accessories Travel position | <ul style="list-style-type: none"> Site travel Visibility Boom / jib positioning Road Traffic Act |

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Learning for CPCS

Syllabus (continued)



| Learning outcome | Training content | |
|--|--|---|
| <ul style="list-style-type: none"> • Explain the procedures and precautions to be taken when travelling over rough, undulating ground | <ul style="list-style-type: none"> • Travel routes • Slopes / inclines • Direction of travel • Traction / aids • Ground conditions | <ul style="list-style-type: none"> • Hazards • Working area • Environment protection / minimise damage |
| <ul style="list-style-type: none"> • Manoeuvre in confined spaces | <ul style="list-style-type: none"> • Visibility • Limitations of vision • Protection of ground / tight turns | <ul style="list-style-type: none"> • Environmental / noise / fumes • Height restrictions |
| <ul style="list-style-type: none"> • Position, configure and set for driven works | <ul style="list-style-type: none"> • Rig positioning • Required configuration / attachments • Rig (boring) controls • Boring settings • Environmental conditions • Hazards | <ul style="list-style-type: none"> • Counterweights • Levelling / inclines • Site markings • Stability / ground pressure • Falls of rope |
| <ul style="list-style-type: none"> • Explain actions required for hazards, underground and overhead services | <ul style="list-style-type: none"> • Warning / identification systems • Reporting procedures for damage to services | <ul style="list-style-type: none"> • Types of typical services • Minimum distances and clearances |
| <ul style="list-style-type: none"> • Accurately form bores piles to completion | <ul style="list-style-type: none"> • Types of piles • Ground / soil types • Specification • Measuring for bore positioning • Environmental factors | <ul style="list-style-type: none"> • Maintaining stability and positioning • Productive cycles of operation • Maintaining vertical bores |
| <ul style="list-style-type: none"> • Comply with signals and instructions | <ul style="list-style-type: none"> • Methods and types of signals • Methods of verbal instruction • Multiple signalling | <ul style="list-style-type: none"> • Electronic communication / setting-up • Codes of Practice • Radio protocol |
| <ul style="list-style-type: none"> • Maintain safe working situations | <ul style="list-style-type: none"> • Stability • Visibility | <ul style="list-style-type: none"> • Hazards |
| <ul style="list-style-type: none"> • Explain lifting requirements and limitations using a piling rig | <ul style="list-style-type: none"> • Legislation and regulations • Load connecting | <ul style="list-style-type: none"> • Load securing • Lifting and load-rating charts |

**Piling rig
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Learning for CPCS
Syllabus (continued)**



| Learning outcome | Training content | |
|---|---|--|
| <ul style="list-style-type: none"> • Carry out shut down and securing procedures | <ul style="list-style-type: none"> • Shut down procedures • Security | <ul style="list-style-type: none"> • Parking and positioning |
| <ul style="list-style-type: none"> • Explain the de-rigging, loading and unloading procedures for machine transporting | <ul style="list-style-type: none"> • Compatibility • Positioning • Security • De-rigging procedures | <ul style="list-style-type: none"> • Types of transporter • Stowage of materials / accessories |

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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Safety critical

Emphasis to be placed on the following topics:

| Topic | Emphasis |
|---|---|
| <ul style="list-style-type: none">• Manoeuvring | <ul style="list-style-type: none">• Facing the direction of travel and no reversing unless authorised by nominated banksman |

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">• Novice operators with no industry or machine experience | 70 |
| <ul style="list-style-type: none">• Novice operators with industry experience but no machine experience | 62 |
| <ul style="list-style-type: none">• Operators with unrelated (piling) machine experience | 42 |
| <ul style="list-style-type: none">• Operators with similar (piling) machine experience | 28 |

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

4 candidates : 2 machines: 1 instructor

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| Practical equipment | Theory equipment |
|---|---|
| <ul style="list-style-type: none"> • Piling rig (bored) that meets current legislation • Suitable attachments for bored piling • Operator’s manual for the rig • Sufficient area of ground suitable for boring works to various depths • Slurry systems and temporary casings • Additional equipment / plant for spoil removal <p>PLUS</p> <ul style="list-style-type: none"> • Suitable PPE • Risk assessment for all areas where training is occurring | <ul style="list-style-type: none"> • PUWER 1998 Regulations • LOLER 1998 Regulations • HSE GS6 • BS 7121 (parts 1, 2 and 3) • Operator’s Manual • Specifications for types of piling rigs <p>PLUS</p> <ul style="list-style-type: none"> • Suitable room for theory training purposes • Welfare and rest facilities during training. |

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 bored 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"> • Track mounted chassis • 360 degree rotating upper structure containing the operating position; power, hydraulic, winching and electrical units • Lattice or telescopic vertical mast (leader) – hydraulically adjustable • Winch operated lifting metal-stranded hoist rope mounted on pulleys • Rotary attachment (auger) suspended by hoist rope at the end of the boom / mast or attached to the mast able to be slid up and down • Operating weight over 20 tonnes | <ul style="list-style-type: none"> • Able to travel in forward and reverse and change direction during travel • Can travel and operate on uneven and loose ground and slopes • Creates borings in a variety of ground and creates piles with additional equipment |