

Overview

This standard is about planning lifting activities, it involves the scheduling and agreement of proposed work methods with decision-makers

This standard is for people who have the responsibility for planning lifting operations using lifting equipment and can be used by operatives, supervisors and managers

Performance criteria

You must be able to:

Performance criteria 1

Confirm work requirements

1.1 confirm the work requirements to determine how the lifting activity should be carried out by producing records from the following information sources:

- 1.1.1 survey reports
- 1.1.2 designs
- 1.1.3 contractual documentation
- 1.1.4 statutory consents
- 1.1.5 risk assessments
- 1.1.6 method statements
- 1.1.7 rigging studies
- 1.1.8 drawings
- 1.1.9 programmes
- 1.1.10 records regarding competence of lifting team
- 1.1.11 sub-contractor arrangements
- 1.1.12 health, safety and environmental plans
- 1.1.13 utilities
- 1.1.14 work permits
- 1.1.15 local authorities
- 1.1.16 highways authorities
- 1.1.17 manufacturers data

Performance criteria 2

Identify and review the influencing factors

2.1 identify and review the influencing factors and relevant guidance material relating to the work environment and resources required for the lifting activity

2.2 produce records for the following influencing factors:

- 2.2.1 customer requirements
- 2.2.2 organisational requirements
- 2.2.3 contractual requirements
- 2.2.4 statutory requirements
- 2.2.5 resource allocation
- 2.2.6 working requirements
- 2.2.7 environmental considerations

Plan lifting activities

2.2.8 weather conditions

2.2.9 safety, health and welfare requirements

2.3 produce records of identification and review of the following guidance and information sources:

2.3.1 lifting equipment, other equipment and accessories, manuals and data

2.3.2 maintenance or examination schedules and manuals

2.3.3 good practice guides and specifications

2.3.4 current legislation and official guidance

2.3.5 organisational procedures

Performance criteria 3

Methods of work

3.1 plan, arrange, assessing and account for influencing factors including the relevant lifting equipment, lifting accessories, lifting categories and lifting activities

3.2 produce records of all influencing factors including the relevant lifting equipment, lifting accessories, lifting categories and lifting activities

Performance criteria 4

Amend work methods

4.1 amend work methods to take account of changing circumstances whilst maintaining the requirements of the lifting activity in relation to:

4.1.1 customer requirements

4.1.2 organisational requirements

4.1.3 contractual requirements

4.1.4 statutory requirements

4.1.5 resource allocation

4.1.6 working requirements

4.1.7 environmental considerations

4.1.8 weather conditions

4.1.9 safety, health and welfare requirements

4.2 create or complete records of amended working methods taking into account the following circumstances:

4.2.1 susceptibility to damage

4.2.2 safety requirements

4.2.3 compromised operational effectiveness

4.2.4 weather conditions

4.2.5 use, or change of use of equipment

4.2.6 current legislation

Plan lifting activities

4.2.7 resources

4.2.8 lifting equipment, other equipment and accessories data

4.2.9 workforce and lifting team

4.2.10 security threats

4.2.11 external factors

4.2.12 project alterations

4.2.13 ground conditions

Performance criteria 5

Communicate work methods

5.1 communicate work methods to people involved in the lifting operation including any amendments required due to changing circumstances by producing records of communication

Performance criteria 6

Prepare plans and record work methods and schedules

6.1 prepare plans, create or complete records of work methods in written and visual formats. Negotiate and agree them with decision-makers

6.2 negotiate and agree them plans and work methods with decision-makers

Performance criteria 7

Planning calculations

7.1 apply a range of engineering-based calculations that support the planning process based on mathematical formulas that apply tolerances, factors of safety, variations and ranges to determine:

7.1.1 height

7.1.2 length

7.1.3 density

7.1.4 mass

7.1.5 capacity

7.1.6 volume

7.1.7 area

7.1.8 angles

7.1.9 stress or strain

7.1.10 loadings

7.1.11 pressure

7.1.12 stability

7.1.13 velocity

7.1.14 temperature

Plan lifting activities

7.1.15 ratios

7.1.16 deflection

7.1.17 time

7.1.18 shape

7.1.19 centre of gravity

Knowledge and understanding

You need to know and understand:

Performance criteria 1

Confirm work requirements

K1 how to confirm work requirements for the following lifting activities:

- 1.1 freely suspended loads
- 1.2 above ground operations
- 1.3 below ground operations
- 1.4 lifting of persons
- 1.5 dismantling operations
- 1.6 excess height lifts
- 1.7 multiple lifting
- 1.8 pick-and-carry
- 1.9 where the operator does not have clear sight of the load
- 1.10 loading and unloading

K2 how to use a range of information sources in relation to the following stakeholders:

- 2.1 customers
- 2.2 contractors
- 2.3 consultants
- 2.4 specialists
- 2.5 statutory consents

K3 who to consult with to confirm the work requirements for the lifting activity and how to determine suitability of the following lifting equipment:

- 3.1 access equipment
- 3.2 crawler cranes
- 3.3 drilling rigs
- 3.4 excavators
- 3.5 floating lifting equipment
- 3.6 hoists
- 3.7 knuckle-boom cranes
- 3.8 lorry loaders
- 3.9 masted forklifts
- 3.10 mobile cranes
- 3.11 non-mechanised lifting equipment

Plan lifting activities

- 3.12 overhead cranes
- 3.13 pedestal cranes
- 3.14 piling rigs
- 3.15 specialist lifting equipment
- 3.16 telescopic handlers
- 3.17 tower cranes
- 3.18 jacking equipment

Performance criteria 2

Identify and review the influencing factors

K4 how to identify and review influencing factors in relation to the following:

- 4.1 customer requirements
- 4.2 organisational requirements
- 4.3 contractual requirements
- 4.4 statutory requirements
- 4.5 resource allocation
- 4.6 working requirements
- 4.7 environmental considerations
- 4.8 weather conditions
- 4.9 health, safety and welfare requirements

K5 how to identify and review guidance material in relation to:

- 5.1 manufacturers data
- 5.2 operators manuals
- 5.3 lifting equipment and lifting accessory equipment data
- 5.4 maintenance data or examination schedules and manuals
- 5.5 good practice guides and specifications
- 5.6 approved codes of practice
- 5.7 organisational procedures
- 5.8 relevant legislation
- 5.9 official guidance

Performance criteria 3

Methods of work

K6 how to account for the following influencing factors:

- 6.1 customer requirements
- 6.2 organisational requirements
- 6.3 contractual requirements
- 6.4 statutory requirements

Plan lifting activities

6.5 resource allocation

6.6 working requirements

6.7 environmental considerations

6.8 weather conditions

6.9 health, safety and welfare requirements

K7 how and why to prioritise lifting activities in relation to the following:

7.1 freely suspended loads

7.2 above ground operations

7.3 below ground operations

7.4 lifting of persons

7.5 dismantling operations

7.6 excess height lifts

7.7 multiple lifting

7.8 pick-and-carry

7.9 where the operator does not have clear sight of the load

7.10 loading and unloading

K8 how to define the lifting equipment for a specific lifting activity in relation to:

8.1 access equipment

8.2 crawler cranes

8.3 drilling rigs

8.4 excavators

8.5 floating lifting equipment

8.6 hoists

8.7 knuckle-boom cranes

8.8 lorry loaders

8.9 mast-mounted forklifts

8.10 mobile cranes

8.11 non-mechanised lifting equipment

8.12 overhead cranes

8.13 pedestal cranes

8.14 piling rigs

8.15 specialist lifting equipment

8.16 telescopic handlers

8.17 tower cranes

8.18 jacking equipment

K9 how to define the type of lifting category in relation to:

Plan lifting activities

9.1 basic

9.2 intermediate

9.3 complex

K10 why you need to match the lifting equipment, lifting accessories, lifting category, and lifting activity to the planned lifting operation

Performance criteria 4

Amend work methods

K11 how to take account of changing circumstances in relation to:

11.1 susceptibility to damage

11.2 safety requirements

11.3 compromised operational effectiveness

11.4 weather conditions

11.5 use, or change of use

11.6 current legislation

11.7 resources

11.8 lifting equipment, other equipment and accessories data

11.9 workforce and lifting team

11.10 security threats

11.11 external factors

11.12 project alterations

11.13 ground conditions

K12 how to amend work methods when reviewing influencing factors in relation to:

12.1 customer requirements

12.2 organisational requirements

12.3 contractual requirements

12.4 statutory requirements

12.5 resource allocation

12.6 working requirements

12.7 environmental considerations

12.8 weather conditions

12.9 health, safety and welfare requirements

Performance criteria 5

Communicate amended work methods

K13 how and why it is important for effective communication of work methods using discussions, sketches and briefings of the lifting activities to people involved in the lifting operation

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K14 why it is important to communicate amended work methods

K15 why changing circumstances can cause amendments to the lifting activity in relation to:

15.1 susceptibility to damage

15.2 safety requirements

15.3 compromised operational effectiveness

15.4 weather conditions

15.5 use, or change of use

15.6 current legislation

15.7 resources

15.8 lifting equipment, other equipment and accessories data

15.9 workforce and lifting team

15.10 security threats

15.11 external factors

15.12 project alterations

Performance criteria 6

Prepare plans and record work methods and schedules

K16 how to prepare plans and record work methods and schedules for lifting activities

K17 how to negotiate and agree work methods and schedules with decision-makers

Performance criteria 7

Planning calculations

K18 how to identify international system (SI), national, regional, manufacturer specific, regulative and official guidance that apply to the following units:

18.1 height

18.2 length

18.3 density

18.4 mass

18.5 capacity

18.6 volume

18.7 area

18.8 angles

18.9 stress or strain

18.10 loadings

18.11 pressure

18.12 stability

Plan lifting activities

18.13 velocity

18.14 temperature

18.15 ratios

18.16 deflection

18.17 time

18.18 shape

18.19 centre of gravity

K19 how industry accepted tolerances for factors of safety are applied to planning activities

K20 how to use a range of mathematical formulas to plan lifting operations in relation to:

20.1 size, volume and weights of crane loads

20.2 ground bearing pressures

20.3 wind speeds and loadings

20.4 hoist rope strength

20.5 stability

20.6 derating

20.7 angles of slings

20.8 heights, distances and clearances

20.9 boom and jib angles, radius and deflection

20.10 centre of gravity

Plan lifting activities

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