

Overview

This standard identifies the competences you need to repair and replace lift ropes, chains and belts, and to remove, repair and modernise a selection of new and existing lift car and/or landing doors, in accordance with approved procedures including manual, two speed, centre opening, bi-parting and collapsible or shutter gates on existing installations. Other equipment covered may include door operators, controllers, safety devices and ancillary equipment.

Your responsibilities will require you to comply with organisational policy and procedures for the maintenance activities undertaken, and to report any problems with the activities, or with the tools and equipment that are used that you cannot personally resolve, or that are outside your permitted authority, to the relevant people. You must ensure that all tools, equipment, and materials used in the servicing activities are removed from the work area on completion of the activities, and that all necessary job/task documentation is completed accurately and legibly. You will be expected to work with minimal supervision, taking personal responsibility for your own actions and for the quality and accuracy of the work that you carry out

Your underpinning knowledge will provide a good understanding of your work, and will provide an informed approach to applying lift door, chains and rope repair/replacement procedures. You will understand the operation of the chains, ropes and doors, and their application, and will know about the door, chain and rope mechanisms, in adequate depth to provide a sound basis for carrying out the activities, correcting faults, and ensuring that the repaired lifts operate safely and correctly, to the required specification and remains compliant with all standards and regulations. You will also be expected to report where the outcome of the replacement work identifies the need for further investigation or maintenance work.

You will understand the safety precautions required when carrying out the inspection and servicing activities, especially those for isolating the equipment. You will be required to demonstrate safe working practices throughout, and will understand your responsibility for taking the necessary safeguards to protect yourself and others in the workplace.

Performance criteria

You must be able to:

1. work safely at all times, complying with health and safety legislation and other relevant regulations, directives and guidelines
2. follow the relevant specifications for the component to be repaired
3. prepare the component for repair
4. carry out the repairs within agreed timescale using approved materials, components, methods and procedures
5. ensure that the repaired component meets the specified operating conditions
6. complete and store all relevant repair documentation in accordance with organisational requirements
7. dispose of waste materials in accordance with safe working practices and approved procedures and leave the work area in a safe condition

Knowledge and understanding

You need to know and understand:

1. the specific safety precautions to be taken when working with lift doors, chains and ropes (including any specific legislation, regulations or code of practice relating to the activity, equipment or materials used), and the responsibility they place on you
2. the safe working practices for lifts (as described in BS7255)
3. the health and safety requirements of the work area in which you are carrying out the repair/replacement activities
4. the organisational procedure for safe systems of work and risk assessment
5. the isolation and lock-off procedures or permit-to-work procedure that applies
6. the personal protective equipment (PPE) that you need to wear during the repair/replacement activities
7. safe methods of manual handling, and the safe use of mechanical lifting devices
8. hazards associated with carrying out repair/replacement activities to lift doors, chains and ropes (such as handling fluids, stored pressure/force, electrical contact, process controller interface, using faulty or damaged tools and equipment, using practices/procedures that do not follow laid-down procedures, working at height), and how to minimise them and reduce any risks
9. what constitutes a hazardous voltage and how to recognise victims of electric shock
10. how to reduce the risks of a phase to earth shock (such as insulated tools, rubber matting and isolating transformers)
11. where to obtain, and how to interpret, drawings, circuit diagrams, specifications, manufacturers' manuals and other documents needed in the repair/replacement activities
12. the principles of operation of the equipment being repair/replaced
13. the preparation of materials for fitting
14. the tools and equipment to be used during the repair/replacement activities
15. appropriate method of alignment, using plumb lines and gauges, pointers or optical devices
16. methods of adjustments, settings and checks
17. the checks to be made on tools and equipment used, to ensure that they are fit for service

18. how you would know if the tools or equipment are covered by calibration or legislative inspections

19. tool control during the repair/replacement activities

20. the care required when working with decorative finishes and surfaces

21.

the documentation to be completed for the activities undertaken

22.

the extent of your own responsibility and to whom you should report if you have problems that you cannot resolve

Scope/range

1.

Carry out all of the following during the repair/replacement activity:

- 1.1 verify the extent of the damage
- 1.2 plan and communicate the activities to cause minimal disruption to normal working
- 1.3 use permit-to-work and/or sign-on/off procedures
- 1.4 obtain and use the correct issue of organisational and/or manufacturers' drawings and documentation
- 1.5 adhere to risk assessment, COSHH and other relevant safety standards
- 1.6 ensure the safe isolation of equipment (such as mechanical, electricity, fluids)
- 1.7 follow the approved maintenance schedule for repairing/replacing lift doors, ropes and chains
- 1.8 provide and maintain safe access and working arrangements for the area
- 1.9 carry out the activities using appropriate techniques and procedures
- 1.10 return the lift to service on completion of the activities
- 1.11 ensure that any potential defects are identified and reported for future action
- 1.12 dispose of waste materials in accordance with safe working practices and approved procedures and leave the work area in a safe condition

2.

Remove, repair and or replace twelve of the following:

- 2.1 two-speed side opening doors
- 2.2 centre opening doors
- 2.3 collapsible / shutter gates / bi-parting doors
- 2.4 door operators
- 2.5 door shoes
- 2.6 door hangars/rollers
- 2.7 suspension chains
- 2.8 controllers
- 2.9 suspension ropes/belts
- 2.10 gears units
- 2.11 pump units
- 2.12 car/cwt shoes/rollers
- 2.13 wiring
- 2.14 ancillary equipment (such as oil coolers/heaters, voice synthesisers, keypads, indicators, fans)
- 2.15 safety devices
- 2.16 other specific lift equipment

3.

Carry out all of the following activities:

Repairing/replacing lift doors, chains, ropes and equipment

- 3.1 remove doors
- 3.2 replace spigots
- 3.3 refit/replace safety devices
- 3.4 replace rollers
- 3.5 replace shoes
- 3.6 remove/replace lift ropes
- 3.7 replace hangers
- 3.8 refit/replace doors
- 3.9 remove/replace lift chains
- 3.10 refit/replace door operators
- 3.11 disconnect and reconnect electrical wires
- 3.12 modify electrical wiring (where appropriate)
- 3.13 remove/replace hydraulic pump unit (where appropriate)
- 3.14 remove/replace main gears (where appropriate)

4.

Carry out seven of the following checks and adjustments to the equipment:

- 4.1 clearances
- 4.2 align rollers
- 4.3 align couplers and skates
- 4.4 check tension of suspension ropes/belts/chains
- 4.5 ensure doors move freely
- 4.6 check doors function in accordance with specifications
- 4.7 check overruns/chain lengths
- 4.8 backlash/endfloat (thrust)
- 4.9 direction of rotation
- 4.10 other specific checks

5.

Ensure that the maintained equipment meets all of the following:

- 5.1 contractual drawing
- 5.2 customer standards
- 5.3 British and/or European standards
- 5.4 organisational procedures and schedules
- 5.5 equipment manufacturer's operating range
- 5.6 legal requirements

6.

Complete and store all relevant repair documentation in accordance with organisational requirements, using one of the following:

- 6.1 job cards
- 6.2 servicing log or report
- 6.3 permit to work/formal risk assessment and/or sign-on/off procedures
- 6.4 organisational-specific documentation
- 6.5 electronic reports

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Repairing/replacing lift doors, chains, ropes and equipment

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