Excellect 209 (PTY) LTD Trading as

NICORE

Training and Development

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PERFORM TANDEM LIFTING

US 116583
NQF Level: 04
Credits: 12

COURSE OVERVIEW

US 116583
Perform Tandem Lifting

PURPOSE OF THE UNIT STANDARD

The qualifying learner is capable of:
Setting up cranes and lifting loads in tandem in accordance with safety legislation requirements and standard industry procedures. Knowledge of the different types and characteristics of lifting equipment, Specification charts, Standard formulas and specifications for calculation of mass of final loads in each hook, Procedures for obtaining certificates for lifting machines.

The contribution to The National Skills Development Strategy is the key developmental interface between learners and new competencies to be achieved.

Learners who master the applied competence described in this unit standard will contribute to the development of a professional community of Structural Steel Erectors who are able to competently use science and technology when performing lifts in tandem.
In addition, the learner's ability to interpret and carry out instructions in a competent manner will lead to enhanced quality of workmanship and reduce the costs associated with work having to be redone and the resultant over-run on deadlines.
An enhanced understanding of safety legislation and safety common sense will lead to a notable reduction in the high and often catastrophic risks associated with lifts in tandem.

Specific Outcomes and Assessment Criteria:

SPECIFIC OUTCOME 1
Demonstrate an understanding of tandem lifting procedures.

ASSESSMENT CRITERIA

1. Different types of lifting equipment are identified and their characteristics described
2. Crane lifting charts are used to determine the lifting performance of cranes
3. Mass of final loads in each hook are calculated and tabulated in accordance with standard formulas and specifications
4. Procedures for obtaining certificates for lifting machines and all equipment in the hook are described
5. An indication is given of the procedures to be followed and documentation to be completed for insuring lifts in tandem
6. Techniques and procedures for calculating levels, setting out alignments of structures, evaluating ground conditions and overhead structures are explained
7. Safety procedures for tandem lifting are described and manual and/or by radio communication techniques are demonstrated

SPECIFIC OUTCOME 2
Plan tandem lifting tasks.

ASSESSMENT CRITERIA

1. Equipment is selected in accordance with design engineer's requirements
2. Lifting equipment charts are evaluated and derated in accordance with good and safe working practice for lifting loads in tandem
3. Lifting equipment charts are analysed, load is compared and verified against performance specifications

4. Mass of loads and safe working loads for the duration of the lifting operation are calculated and documented for each participating hook
5. The location and route of travel in relation to the centre of gravity is calculated and documented
6. Certificates for lifting machines and equipment are obtained, certified and documented in accordance with safety legislation requirements
7. Insurance companies are informed of the intent to undertake a lift in tandem

SPECIFIC OUTCOME 3
Prepare to undertake lifts in tandem.

ASSESSMENT CRITERIA
1. Levels and set out alignments of structures are checked and verified against tandem lift requirements
2. Ground conditions are evaluated and verified in accordance with design engineer's requirements for absolute level and crane manufacturer's specifications
3. Overhead hazards are identified and appropriate locations for erection of lifting equipment are identified
4. Climatic conditions, in particular wind speeds, are evaluated and parameters set in accordance with manufacturer's operating instructions for the method statement
5. Erection Site is isolated by barriers in accordance with standard industry procedures and safety legislation requirements
6. Safety procedures and communication signals are carried by a designated person in accordance with standard industry procedures and safety legislation requirements
7. Adequate consumables for the safe and efficient operation of lifting equipment are available

SPECIFIC OUTCOME 4
Prepare and undertake a crane set-up.

ASSESSMENT CRITERIA
1. Lift is controlled by one designated person in accordance with standard industry procedures and safety legislation requirements
2. Hoist lines are positioned and hook travel path controlled for the duration of lifting operations in accordance with design engineer's instructions
3. Secondary crane load is kept as low as practicable when tailing operations are carried out
4. Both crane movements are controlled for the duration of lifting operations
5. Load stability is maintained during lifting procedures in accordance with manufacturer and design engineer's specifications, safety legislation requirements and standard industry procedures
6. Loads are lifted without injury to persons or damage to components and/or equipment, or uncompleted structures, in accordance with safety legislation and standard procedures for safe working practices
7. Work in confined spaces is carried out in accordance with safety legislation and standard industry procedures
8. Loads are completed in accordance with design engineer's specifications and safety legislation requirements