

TIN 030 Tower Crane Erection Team Composition

1.0 Introduction

The safe erection, alteration, climbing and dismantling (installation) of tower cranes relies on the competence of the occupational team carrying out the various tasks on site. It is therefore essential that each erection team is made up of the correct minimum number of personnel with the appropriate combination of skills, experience, supervision and training to enable them to work effectively and safely as a team. The following table shows the minimum requirements recommended by the CPA Tower Crane Interest Group, defined through regulatory requirements and official guidance.

2.0 Recommended Occupational Standards

Occupation	Responsibilities <i>(as defined in BS7121-5)</i>	Competence Standard
Erection Supervisor	<ul style="list-style-type: none"> Control of all senior erectors, erectors, junior and trainee erectors and technicians Control of any additional craneage and lifting equipment which could be used in the installation operation, thereby fulfilling the role of the crane supervisor Ensuring that the operation is carried out in accordance with the method statement Ensuring that any additional craneage and equipment is in accordance with that specified and properly certified Ensuring that all erection personnel are equipped with the necessary tools and personal protective equipment Working on the installation of the crane in accordance with the manufacturer's instructions and job-specific method statement 	<p>Essential:</p> <ul style="list-style-type: none"> CSCS Tower Crane Erector Card (Gold) *1 Site Supervision Safety Training Scheme (SSSTS)*2 <p><i>Note: *1 must be based on tower crane installation activities *2 CITB approved courses only</i></p> <hr/> <p>Recommend Accumulative Experience:</p> <ul style="list-style-type: none"> Sufficient experience and scope of activities through on-site and workplace activities, relevant to erection duties <p>Progression Activities <i>(recommended attainment items for occupational progression)</i></p> <ul style="list-style-type: none"> CSCS-logged carding for: <ul style="list-style-type: none"> - Slinger/signaller*1 - Crane/Lifting Operations Supervisor <p><i>Note: *1 - Ideally a competence-based card for both duties. S/S minimum endorsement of static duties</i></p>
Senior Erector	<ul style="list-style-type: none"> Supervision of erectors as directed by the erection supervisor Responsibility for, and close monitoring of, any junior and trainee erectors involved with the installation of the crane Supporting the duties of the erection supervisor. 	<p>Essential:</p> <ul style="list-style-type: none"> CSCS Tower Crane Erector Card (Gold) *1 Site Supervision Safety Training Scheme (SSSTS)*2 <p><i>Note: *1 must be based on tower crane installation activities *2 CITB approved courses only</i></p>

Technical Information Note

Occupation	Responsibilities <i>(as defined in BS7121-5)</i>	Competence Standard
Senior Erector <i>(cont'd)</i>	<ul style="list-style-type: none"> Working on the installation of the crane in accordance with the manufacturer's instructions and job-specific method statement 	<p>Recommend Accumulative Experience:</p> <ul style="list-style-type: none"> Sufficient experience and scope of activities through on-site and workplace activities, relevant to erection duties <p>Progression Activities: <i>(recommended attainment items for occupational progression)</i></p> <ul style="list-style-type: none"> CSCS-logged carding for: <ul style="list-style-type: none"> - Slinger/signaller*¹ - Crane/Lifting Operations Supervisor*¹ <p>Note: *¹ must be based on tower crane installation activities</p>
Erector	<ul style="list-style-type: none"> Working on the installation of the crane in accordance with the manufacturer's instructions and a job specific method statement. Supporting and working under the guidance of a senior erector or erection supervisor. Working on the installation of the crane in accordance with the manufacturer's instructions and job-specific method statement 	<p>Essential:</p> <ul style="list-style-type: none"> CSCS Tower Crane Erector Card (Blue)*¹ <p>Note *¹ must be based on tower crane installation activities</p> <hr/> <p>Recommend Accumulative Experience:</p> <ul style="list-style-type: none"> Sufficient experience and scope of activities through on-site and workplace activities, relevant to erection duties <p>Progression Activities: <i>(recommended attainment items for occupational progression)</i></p> <ul style="list-style-type: none"> CSCS-logged carding for: <ul style="list-style-type: none"> - Slinger/signaller*¹ - Crane/Lifting Operations Supervisor*¹ Site Supervision Safety Training Scheme (SSSTS) *² <p>Note: *¹ - Ideally a competence-based card for both duties. S/S minimum endorsement of static duties *² CITB approved courses only</p>
Trainee Erector	<ul style="list-style-type: none"> Supporting the installation of the crane in accordance with the manufacturer's instructions and a job specific method statement 	<p>Essential:</p> <ul style="list-style-type: none"> Hold a CSCS trainee card bearing the occupation of Tower Crane Erector

Occupation	Responsibilities <i>(as defined in BS7121-5)</i>	Competence Standard
Trainee Erector <i>(cont'd)</i>	<ul style="list-style-type: none"> Working under the direct guidance of a senior erector, erection supervisor and /or erector Near completion of a dedicated and defined learning programme that leads towards the CSCS Tower Crane Erector Card (Blue) Working on the installation of the crane in accordance with the manufacturer's instructions and job-specific method statement Maintain activity logbook to demonstrate experience 	<p>Recommend Accumulative Experience:</p> <ul style="list-style-type: none"> Sufficient experience and scope of activities through on-site and workplace activities, relevant to erection duties <p>Progression Activities: <i>(recommended attainment items for occupational progression)</i></p> <ul style="list-style-type: none"> CSCS-logged carding for Slinger/signaller *¹ NVQ level 2 plant installation - tower crane option, to upgrade to CSCS blue card <p>Note: *¹ - Ideally a competence-based card for both duties. S/S minimum endorsement of static duties</p>
New Entrant Erector <i>(optional role)</i>	<p>Note: This optional route is for those new and inexperienced to the sector and potentially the workplace, to aid new employees into the sector</p> <ul style="list-style-type: none"> On a dedicated and defined learning programme Learning activities undertaken in the employer's depot and any external training programmes Supervised and assessed off-site learning programme 	<p>Essential:</p> <ul style="list-style-type: none"> Hold a CSCS trainee card with the occupation of Tower Crane Erector Card (Red)
Tower Crane Installation Technician	<ul style="list-style-type: none"> To undertake the confirmation of the supply and the earthing arrangements. To make the connections at the base of the crane, to the site supply or generation equipment. Observing safe isolation procedures, connection, and authorisation for energising of the supply to the crane once all checks have been completed. To connect the crane components during erection stages, in a safe manner ensuring electrical connections are secure prior to energising individual circuits. 	<p>Essential:</p> <ul style="list-style-type: none"> CSCS Plant Maintenance and Repair (Gold) <p>and/or</p> <ul style="list-style-type: none"> CSCS - logged Electrotechnical Certification Scheme Card (Gold) <p>plus;</p> <ul style="list-style-type: none"> Hold Level 3 Award in the Requirements for Electrical Installations Hold a CSCS Tower Crane Erector Card (blue)

Occupation	Responsibilities (as defined in BS7121-5)	Competence Standard
Tower Crane Installation Technician (cont'd)	<ul style="list-style-type: none"> Setting of limitations and calibration of Rated Capacity Indicators and control devices. To undertake control and documenting all load and function testing. Supporting the duties of the erection team Working on the installation of the crane in accordance with the manufacturer's instructions and job-specific method statement <p>Note: All installations and maintenance will be undertaken in line with the latest British Standards e.g BS 7671:2018 Requirements for Electrical Installations, IET Wiring Regulations.</p>	<p>Recommend Accumulative Experience:</p> <ul style="list-style-type: none"> Sufficient experience and scope of activities through on-site and workplace activities, relevant to the role <p>Progression Activities: (recommended attainment items for occupational progression)</p> <ul style="list-style-type: none"> CSCS-logoed carding for: <ul style="list-style-type: none"> Slinger/signaller *1 Crane/Lifting Operations supervisor *1 <p>Note: *1 Ideally a competence-based card for both duties. S/S a minimum endorsement of static duties</p> <ul style="list-style-type: none"> Manufacturer Training (Electrical and/or Maintenance)
Tower Crane (Transitional) Installation Technician (Optional)	<p>Note: this optional route is for those experienced and qualified in electrical installations but no experience of tower crane erection activities</p> <ul style="list-style-type: none"> Responsibilities as per installation technician Working under supervision to allow existing skills sets and qualifications to be matched to tower crane activities 	<p>Essential:</p> <p>Working towards listed competencies as per installation technician, plus;</p> <ul style="list-style-type: none"> CSCS tower crane erector card <p>Progression Activities: (recommended attainment items for occupational progression)</p> <ul style="list-style-type: none"> CSCS-logoed carding for Slinger/signaller*1 <p>Note: *1 Ideally a competence-based card for S/S with a minimum endorsement of static duties</p> <ul style="list-style-type: none"> Manufacturer Training (Electrical and/or Maintenance)
All Roles	Additional Training	<p>Essential:</p> <ul style="list-style-type: none"> Training on working at height and rescue at height activities <p>Ideal:</p> <ul style="list-style-type: none"> Training for: <ul style="list-style-type: none"> First Aid/at height (where not covered during rescue at height programmes) Site Environmental Awareness Training Scheme (SEATS) *1 MEWP operations Lifting accessory training (specific to installation activities) Torque-equipment <p>Note: *1 CITB approved courses only</p>

Clarification	
Recommend Accumulative Experience:	<p>To progress to the next level of hierarchy for the relevant occupation/role, the individual should – to be considered as competent* - have attained sufficient experience in accumulating the relevant skills and supporting knowledge whilst carrying out the full scope of the required activities and be confident and able to do so, requiring minimal supervision – or none as in the case of the supervisor role. This accumulation should be measured through a pre-defined process of milestones and ongoing work-place assessments and typically would likely take a number of years.</p> <p>* The definition of competence is referenced within the Plant Safety Group's publication 'Competence to Operate Construction Plant' - https://www.cpa.uk.net/safety-and-technical-publications/plant-safety-group</p>

3.0 Additional Guidance

3.1 A tower crane erection team should have a minimum of four members and consist of:

- Supervisor;
- Senior Erector;
- Erector;
- Technician.

Additional erectors may be required, depending on the type and model of crane, and the circumstances of the operation being undertaken.

NOTE: If allocated to the task, only **one** Trainee Erector should be permitted within each team and will not count towards the stated minimum number of team members. For example, if the process requires five team members and a junior or trainee is to be included, the team should be increased to a team of six, as the junior/trainee is excluded from the number of competent erectors required.

3.2 It is essential that all tower crane erection personnel are familiar with the type and model of crane on which they are working. They may need frequent additional training for example before they work on new systems or equipment with which they are not familiar.

3.3 The nature and extent of this training will depend on the complexity of the new equipment and the degree of difference from the equipment with which they are familiar. All training and familiarisation should be formalised and recorded.

3.4 Product specific training of erection personnel for climbing operations should always be carried out by the equipment manufacturer or their approved agent.

3.5 It is important that all personnel in the erection team are regularly assessed to ensure that they can carry out their duties safely and effectively, supported by a formal and recorded assessment process.

3.6 For all roles, product-specific training should only be delivered by a product specialist, either from the manufacturer (OEM) or an employer-designated subject matter.