

Training Standard

A31 Ride on Roller



Title	Ride on Roller A31 Novice and Experienced
<p>Novice Durations</p>	<p>Minimum</p> <p>17 (2 ½ Days) hours including assessment time: 1 candidate: 1 trainer: 1 machine 2 candidates: 1 trainer: 2 machines</p> <p>28 (4 Days) hours including assessment time: 2 candidates: 1 trainer: 1 machine 3 candidates: 1 trainer: 2 machines 4 candidates: 1 trainer: 2 machines</p> <p>37 (5 Days)* hours including assessment time: 3 candidates: 1 trainer: 1 machine</p> <p>*(requires 2 x 8 hour days)</p> <p>The maximum number of candidates is four per group, with a maximum number of two machines per group, all learning outcomes must be covered by each candidate.</p> <p>Trainers must ensure all candidates get equal and sufficient practical engagement time.</p> <p><i>The duration stated in the training standard equals the minimum length of time the course and assessments should take to be completed based on the ratios above. How this is organised is at the discretion of the training provider.</i></p>
<p>Experienced Durations</p>	<p>Minimum</p> <p>7 (1 Days) hours including assessment time: 1 candidate: 1 trainer: 1 machine</p> <p>14 (2 Days) hours including assessment time: 2 candidates: 1 trainer: 1 machine 3 candidates: 1 trainer: 2 machines 4 candidates: 1 trainer: 2 machines</p> <p>Candidates must cover all learning outcomes of the standard in full, the trainer must decide and be able to demonstrate and document their decisions for choosing the candidates route based on their knowledge and skills through a documented profiling approach. Evidence of the profiling and decisions must be kept and made available on request.</p> <p>The duration must not be reduced.</p>

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Purpose/ Scope	<p>The Purpose and Scope of this standard is to provide the candidate with the knowledge to support the following:</p> <ul style="list-style-type: none"> • Carrying out all checks, basic maintenance and preparation procedures for site operations • Operating the machine safely and efficiently for compacting operations • Travelling and manoeuvring on various types of terrain and surfaces • Understanding the capabilities, purposes, and limitations of the machine • Understanding all safety precautions • Carrying out safe working practices including shut down and isolation procedures • Understanding compaction requirements and material specifications.
Occupational Relevance	<p>Training delivered against this standard would be relevant to the following occupational group(s):</p> <ul style="list-style-type: none"> • Operative and craft.
Candidate pre – requisites	<p>Profiling: The trainer will demonstrate and document their decisions for choosing either the Novice or Experienced route based on the candidates knowledge and skills through documented profiling.</p> <p>Novice: The candidate does not hold a current industry recognised card within the plant category and/or has limited or no demonstrable practical experience of operating the category of plant in a construction environment. Experience of working on site and a basic knowledge of construction terminology would be beneficial.</p> <p>Experienced: The candidate holds a current industry recognised red card within the plant category or has equivalent experience. The trainer must decide and be able to demonstrate a thorough initial assessment and document their decisions for choosing the experienced route based on the candidates knowledge and skills through a documented profiling approach.</p>
Trainer Requirements	<p>As a minimum, course trainers must be able to demonstrate that, in relation to this standard, they have:</p> <p>Essential:</p> <ul style="list-style-type: none"> • Either <ol style="list-style-type: none"> a) A current card issued by one of the CPCS partner plant schemes at trainer/trainer/assessor level bearing the category of Ride on Roller or b) A current card issued by one of the CPCS partner plant schemes at operator level bearing the category of Ride on Roller. • Level 3 Award in Education and Training or equivalent qualification listed in Appendix 3 of the Requirements for Approved Training Organisations • Health and safety qualification at or equivalent to construction site management level such as:

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	<ul style="list-style-type: none"> - Site Safety Plus Site Management Safety Training Scheme (SMSTS) - Site Safety Plus Site Supervision Safety Training Scheme (SSSTS) - IOSH Managing Safely in Construction - IOSH Safety, Health & Environment for Construction Site Managers - 5-day CISRS Managers course - 5-day CCDO Demolition Manager course and end test - 5-day NPORS Construction Site Safety Manager. <ul style="list-style-type: none"> • In addition to the required qualifications, the trainer must be able to demonstrate 'operational' experience of operating the ride on roller relating to the training they are delivering. This can be demonstrated with a minimum of 1 year operating experience. <p>Desirable:</p> <ul style="list-style-type: none"> • S/NVQ Level 2 Plant Operations in the specific category being trained • Level 3 Certificate in Assessing Vocational Achievement.
Delivery	<p>Training and assessment may be delivered in an on or off-site environment. Where training and assessment takes place within a working construction site environment, training must be segregated from productive work within a prescribed training area, which has been risk assessed and has appropriate control measures in place as required by current legislation and regulations.</p> <p>All equipment required for the training must be set aside specifically for the training session and be available for the entire training duration. Equipment is not to be shared with the working construction site.</p> <p>Welfare facilities must be provided wherever training and assessment takes place, and this should meet relevant legislation.</p> <p>All materials and equipment must be of a suitable quality and quantity for candidates to achieve learning outcomes delivery and assessment criteria, and must comply with relevant legislation, regulations and industry agreed requirements.</p> <p>Irrespective of the number of candidates, effective learning must be maintained for all candidates.</p> <p>The following training delivery methods may be used in the delivery of this standard:</p> <ul style="list-style-type: none"> • Face to face learning environment (such as a classroom/workshop/site office) for theoretical learning & assessment • On or off the job site environment for practical learning and assessment • Simulator for practical training. <p>Note: if a simulator is used, it can only comprise of a total of 20% of overall practical training and not used in any assessment.</p> <p>This standard is considered to contain 70% or more practical training.</p>
Assessment	<p>For the successful completion of training, candidates must complete an end of course practical assessment and knowledge test that has a clear pass or fail criteria as set out by the card scheme. The marking criteria must effectively</p>

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	<p>measure every aspect of each learning outcome and additional guidance for training and assessment.</p> <p>Assessment must adhere to the standard of the CPCS Theory and Practical Test.</p>
<p>Quality Assurance</p>	<p>CPCS will quality assure against this standard and ensure that all Learning Outcomes have been met. The centre must retain evidence that the learning outcomes are referenced and achieved. This must be held by the training centre for a minimum of six years.</p> <p>CPCS will undertake un-announced or announced quality assurance visits of the training to ensure compliance with the Scheme of Works and the requirements of the Tester and Trainer Scheme Booklet.</p> <p>To ensure that compliance checks are effective, NOCN Job Cards Quality Assurance personnel must be given unrestricted access to all activities associated with the delivery of the Training Standards.</p> <p>Further quality assurance requirements are set out in the Test Centre Scheme Booklet.</p>
<p>Approval Date</p>	<p>28th July 2022</p>
<p>Review Cycle</p>	<p>On request or 5 years from approval date.</p>

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Learning outcomes <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcome <i>Training Content to contain the following as a minimum:</i>	Assessment Criteria
Explain the hazards of working in the construction industry, and their responsibilities as a Ride on Roller operator		
<ul style="list-style-type: none"> • Why the industry has many hazards and why safe working practices must be adopted and maintained • Why personal health and safety is not just physical injury and can include the effects of noise and vibration. All of which can lead to lost time, lost income, expense for the employer, fines, custodial sentences etc. • Health & Safety at Work Act 1974, Provision and Use of Work Equipment Regulations (PUWER), Management of Health and Safety of Work (MHSW) Regulations, Construction (Design & Management) Regulations (CDM), Vibration at Work Regulations, Road Traffic Act, HSG144, HSG46 etc. in accordance with risk assessments, method statements, codes of practice and other relevant legislation, regulations, and industry good practice • Operators' moral obligations, legal obligations, and environmental obligations • Reporting structures, the importance of good communication on site (colleagues, management, and other workers on site) • Past incidences involving relevant plant and pedestrians • Working with other related roles e.g. marshallers, supervisors, other plant operatives, other occupations. 	<p>Describe the nature of the sector of industry and their role and responsibilities as a plant operator:</p> <ul style="list-style-type: none"> • Industry type • Sector contribution • Actions required for hazards: <ol style="list-style-type: none"> 1. <i>Noise</i> 2. <i>Vibration</i> 3. <i>Underground and Overhead Services.</i> • Safe working practices • Effects of hazards: <ol style="list-style-type: none"> 1. <i>Lost time</i> 2. <i>Lost income</i> 3. <i>Expense for the employer</i> 4. <i>Fines</i> 5. <i>Custodial sentences.</i> • Legislation, Regulations and Guidance: <ol style="list-style-type: none"> 1. <i>Health and Safety at Work Act</i> 2. <i>Provision and Use of Work Equipment Regulations (PUWER)</i> 3. <i>Management of Health and Safety of Work (MHSW) Regulations</i> 4. <i>Construction (Design and Management) Regulations</i> 5. <i>Vibration at Work Regulations</i> 6. <i>Road Traffic Act</i> 7. <i>HSG114</i> 8. <i>HSG46.</i> • Risk Assessments, Method Statements and Permit to Work 	<ul style="list-style-type: none"> • Identify common hazards on a construction site • Explain safe working practices relevant to the role of ride on roller operator • Explain personal health and safety relevant to the role of ride on roller operator • Identify aspects of legislation, regulations, and industry good practice relevant to the role of ride on roller operator • Describe reporting structures and the importance of good communication on site • Explain the responsibilities of a ride on roller operator.

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Learning outcomes <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcome <i>Training Content to contain the following as a minimum:</i>	Assessment Criteria
	<ul style="list-style-type: none"> • Social Responsibilities • Environmental issues • Reporting structures • Operator Role • Communication with colleagues/ management/ other trades • Customer/ Client needs • Accident statistics. 	
Identify and extract information from the manufacturer’s handbook/ operator’s manual, and other information sources including digital		
<ul style="list-style-type: none"> • Use of the operator’s manual (for the specific machine) during the practical elements of training to identify key preparation, operational and safety aspects of the machine • Types of information sources including machine control systems • Interpreting compaction specifications. 	<p>Conform with manufacturer’s requirements as per the operator’s handbook, other types of information source and relevant regulations and legislation:</p> <ul style="list-style-type: none"> • Operator’s Manual <ol style="list-style-type: none"> 1. <i>Safety Information</i> 2. <i>Operation</i> 3. <i>Maintenance.</i> • Codes of practice • Site plans/ drawings • Risk Assessments and Method Statements • COSHH. <ol style="list-style-type: none"> 1. <i>Safety Data Sheets</i> • Inspection and reporting forms/ procedures. 	<ul style="list-style-type: none"> • Identify and extract key elements for the preparation and safe use of the ride on roller using various sources.
Locate and identify the major components, signs and decals, and all controls of the Ride on Roller and explain their functions		
<ul style="list-style-type: none"> • The purpose of principal components, the basic construction, controls, and terminology 	<p>Name and explain the purpose of principal components, the basic construction, controls and terminology:</p>	<ul style="list-style-type: none"> • Identify and explain the function of all controls and warning systems

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Learning outcomes <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcome <i>Training Content to contain the following as a minimum:</i>	Assessment Criteria
<ul style="list-style-type: none"> • How correct and sympathetic use of the controls can ensure efficiency and safety of the machine and help prolong machine life by reducing wear and tear • Purposes of Roll Over Protection Systems (ROPS) and Falling Objects Protection Systems (FOPS) and other protection systems • Machine control systems – efficiencies, GPS. 	<ul style="list-style-type: none"> • Differing types of roller • Functions and applications • Drums • Chassis • Steering • Engines • Transmission • Vibration system • Water sprinkler system • Electrical system • ROPS • FOPS • Tyres (if fitted). 	<ul style="list-style-type: none"> • Explain why the correct and sympathetic use of controls aids efficiency, longevity, and safety • State the purposes of ROPS and FOPS and other protection systems • Locate and identify the major components, signs and decals, and controls of the machine.
Conduct all pre-operational checks in accordance with manufacturer’s and legislative requirements		
<ul style="list-style-type: none"> • Complete all pre-start and running checks before any activity takes place including vibratory system set up, visual checks for damage, functionality, and effectiveness • All componentry systems fully functional including mechanical, hydraulic, pneumatic, electrical and electronic etc. • Replenish fuels, fluids and lubricants and undertake grease-based lubrication activities • Manufacturers periodic checks and operator level maintenance requirements • Defect reporting requirements • Carry out routine adjustments on ancillaries including scraper bar settings 	<ul style="list-style-type: none"> • Operator protection: <ol style="list-style-type: none"> 1. <i>Personal Protection Equipment (PPE) including Hearing protection.</i> • Check the scraper setting: <ol style="list-style-type: none"> 1. <i>It is important to consider movement of the drum when the machine turns, i.e., the scrapers can be damaged or wear of the drum may increase if adjustment is made closer than the values stated.</i> • Check coolant level: <ol style="list-style-type: none"> 1. <i>Take great caution if the radiator cap must be opened while the engine is hot. Wear protective gloves and goggles.</i> 	<ul style="list-style-type: none"> • Explain the procedure for defect reporting and why it’s important. <p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Conduct all pre-operational checks as above in accordance with manufacturer guidance and legislative requirements note: <i>verbal description to the trainer of specific pre-start checks will be acceptable if the machine is hot where they cannot be done safely e.g. engine fluids.</i>

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<ul style="list-style-type: none"> • Safety systems functions including emergency stop • Health and safety requirements when undertaking basic maintenance activities including Personal Protection Equipment (PPE) and sprinkler systems function • Check condition and function of seatbelt and any other restraining equipment • Check condition and function of any lighting and warning systems. 	<ul style="list-style-type: none"> • Check the engine oil level: <ol style="list-style-type: none"> 1. <i>Pull up the dipstick and check that the oil level is between the upper and lower marks.</i> • Check fluid level in hydraulic reservoir: <ol style="list-style-type: none"> 1. <i>Place the roller on a level surface and check that the oil level in the sight glass is between the max and min markings.</i> • Check fuel: <ol style="list-style-type: none"> 1. <i>Top up the fuel tank at the end of every day to prevent condensation build up in the tank.</i> • Check Tyres – Air pressure – wheel nuts – tightening: <ol style="list-style-type: none"> 1. <i>Check the tyre pressures using a pressure gauge – when changing the tyres it is important that both of them have the same rolling radius. This is necessary to ensure proper functioning of the anti-slip in the rear axle.</i> • Air cleaner: <ol style="list-style-type: none"> 1. <i>Change the air cleaner’s main filter when the warning lamp on the display lights when the engine is operating at full speed.</i> <p>Before starting:</p>	

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<p>Learning outcomes</p> <p><i>Delivery to include and the candidate will be able to:</i></p>	<p>Additional guidance to support learning outcome <i>Training Content to contain the following as a minimum:</i></p>	<p>Assessment Criteria</p>
	<ul style="list-style-type: none"> • Master switch – switching on • Operator’s seat – adjustment • Control panel – adjustment • Display - control • Parking brake – the parking must be activated to start the machine. <p>Starting the engine:</p> <ul style="list-style-type: none"> • Make sure that the emergency stop is off and the parking brake is on • Set the forward/ reverse lever in neutral position, and set the speed selector in the idling position. <p>Water sprinkler system</p> <ul style="list-style-type: none"> • Gravity or pressurised sprinkler system spray the roller drums with water to prevent the compacted surface being picked up on the drums: <ol style="list-style-type: none"> 1. <i>In sub-zero temperatures drain water tank if roller is not in use.</i> 	
<p>Identify and maintain personal protective equipment (PPE) and appropriate safety control equipment for Ride on Roller use</p>		
<ul style="list-style-type: none"> • What safety control equipment/PPE should be worn/used for ride on roller operations and include the following: suitable safety footwear, ear defenders, face/eye protection, dust mask, suitable 	<ul style="list-style-type: none"> • Head protection • Foot protection • High-visibility clothing • Weather-appropriate clothing • Hearing protection 	<ul style="list-style-type: none"> • Describe what forms of PPE and RPE must be worn for ride on roller operations

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<p style="text-align: center;">Learning outcomes</p> <p><i>Delivery to include and the candidate will be able to:</i></p>	<p style="text-align: center;">Additional guidance to support learning outcome</p> <p><i>Training Content to contain the following as a minimum:</i></p>	<p style="text-align: center;">Assessment Criteria</p>
<ul style="list-style-type: none"> gloves, overalls, hard hat, respiratory protective equipment (RPE), protective clothing etc. • Appropriate use of local exhaust ventilation (LEV) i.e. in confined spaces • Why weather conditions, including heat and cold, can determine what PPE is worn when using the ride on roller and the personal effects of incorrect equipment. 	<ul style="list-style-type: none"> • Eye protection • Gloves • Respiratory protective equipment. <p>Local exhaust ventilation (LEV):</p> <ul style="list-style-type: none"> • Pre-use checks and regular maintenance • Defects in local exhaust ventilation systems must be reported and promptly rectified. <p>Weather conditions including heat and cold:</p> <ul style="list-style-type: none"> • Supplying suitable PPE: <ol style="list-style-type: none"> 1. <i>Appropriate for the risks involved and the conditions of exposure</i> 2. <i>It takes account of the ergonomic requirements and state of health of the user</i> 3. <i>It can fit the wearer properly</i> 4. <i>Effectively prevents or adequately controls exposure to risk</i> 5. <i>Complies with any relevant UK or European Regulation or Directive.</i> 	<ul style="list-style-type: none"> • Explain why PPE must be worn for ride on roller operations • Give an example of when use of LEV would be appropriate • State how severe weather can affect safety and health with insufficient equipment
<p>Safely get on and off the machine</p>		
<ul style="list-style-type: none"> • Working at height requirements • Safe use of all hand holds and steps • Facing the machine when getting on and off the roller for operational and maintenance purposes 	<ul style="list-style-type: none"> • Use grabrails and footsteps provided to reach machine seat: <ol style="list-style-type: none"> 1. <i>Mount and dismount facing machine.</i> • Working at height requirements • Pedestrian routes should be established and segregated from mobile plant and vehicles 	<ul style="list-style-type: none"> • Explain the effects of not using correct procedures to get on and off the roller including when carrying out adjustment and maintenance activities • Explain the areas for safely getting on and off the roller.

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<ul style="list-style-type: none"> • Effects of continually getting on and off the roller e.g. fatigue, increased risk of falling etc. • Safe areas to get on and off the roller e.g. ground location, other vehicle movements etc. • Procedures for accessing the roller when carrying out adjustment and maintenance activities 	<ul style="list-style-type: none"> • Traffic routes should be planned in order to minimise congestion and risk of collision • Appropriate speed limits • Parking place designated for vehicles • Operators must be informed of proximity hazards • Ground conditions should be stable and sufficiently level for the operations being carried out • Plant safe zones. <p>Medical Fitness:</p> <ul style="list-style-type: none"> • Ensure that operators are medically fit to operate • Employee is physically and mentally capable of undertaking the tasks they are required to carry out. <p>Adjustment and maintenance activities:</p> <ul style="list-style-type: none"> • Scraper – check, adjustment: <ol style="list-style-type: none"> 1. <i>It is important to consider movement of the drum when the machine turns, i.e., the scrapers can be damaged or wear of the drum may increase if adjustment is made closer than the values stated.</i> 	<p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Demonstrate the correct procedures as listed above.
Prepare the roller for movement by checking and adjusting the machine for operation		
<ul style="list-style-type: none"> • Use of seatbelts and other restraining equipment • Adjustment of seating position and mirrors • Steering and transmission systems checks 	<ul style="list-style-type: none"> • Check controls <ol style="list-style-type: none"> 1. <i>Master switch – switching on</i> 2. <i>Seat – adjust for comfort/ reach</i> 3. <i>Wear seatbelt – adjust</i> 	<ul style="list-style-type: none"> • Identify and select correct PPE and weather-related equipment to be worn during practical assessment

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<p style="text-align: center;">Learning outcomes</p> <p><i>Delivery to include and the candidate will be able to:</i></p>	<p style="text-align: center;">Additional guidance to support learning outcome</p> <p><i>Training Content to contain the following as a minimum:</i></p>	<p style="text-align: center;">Assessment Criteria</p>
<ul style="list-style-type: none"> • Types of visibility aids and what factors can affect clear, all-round vision • Where and why effective vision is extremely important • How and where issues can arise when vision is limited during operation • Warning beacons and other safety systems/lights are operable • Reversing warning aids function • Legislative requirements for road travel e.g. licencing for travelling on the public highway • Carrying of passengers/non-authorized personnel where additional seating is fitted, in line with manufacturers recommendations • Traction aids (single drum types). 	<ol style="list-style-type: none"> 4. <i>Check parking brake – on</i> 5. <i>Controls – to neutral.</i> <ul style="list-style-type: none"> • Seatbelt must be worn when operating machines fitted with a Roll Over Protection Structure • Adjustment of seat and mirrors • Steering checks. • Visibility aids: <ol style="list-style-type: none"> 1. <i>Mirrors</i> 2. <i>Proximity warning systems</i> 3. <i>Thumbs up procedure.</i> • Safety zones <ol style="list-style-type: none"> 1. <i>Yellow zone – line of sight of operator and out of danger</i> 2. <i>Amber zone – machine immobilised, and personnel must gain permission from the dumper operator</i> 3. <i>Red zone – machine must be immobilised, and permission gained from the dumper operator.</i> • Seat belt wearing indicators: <ol style="list-style-type: none"> 1. <i>Rotating green beacon which is activated when the seat belt clasp is engaged</i> 2. <i>Road Vehicle Lighting Regulations specifies that green lights are reserved for medical emergency vehicles – green beacon not to be illuminated when travelling on public highway.</i> • Flashing beacon • Travelling on the public highway: 	<ul style="list-style-type: none"> • Explain the legal requirements for travelling on the public highway. <p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Ensure the seatbelt is worn correctly prior to any machine movement • Demonstrate that functional checks have been completed for all applicable warning lamps, safety systems and visions systems are in place, clear and functional • Conduct all-round visibility checks before moving away.

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	<ol style="list-style-type: none"> 1. <i>The roller must be registered and taxed as a “special vehicle”</i> 2. <i>The roller must have vehicle insurance</i> 3. <i>The driver must hold a full car (category B) licence</i> 4. <i>Lights and indicators.</i> <ul style="list-style-type: none"> • <i>Do not carry passengers.</i> 	
Travel and manoeuvre the roller safely across varying terrain and inclines		
<ul style="list-style-type: none"> • Travelling over undulating ground, on inclines, smooth level surfaces, uncompacted ground • How travel speeds affect roller stability, safety, and emissions • Issues which can occur if departing from designated travel routes to/from the compaction area • Types of underground services and the effects of travelling near to/over services • Effects of travelling close to edges, embankments and trenches • How uncompacted surfaces and inclines affect stability • How certain types of surfaces can affect traction, particularly on inclines • How use of the roller can affect other works. 	<ul style="list-style-type: none"> • Stability: <ol style="list-style-type: none"> 1. <i>Driving to fast for the ground conditions</i> 2. <i>Turning to sharply</i> 3. <i>Steep slopes or driving across slopes</i> 4. <i>Uneven ground/ trenches, potholes in the ground</i> 5. <i>Soft ground.</i> • Ground conditions • Ground assessment • Ground related hazards: <ol style="list-style-type: none"> 1. <i>Soft ground</i> 2. <i>VOIDS</i> 3. <i>Underground services</i> 4. <i>Lack of maintenance of running surfaces</i> 5. <i>Excavations</i> 6. <i>Open or steep sided edges</i> 7. <i>Slopes</i> 8. <i>Excessive travel speed</i> 9. <i>Wet ground</i> 	<ul style="list-style-type: none"> • Explain other occupations on site and how their work can be affected by the roller movement. <p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Demonstrate safe travel over rough, undulating ground, inclines and level surfaces • Demonstrate safe travel speeds in accordance with terrain and environment • Face the direction of travel • Travel up and down a gradient • Stop and start on the gradient whilst travelling uphill • Stop and start on the gradient whilst travelling downhill.

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	<ul style="list-style-type: none"> 10. <i>Environmental constraints such as habitat protection</i> 11. <i>Dry and dusty roads – need for eye protection.</i> • Ground improvement • Driving on difficult surfaces: <ol style="list-style-type: none"> 1. <i>If the machine should get stuck, select the gear position that is most suitable for the situation</i> 2. <i>Drum slipping – select drum spin mode (if fitted)</i> 3. <i>Rear tyre slipping – select wheelspin mode (if fitted).</i> • Working on gradients: <ol style="list-style-type: none"> 1. <i>To optimise available pulling force and protect the machine’s engine against over-revving while working on steep slopes</i> 2. <i>Select a low gear</i> 3. <i>Never drive with a higher gear/ at a faster speed that the machine requires to climb up the same slope.</i> 	
Conduct all necessary safety checks at the work area		
<ul style="list-style-type: none"> • Safety checks that must be carried out to ensure that the area to be compacted is clear of hazards • Actions required for emergency situations • Communication requirements and methods with other machine operators and support workers 	<ul style="list-style-type: none"> • Potential hazards identified at the loading and unloading area: <ol style="list-style-type: none"> 1. <i>Ground conditions</i> 2. <i>The area to be compacted</i> 3. <i>Weather</i> 	The following should be observed during the practical assessment: <ul style="list-style-type: none"> • Identify and use designated compacting area entry and exit locations • Demonstrate how to ensure the compacting area is clear of hazards and explain why this is important

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<ul style="list-style-type: none"> • Requirements for sufficient manoeuvring area for manoeuvring between compacted and non-compacted areas • Ground conditions to support the ride on roller and maintain stability • Procedures for mounting/dismounting raised kerbed area • Working in hours of darkness and lighting requirements. 	<ol style="list-style-type: none"> 4. <i>Other traffic</i> 5. <i>Site personnel</i> 6. <i>Proximity hazards – obstacles, debris, excavations, over-head power lines.</i> <ul style="list-style-type: none"> • Pedestrian routes should be segregated from mobile plant and vehicles and other traffic • Traffic routes should be planned in order to minimise congestion and risk of collision. These routes should be kept free of obstructions and properly maintained, with access points restricted and clearly marked • Procedures for mounting/ dismounting raised kerbed area • When working in the hours of darkness or in reduced visibility, lights must be fitted and used to enable the work area to be adequately illuminated. • Plant safe zones: <ol style="list-style-type: none"> 1. <i>Always signal the operator and receive a positive response before entering Zone 1</i> 2. <i>Keep out of Zone 2 at all times.</i> 	<ul style="list-style-type: none"> • Establish communication methods with other machine operators and support workers.
Compact a range of materials to specification		
<ul style="list-style-type: none"> • Typical hazards within a compaction area and reasons for exclusion zones 	<ul style="list-style-type: none"> • Before starting work on the compacting area check that there are no obstacles in the way: 	<ul style="list-style-type: none"> • Explain the checks which need to be carried out at the compaction area

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<p style="text-align: center;">Learning outcomes</p> <p><i>Delivery to include and the candidate will be able to:</i></p>	<p style="text-align: center;">Additional guidance to support learning outcome</p> <p><i>Training Content to contain the following as a minimum:</i></p>	<p style="text-align: center;">Assessment Criteria</p>
<ul style="list-style-type: none"> • Checks which need to be carried out at the compaction area • Types of granular, cohesive and bituminous type materials that can be compacted • Compacting procedures for cambers, crossfalls, radius, straight runs, edges, kerbing and raised ironwork • Examples of poor compacting techniques including scuffing, turning on a pass, too close to edges etc. • Applying overlaps, passes and correct travel speeds • Compacting a range of compatible materials according to a given specification including straight runs, against kerbs and edges, around radius or various angles and around raised ironwork • Use of vibration modes and settings including frequency and amplitude • Use of water • How to interpret compaction specifications • Effects of not following the compaction specification including applying too many or insufficient number of passes, incorrect vibration setting, speeds etc. • Dangers of working near to edges or on cambers when using vibration mode. 	<ol style="list-style-type: none"> 1. <i>Pedestrians</i> 2. <i>Underground services/ overhead cables</i> 3. <i>Traffic</i> 4. <i>Overtuning</i> 5. <i>Crush zones</i> 6. <i>Other workers</i> 7. <i>Works vehicles</i> 8. <i>Noise/ vibration</i> 9. <i>Hazardous substances</i> 10. <i>Falls from height.</i> <ul style="list-style-type: none"> • Checks which need to be carried out at the compaction area: <ol style="list-style-type: none"> 1. <i>Risk Assessment and method statement</i> 2. <i>Start and finishing points</i> 3. <i>Compaction specifications.</i> • Types of granular, cohesive and bituminous type materials: <ol style="list-style-type: none"> 1. <i>Aggregate – crushed rock/ gravel/ sand</i> 2. <i>Binder – bitumen</i> 3. <i>Surface/ Wearing course</i> 4. <i>Base course</i> 5. <i>Sub base</i> 	<ul style="list-style-type: none"> • Describe typical hazards within a compaction area and reasons for exclusion zones • Explain compacting procedures for cambers, crossfalls, radius, straight runs, edges, kerbing and raised ironwork • Explain the dangers of working near to edges or on cambers when using vibration mode • Describe types of granular, cohesive and bituminous type materials that can be compacted • Identify compaction methods required in accordance with the compaction specifications for a range of materials • Describe the effects of not following the compaction specification including applying too many or insufficient number of passes, incorrect vibration setting, speeds etc. <p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Ensure compaction area is clear of hazards • Enter compaction area exclusion zone using correct entry point • Compact a straight run with supporting and un-supporting edges applying at least 3 passes - the straight run to be

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	<p>6. <i>Sub grade.</i></p> <ul style="list-style-type: none"> • Compacting procedures: <ol style="list-style-type: none"> 1. <i>Deadweight or vibration rolling</i> 2. <i>Number of passes</i> 3. <i>Type of material</i> 4. <i>Weight of machine</i> 5. <i>Moisture content</i> 6. <i>Thickness of the material</i> 7. <i>Water sprinkler system.</i> • Start by compacting the joints. The transverse joint first, then the longitudinal joint • After trapping the joints start your rolling pattern from the low side working across to the high side of the camber and crossfalls • Always roll forwards and backwards in the same lane. Changes should only occur on previously compacted material • Roll the second and subsequent lanes parallel to the first overlapping in the case of tandem rollers by approx.. 100 mm • Radius – Use a slow rolling speed, roll in two or more directions with small turns 	<p>compacted must be no less than 15m in length with a sufficient hard standing to move on and off and park the machine</p> <ul style="list-style-type: none"> • Compact a radius with supporting edge applying at least 3 passes - the radius must have a curve of 5-10m • Apply vibration mode as relevant to the compaction method. <p>Assessment requirements:</p> <ul style="list-style-type: none"> • Compaction specifications provided to candidate for them to identify correct method for material and layer thickness • The width of the compaction area must be no less than 4 x the width of the drum of the roller to be used • Cones or other obstructions must be placed in the compacting area to simulate ironwork • A rolling pass comprises of compacting in one direction using the dead rolling method and returning on the same path using the vibratory system • The compactable material used must clearly show areas that have been compacted, overlapped and any direction change • Compaction must take place as close to the supported area as practicable depending on the material used

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	<ul style="list-style-type: none"> • Do not stop roller on uncompacted material. Stagger the stopping place to prevent transverse roller marks. • Frequency and Amplitude: <ol style="list-style-type: none"> 1. <i>Frequency – number of oscillations of the drum per second</i> 2. <i>Amplitude is the vertical movement of the drum.</i> • Poor compaction: <ol style="list-style-type: none"> 1. <i>Compacting too thick a layer</i> 2. <i>Scuffing the surface</i> 3. <i>Higher rolling speeds result in a ripple or washboard effect</i> 4. <i>Thin layers – fast cooling</i> 5. <i>Materials cracking – low air/ surface temperature.</i> • Risks of sliding sideways: <ol style="list-style-type: none"> 1. <i>Vibrating rollers can slide sideways when compacting on cambers</i> 2. <i>Run one drum in static mode, and other in vibrating mode</i> 3. <i>Roll with relatively high speed</i> 4. <i>Use low amplitude when vibrating.</i> 	<ul style="list-style-type: none"> • An overlap will comprise of no more than one quarter of the width of the compacting drum • Realignment for new passes only takes place on designated turning areas.

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Learning outcomes <i>Delivery to include and the candidate will be able to:</i>	Additional guidance to support learning outcome <i>Training Content to contain the following as a minimum:</i>	Assessment Criteria
Explain the environmental considerations of Ride on Roller use		
<ul style="list-style-type: none"> • Health and social reasons to reduce machine emissions • Government industry zero emission initiatives • What ‘tailpipe’ emissions are caused by diesel engines • Air quality and the component gases of air • How engine emissions, including particulate matter affect air quality and the effects on human and environmental wellbeing • Measures to reduce emissions during operations including alternative/low emission fuels, fuel treatments and particulate filtration systems etc. • Efficient use of the machine and when and how minimising engine use can aid air quality and fuel savings • Eco-friendly oils, fluids and lubricants • Fuel-saving techniques for specific item of plant • Appropriate disposal of waste • Spillage procedures. 	<p>Air Pollution:</p> <ul style="list-style-type: none"> • Common construction activities that contribute to air pollution include: <ol style="list-style-type: none"> 1. <i>Use of plant and vehicles on site</i> 2. <i>Land clearing and demolition</i> 3. <i>Chemicals.</i> • Consequences of air pollution: <ol style="list-style-type: none"> 1. <i>Employees</i> 2. <i>Local Residents</i> 3. <i>Environmental.</i> <p>Water Pollution:</p> <ul style="list-style-type: none"> • Common construction sources that contribute to air pollution include: <ol style="list-style-type: none"> 1. <i>Diesel and oil</i> 2. <i>Other toxic chemicals.</i> • Consequences of water pollution: <ol style="list-style-type: none"> 1. <i>People</i> 2. <i>Environmental – water contamination.</i> <p>Noise Pollution:</p> <ul style="list-style-type: none"> • Effects of noise pollution: 	<ul style="list-style-type: none"> • Explain the health and social reasons for reducing machine emissions • Discuss government industry zero emission initiatives • List two or more effects on human and environmental wellbeing as a result of engine emissions • Identify measures to reduce emissions on site • Explain appropriate disposal of waste • Explain spillage procedures • Describe the need to keep engine speed and load to a minimum whilst maintaining working efficiency.

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	<p>1. <i>Potential hearing loss.</i></p> <p>Pollution Prevention Strategies:</p> <ul style="list-style-type: none"> • Air pollution: <ol style="list-style-type: none"> 2. <i>Adopt hybrid technology</i> 3. <i>Use low sulphur diesel</i> 4. <i>Improve existing equipment</i> 5. <i>Wear appropriate PPE.</i> • Water pollution: <ol style="list-style-type: none"> 1. <i>Monitor and improve your management and disposal of site waste</i> 2. <i>Keep materials secure</i> 3. <i>Cover up all drains</i> 4. <i>Keep the road and footpath to the site clean</i> 5. <i>Properly treat any chemical spillages</i> 6. <i>Ensure plant and equipment is properly maintained and operated.</i> • Noise pollution: <ol style="list-style-type: none"> 1. <i>Use quiet equipment</i> 2. <i>Schedule work during sociable hours</i> 3. <i>Put acoustic (movable noise) barriers in place</i> 	

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	<ol style="list-style-type: none"> 4. <i>Ensure plant and equipment is properly maintained and operated</i> 5. <i>Switch off plant when it's not in use</i> 6. <i>Ensure employees wear the correct PPE.</i> 	
Explain loading/ unloading procedures for machine transportation		
<ul style="list-style-type: none"> • Procedures for preparing the ride on roller for loading onto a transporter • Traction and surface preparation requirements • Understanding of agreed methods of communication between the plant operator and others • Working at height requirements when driving onto or off a transporter bed. 	<p>Loading and unloading areas should be:</p> <ul style="list-style-type: none"> • Clear of other traffic, pedestrians, and people • Clear of overhead electric cables • Level, to maintain stability, trailers should be parked on firm level ground • Ensure the vehicle or trailer has its brakes applied and all stabilisers are used • Working at height to be considered • Always check the floor or deck of the transportation. <p>Loading Procedure:</p> <ul style="list-style-type: none"> • Make sure the ramps are correctly in place and secure • Carefully drive the machine onto the trailer • Parking brake lever is in drive position 	<ul style="list-style-type: none"> • Describe the preparation of both roller and transporter for loading and unloading of the roller • Explain the precautions to be taken when driving the roller onto and off the transporter bed • State the methods of communication between the plant operator and others • Describe the dangers of and requirements for working at height when on the vehicle bed.

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	<ul style="list-style-type: none"> • Transmission release lever is in drive position • Ensure transport lock is in position to prevent the front and rear chassis articulating randomly • Switch off the engine and remove starter key. Secure the cab • Ensure legal load (height/ weight) • Anchor the machine to the trailer with chains as per manufacturer guidelines. 	
Carry out all end of work and shut down procedures		
<ul style="list-style-type: none"> • Types of safe locations, areas, and ground/terrain types where rollers may be parked and should not be parked • Reasons for ensuring safe parking and unintentional movement and ground support requirements • Carrying out parking, shut down and isolation requirements according to manufacturer's instructions • Reasons for roller isolation including security and non-authorized use by others • Use of anti-vandalism equipment • Water tank draining procedures • Scraper bar release. 	<ul style="list-style-type: none"> • Shut down procedures: <ol style="list-style-type: none"> 1. <i>Set the speed control in idling position and allow the engine to idle for a few minutes to cool down</i> 2. <i>Check the display to see if any faults are indicated</i> 3. <i>Switch off all lights and other electrical functions</i> 4. <i>Activate the parking brake and then turn the ignition lock to the off position</i> 5. <i>Fit the instrument cover on the display and top of the control box (on rollers without cab), and lock it</i> 6. <i>Check and clean scraper bars.</i> • If temperatures are likely to fall below freezing point, the water tank should be drained when parking for any considerable length of time. 	<ul style="list-style-type: none"> • Describe the use of anti-vandalism equipment. <p>The following should be observed during the practical assessment:</p> <ul style="list-style-type: none"> • Demonstrate and explain safe parking of the roller - <i>roller is parked in a safe, designated location, clear of hazards on level, firm ground</i> • Apply brake systems effectively • Demonstrate how to isolate and secure the roller to prevent non-authorized use and explain why this is important.

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	<ul style="list-style-type: none"> • Security: <ol style="list-style-type: none"> 1. <i>Ensure that all vehicles are securely immobilised whenever the site is unoccupied</i> 2. <i>Anti – vandalism equipment fitted (if required).</i> • When parking the machine at the end of the shift ensure the machine is not parked: <ol style="list-style-type: none"> 1. <i>Site roads</i> 2. <i>Pedestrian routes</i> 3. <i>Soft/ wet/ steep ground</i> 4. <i>Access/ egress routes from buildings.</i> 	

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Additional information about this standard

Emphasis to be placed on the following topics:

- Visibility prior to and during reversing – Constant and full visibility before and during manoeuvring; types of visibility aids and their limitations and weaknesses.

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

To identify a machine within this category, a typical ride on roller would normally have the listed features and be used within the described characteristics.

Category features:

- Articulated chassis supported by two steel compacting drums or rear pneumatic tyres.
- Centrally mounted operating position on the rear half, power, transmission, hydraulic and electrical units. Or;
- Rigid Chassis supported by three compacting drums, containing a centrally mounted operating position, power, transmission, hydraulic and electrical units.
- Smooth Steel- wheeled split drums on the front.

Category characteristics:

- Able to travel in forward and reverse and change direction during travel by articulating the chassis or turning the front drum.
- Compact a variety of soils, hot and cold granular materials.

Theory Resource:

- PUWER 1998 Regulations
- The Management of Health and Safety at Work Regulations 1999
- Health and Safety at Work Act 1974
- The Construction (Design and Management) Regulations 2015
- LOLER 1998 Regulations
- Road Traffic Act 1988
- Safe Use of Vehicles on Construction Sites HSG 144 – HSE
- Safety signs and signals. The Health and Safety Regulations 1996
- New Roads and Street Works Act 1991 (NRSWA)
- Operator's manual
- Specifications for types ride on roller
- Site traffic management requirements
- Industry Guidance

Measure of this training standard

The candidate is required to pass the following tests;

CPCS Theory Test: Ride on Roller

- Course Trainers can use the published CPCS Theory Questions during training to confirm that the candidate is able to demonstrate the required knowledge understanding and retention to undertake the CPCS Standard Technical Theory Test.

CPCS Practical Test: Ride on Roller

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- Course Trainers can use the published CPCS Practical Test criteria during training to confirm that the candidate is able to demonstrate the required practical ability and understanding to undertake the CPCS Standard Technical Practical Test.

Note - Course Trainers can find the current versions of the CPCS Technical Test Theory Questions and CPCS Technical Practical Test NOCN Job Cards website and are subject to review, ensure you are using the most current version as printed versions are uncontrolled.
www.nocnjobcards.org