

# Training Standard

## Ride on roller (novice)

### Learning outcomes

Including additional guidance to support training delivery and final assessment

*The delegate will be able to:*

explain the hazards of working in the construction industry, and their responsibilities as a ride on roller operator

*Delivery to include:*

- 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, HSG47 etc. in accordance with risk assessments, method statements, codes of practice and other relevant legislation, regulations, and industry good practice
- operators' moral, legal, 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

*Assessment criteria:*

- 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

identify and extract information from the manufacturer's handbook/operator's manual, and other information sources including digital

*Delivery to include:*

- 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

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*Assessment criteria:*

- 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

*Delivery to include:*

- the purpose of principal components, the basic construction, controls, and terminology
- 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

*Assessment criteria:*

- identify and explain the application of all controls and management functions
- 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 manufacturers and legislative requirements

*Delivery to include:*

- 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
- 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
- requirements for dealing with fluid spills including prevention and clean-up methods

*Assessment criteria:*

- conduct all pre-operational checks as above in accordance with manufacturer guidance and legislative requirements (note: verbal description to the instructor of specific pre-start checks will be acceptable if the machine is hot where they cannot be done safely e.g. engine fluids) – *this should be observed during practical assessment*
- explain the procedure for defect reporting and why it's important

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identify and maintain personal protective equipment (PPE) and appropriate safety control equipment for ride on roller use

*Delivery to include:*

- what safety control equipment/PPE should be worn/use for ride on roller operations and include the following: suitable safety footwear, ear defenders, face/eye protection, dust mask, suitable 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

*Assessment criteria:*

- describe what forms of PPE and RPE must be worn for ride on roller operations
- 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

safely get on and off the machine

*Delivery to include:*

- 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
- 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

*Assessment criteria:*

- explain the effects of not using correct procedures to get on and off the roller including when carrying out adjustment and maintenance activities
- demonstrate the correct procedures as listed above – *this should be observed during practical assessment*
- explain the areas for safely getting on and off the roller

prepare the roller for movement by checking and adjusting the machine for operation

*Delivery to include:*

- use of seatbelts and other restraining equipment
- adjustment of seating position and mirrors
- steering and transmission systems checks
- types of visibility aids and what factors can affect clear, all-round vision
- where and why effective vision is extremely important

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- 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-authorised personnel where additional seating is fitted, in line with manufacturers recommendations
- traction aids (single drum types)

## Assessment criteria:

- ensure the seatbelt is worn correctly prior to any machine movement – *this should be observed during practical assessment*
- demonstrate that functional checks have been completed for all applicable warning lamps, safety systems and visions systems are in place, clear and functional – *this should be observed during practical assessment*
- conduct all-round visibility checks before moving away – *this should be observed during practical assessment*
- identify and select correct PPE and weather-related equipment to be worn during practical assessment
- explain the legal requirements for travelling on the public highway

travel and manoeuvre the roller safely across varying terrain and inclines

## Delivery to include:

- 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

## Assessment criteria:

- demonstrate safe travel over rough, undulating ground, inclines and level surfaces – *this should be observed during practical assessment*
- demonstrate safe travel speeds in accordance with terrain and environment – *this should be observed during practical assessment*
- face the direction of travel – *this should be observed during practical assessment*
- travel up and down a gradient – *this should be observed during practical assessment*
- stop and start on the gradient whilst travelling uphill – *this should be observed during practical assessment*
- stop and start on the gradient whilst travelling downhill – *this should be observed during practical assessment*
- explain other occupations on site and how their work can be affected by the roller movement

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conduct all necessary safety checks at the work area

*Delivery to include:*

- 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
- 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

*Assessment criteria:*

- identify and use designated compacting area entry and exit locations – *this should be observed during practical assessment*
- demonstrate how to ensure the compacting area is clear of hazards and explain why this is important - *this should be observed during practical assessment*
- establish communication methods with other machine operators and support workers - *this should be observed during practical assessment*

compact a range of materials to specification

*Delivery to include:*

- typical hazards within a compaction area and reasons for exclusion zones
- 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

*Assessment criteria:*

- explain the checks which need to be carried out at the compaction area

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- 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.
- ensure compaction area is clear of hazards - *this should be observed during practical assessment*
- enter compaction area exclusion zone using correct entry point - *this should be observed during practical assessment*
- compact a straight run with supporting and un-supporting edges applying at least 3 passes - the straight run to be compacted must be no less than 15m in length with a sufficient hard standing to move on and off and park the machine – *this should be observed during practical assessment*
- 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 - *this should be observed during practical assessment*

## Assessment requirements:

- compaction specifications provided to delegate for them to identify correct method for material and layer thickness
- the width of the uncompacted area must be no less than 4 x the width of the drum of the roller to be used and each pass must be on uncompacted ground
- 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
- 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

explain environmental considerations of ride on roller use

## Delivery to include:

- health and social reasons to reduce machine emissions
- government industry zero emission initiatives
- what 'tailpipe' emissions are caused by compression ignition (CI) diesel engines during internal combustion
- air quality and the component gases of air

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- 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

*Assessment criteria:*

- 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

explain loading/unloading procedures for machine transportation

*Delivery to include:*

- 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

*Assessment criteria:*

- 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

carry out all end of work and shut down procedures

*Delivery to include:*

- 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

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- 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

*Assessment criteria:*

- demonstrate and explain safe parking of the roller - *roller is parked in a safe, designated location, clear of hazards on level, firm ground – this should be observed during practical assessment*
- apply brake systems effectively – *this should be observed during practical assessment*
- demonstrate how to isolate and secure the roller to prevent non-authorized use and explain why this is important – *this should be observed during practical assessment*
- describe the use of anti-vandalism equipment