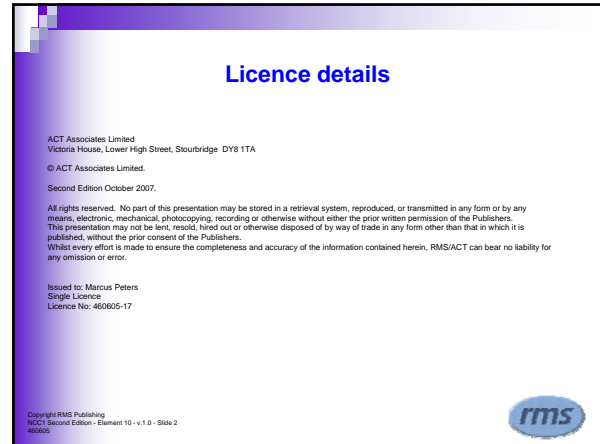



NEBOSH
National Certificate
in Construction
Health and Safety

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 1
46005

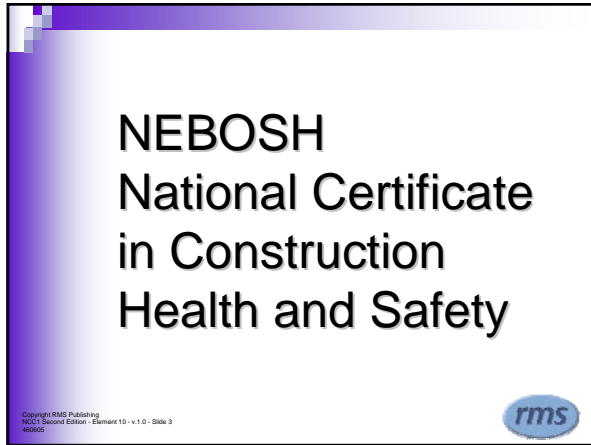



Licence details

ACT Associates Limited
Victoria House, Lower High Street, Skourbridge DY8 1TA
© ACT Associates Limited.
Second Edition October 2007.
All rights reserved. No part of this presentation may be stored in a retrieval system, reproduced, or transmitted in any form or by any means, electronic, mechanical, photocopying, recording or otherwise without either the prior written permission of the Publishers.
This presentation may not be lent, resold, hired out or otherwise disposed of by way of trade in any form other than that in which it is published, without the prior consent of the Publishers.
Whilst every effort is made to ensure the completeness and accuracy of the information contained herein, RMS/ACT can bear no liability for any omission or error.

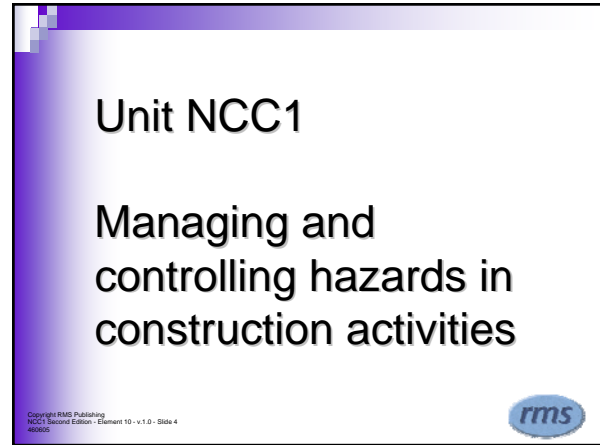

Issued for: Marcus Peters
Single Licence
Licence No: 46005-17

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 2
46005



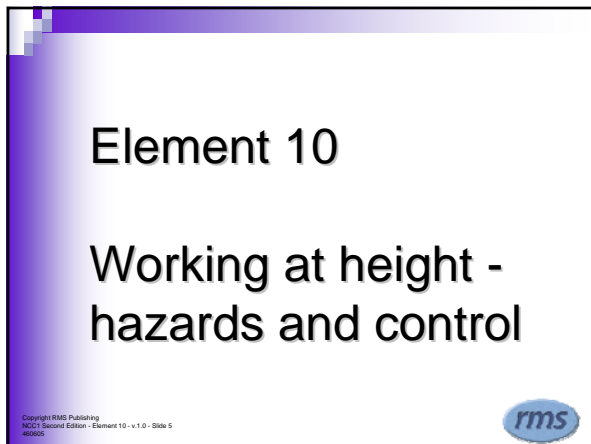

NEBOSH
National Certificate
in Construction
Health and Safety

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 3
46005



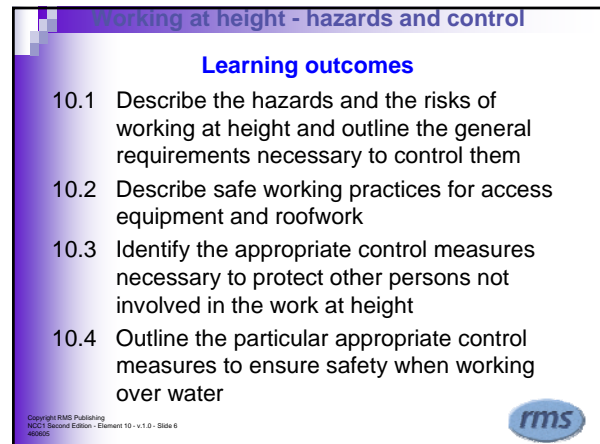

Unit NCC1
Managing and
controlling hazards in
construction activities

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 4
46005



Element 10
Working at height -
hazards and control


Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 5
46005



Working at height - hazards and control
Learning outcomes

- 10.1 Describe the hazards and the risks of working at height and outline the general requirements necessary to control them
- 10.2 Describe safe working practices for access equipment and roofwork
- 10.3 Identify the appropriate control measures necessary to protect other persons not involved in the work at height
- 10.4 Outline the particular appropriate control measures to ensure safety when working over water

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 6
46005




Working at height - hazards and control

Contents of element

- 10.1 Working at height hazards and risks
- 10.2 Safe working practices for access equipment and roofwork
- 10.3 Protection of others
- 10.4 Working over or near water

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 7
46505




Working at height - hazards and control

Contents of element

- 10.1 Working at height hazards and risks
- 10.2 Safe working practices for access equipment and roofwork
- 10.3 Protection of others
- 10.4 Working over or near water

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 8
46505




Working at height - hazards and control

Working at height hazards and risks

Work activities involving a risk of injury from falling from height

- Steel erecting
- Fixing of cladding, roof work
- Painting and decorating
- Demolition / dismantling
- Bricklaying
- Scaffold erection
- Electrical installation and maintenance
- Bridge construction repairs

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 9
46505




Working at height - hazards and control

Working at height hazards and risks

Basic hazards and factors affecting the risk from working at height

- Vertical distance
- Roofs
- Voids
- Deterioration of materials
- Unprotected edges
- Unstable / poorly maintained access equipment
- Weather
- Falling materials

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 10
46505



Working at height - hazards and control

Working at height hazards and risks


Basic hazards and factors affecting the risk from working at height

Falling materials

Caused by:

- Poor housekeeping of people working above
- Absence of toe boards or edge protection
- Incorrect hooking or slinging
- Incorrect assembly of gin wheels for raising materials
- Surplus materials incorrectly stacked
- Open, unprotected edges
- Deterioration of structures causing crumbling masonry

Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 11
46505




Working at height - hazards and control

Working at height hazards and risks

Methods of avoiding working at height

- Where possible, work at height should be avoided
- Use different equipment or method of work
- Good planning arrangements


Copyright RMS Publishing
NCC1 Second Edition - Element 10 - v1.0 - Slide 12
46505



Working at height - hazards and control
 Working at height hazards and risks
Main precautions necessary to prevent falls and falling materials

- Proper planning and supervision of work
 - Fall of people
 - Fall of materials
- Avoiding working in adverse weather conditions
- Emergency rescue

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 13
 46005




Working at height - hazards and control
 Working at height hazards and risks
Requirements for head protection

Hazards to consider:

- Loose material kicked into an excavation
- Material falling from a scaffold platform
- Material falling off a load being lifted by a crane or goods hoist or carried on a site dumper or truck
- Dropping a fitting while erecting or dismantling a scaffold

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 14
 46005




Working at height - hazards and control
 Working at height hazards and risks
Inspection requirements for work equipment

Reports on inspections must include the following particulars:

- Name and address of person for whom the inspection is carried out
- Location of the work equipment
- Description of the work equipment
- Date and time of inspection
- Details of any matter identified that could give rise to a risk to the health and safety of any person
- Details of any action taken as a result of 5 above
- Details of any further action considered necessary
- Name and position of the person making the report


Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 15
 46005



Working at height - hazards and control
Contents of element

- 10.1 Working at height hazards and risks
- 10.2 Safe working practices for access equipment and roofwork
- 10.3 Protection of others
- 10.4 Working over or near water


Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 16
 46005



Working at height - hazards and control
 Safe working practices for access equipment and roofwork
Scaffolding

- Design features of scaffolding
- Safety features
- Requirements for scaffold erectors
- Means of access
- Design of loading platforms
- Scaffold hoists (persons, materials)
- Ensuring stability
- Mobile elevating work platforms

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 17
 46005



Working at height - hazards and control
 Safe working practices for access equipment and roofwork
Scaffolding
 Design features of scaffolding

- Independent tied
- Putlog
- Fan
- Cantilevered
- Mobile tower scaffolds

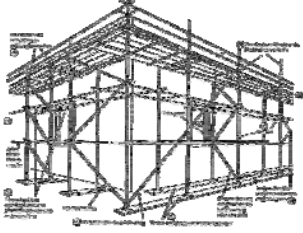
Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 18
 46005



Working at height - hazards and control
 Safe working practices for access equipment and roofwork


Scaffolding
 Independent tied scaffold

- Constructed independently of the main structure using two sets of standards
- Tied to the structure through reveal ties, through ties, box ties or metal fixings installed into the structure
- Tied at every 20m sq
- Reveal ties not to exceed more than 50% of the tie ratio



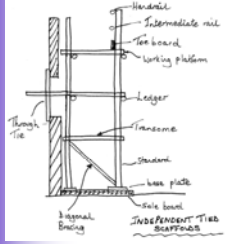
Source: HSG 150, HSE.

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 19
 46505




Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Independent tied scaffold



Source: RMS Publishing

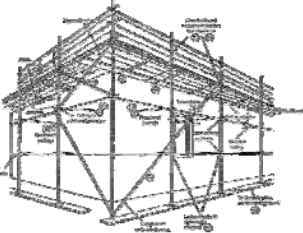
Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 20
 46505



Working at height - hazards and control
 Safe working practices for access equipment and roofwork


Scaffolding
 Putlog scaffold

- Putlog - a tube with a flattened end
- Is not independent of the structure
- Used to span from a transom to a bearing in or on a brick wall
- Putlogs may be used to support scaffold boards



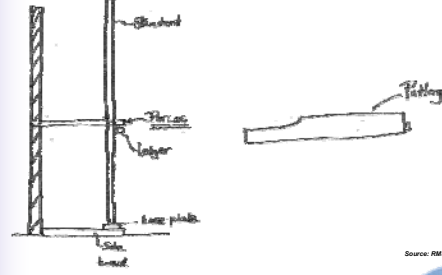
Source: HSG 150, HSE.

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 21
 46505




Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Putlog scaffold



Source: RMS

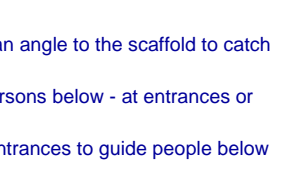
Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 22
 46505




Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Fan scaffold

- Scaffold boards fixed at an angle to the scaffold to catch falling debris
- Provides protection to persons below - at entrances or along the footpath
- May require barriers at entrances to guide people below the fan / canopy



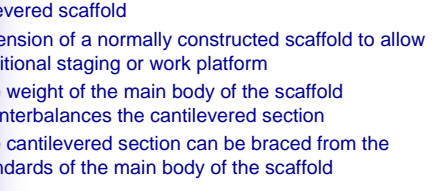
Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 23
 46505




Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Cantilevered scaffold

- Extension of a normally constructed scaffold to allow additional staging or work platform
- The weight of the main body of the scaffold counterbalances the cantilevered section
- The cantilevered section can be braced from the standards of the main body of the scaffold



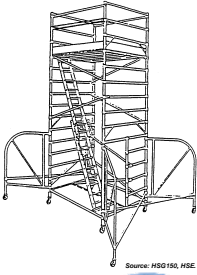
Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 24
 46505



Working at height - hazards and control
 Safe working practices for access equipment and roofwork


Scaffolding
 Mobile tower scaffolds

- Erect on firm, level ground
- Height less than 3 x base width (outside)
- Height less than 3.5 x base width (inside)
- Use outriggers or tie to structure if more than this
- Internal access
- Wheel brakes on when in use
- Push at base level
- Do not move with people/equipment on it
- Do not use near over head obstructions
- Provide guardrails and toe boards



Source: HSG150, HSE

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 25
 46505




Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Safety features

- Base plates and sole boards
- Toe boards
- Guardrails
- Boarding
- Brick guards
- Debris netting

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 26
 46505



Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Safety features


Base plates

- Square metal plate with a short spigot in the middle
- Spreads the load and helps to keep the standard in its vertical position

Sole boards

- Spread the weight
- Provides firm surface for scaffold erection
- Run under at least 2 standards per board

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 27
 46505



Working at height - hazards and control
 Safe working practices for access equipment and roofwork

Scaffolding
 Safety features

Toe boards

Prevent people slipping under rails and materials being knocked off platform

- Fixed to the inside of the standards with toe board clips
- Minimum height of 150mm
- Joints near to standard
- Need to be continuous around work platform
- Replaced immediately after temporarily removal

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 28
 46505



Working at height - hazards and control
 Safe working practices for access equipment and roofwork


Scaffolding
 Safety features

Guardrails

Prevent people falling from the scaffold

- Fitted if platform is 2m or more
- Fixed to the inside of the standards
- Fitted to inside of platform if gap
- Minimum height of 950mm from platform
- Intermediate guardrails to limit gap between top guardrail and toe board to 470mm

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 29
 46505



Part only of the complete
 Element 10
 Working at height - hazards
 and control

Copyright RMS Publishing
 NCC1 Second Edition - Element 10 - v1.0 - Slide 30
 46505

