Mast Climbing Work Platforms (MCWPs)

What you need to know
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Scottish Construction Safety Group – October 19th 2017

Definition of an MCWP

“Mast climbing work platforms (MCWP) which are temporarily and permanently installed and are manually or power operated and which are designed to be used by one or more persons from which to carry out work.

The vertical moving components (work platform) are used to move those same persons and their equipment and materials to and from a single boarding point.

These restrictions differentiate MCWPs from builder’s hoists.”

- BS EN 1495:1998 and BS 7981:2002

What can an MCWP be used for?

▪ Bricklaying
▪ Refurbishment
▪ Cladding
▪ Rainscreening
▪ Curtain Walling

MCWP Terminology

- Single Mast Platform
- Twin Mast Platform
- Mobile Platform - Chassis
- Tied Platform - Periodic Tie Assemblies

Can be used with ‘freestanding’ mast

Platform Performance

▪ What is the maximum working length of a platform?
▪ What is the maximum possible mast height?
▪ What is the maximum safe working load of a platform?

Answer:

It depends on ...
- The type of platform
- The configuration used
- The distribution of the working load
- The frequency of the working duty
- The working envelope of the platform

Example: Typical Safe Working Loads

Single Mast Platforms
General Performance

<table>
<thead>
<tr>
<th></th>
<th>Single</th>
<th>Twin</th>
</tr>
</thead>
<tbody>
<tr>
<td>Platform Lengths</td>
<td>3m – 13m</td>
<td>8m – 30m</td>
</tr>
<tr>
<td>Safe Working Loads</td>
<td>500kg – 2000kg</td>
<td>1000kg – 5000kg</td>
</tr>
<tr>
<td>No. of Users</td>
<td>2 People</td>
<td>4 People</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th></th>
<th>Freestanding</th>
<th>Tied</th>
</tr>
</thead>
<tbody>
<tr>
<td>Tie Distances</td>
<td></td>
<td>6m – 15m</td>
</tr>
<tr>
<td>Mast Height</td>
<td>Up to 20m</td>
<td>Up to 100m</td>
</tr>
<tr>
<td>Max. Wind Speed</td>
<td>12.5m/s ± 28 mph</td>
<td>15.5m/s ± 33.5mph</td>
</tr>
</tbody>
</table>

Note: There are platforms that can exceed these parameters.

Where can they be used?

- Practically any working environment
- If you have a special application ask your platform supplier or manufacturer for options

What regulations, standards and codes of practice exist for MCWPs?

- Health and Safety at Work Act (1974)
- Management Health and Safety at Work Regulations (1999)
- Provision and Use of Work Equipment Regulations (1998)
- Working at Height Regulations (2005)

MCWP Specific

- BS 7981 (2002) Code of Practice for the installation, maintenance, thorough examination and safe use of mast climbing work platforms


The design standard for Mast Climbing Work Platforms

Wind Restrictions

Clauses 5.1.2.5 and 5.1.2.8

<table>
<thead>
<tr>
<th></th>
<th>‘In Service’ Wind Speed</th>
<th>‘Out of Service’ Wind Speed</th>
</tr>
</thead>
<tbody>
<tr>
<td></td>
<td>During Installation</td>
<td>Mobile MCWP</td>
</tr>
<tr>
<td></td>
<td>12.7m/s ± 27 mph</td>
<td>12.7m/s ± 27 mph</td>
</tr>
</tbody>
</table>

The maximum wind speed at which the platform can still be used.
The maximum wind speed the platform must be designed to withstand.
Platform Guarding
Clause 5.3.2

- Minimum Allowable Clearance ≤ 150mm
- Clearance up to 250mm requires a 150mm high toe board at working face.
- Clearance greater than 250mm requires an 1100mm tall handrail at working face.

Platform Separation
Clause 7.1.2.12

- Minimum Separation = 500mm


Operation and Use of MCWPs
Clause 11.1

"No one should be allowed to operate or work from MCWPs unless they are familiar with its correct operation."

Personnel Roles and Competencies
Clause 7

<table>
<thead>
<tr>
<th>Title / Role</th>
<th>Responsibilities</th>
</tr>
</thead>
<tbody>
<tr>
<td>Supplier appointed person</td>
<td>Planning &amp; Execution of Installation, Dismantling and Moving MCWP</td>
</tr>
<tr>
<td>Management appointed person</td>
<td>Planning, Safe use, Servicing and Inspection of MCWP</td>
</tr>
<tr>
<td>Installer</td>
<td>Erection, Dismantling and Move MCWP</td>
</tr>
<tr>
<td>Demonstrator</td>
<td>Test Inductions</td>
</tr>
<tr>
<td>Mobile Operator</td>
<td>Dismantling, Moving and reinstalling MCWP in original configuration only</td>
</tr>
<tr>
<td>User</td>
<td>Tradesman working from platform</td>
</tr>
</tbody>
</table>

Installation Personnel
Clause 10.1

- No-one should be allowed to erect or dismantle an MCWP unless they are trained and authorised to do so, or are undergoing formal training under supervision. Training and assessment should be carried out to a formally documented scheme.
- All personnel carrying out the erection or dismantling of MCWPs should be physically and mentally fit to undertake the work.
Use of Safety Harnesses
Clause 11.6

- The work platform of an MCWP is provided with guardrails and toe boards to protect the occupants from falling. Consequently the use of harnesses is not required during use of MCWPs unless any part of the guardrail system has been removed.
- If so a risk assessment should be carried out to ascertain the need for and specification of, fall arrest / work restraint equipment.
- Before attaching fall protection equipment to a work platform it is important that the Management appointed person ascertain both the location and suitability of anchor points.

How are MCWPs maintained?

- Daily (or Pre-Use) Inspections
- Weekly Inspections
- Routine (or Periodic) Maintenance as prescribed by manufacturer
- Thorough Examinations at 6 month intervals

Daily Checks
Clause 11.3

- At the beginning of each shift or working day, the Management appointed person should ensure MCWPs are checked and are in a fit condition to start work.
- If the person conducting the checks has any concerns about a defect or the safety of the platform, they should consult the Management appointed person.

Weekly Inspections
Clause 11.4

- Once a week MCWPs should be inspected to ensure that no damage or wear has occurred and that all safety systems are functioning correctly.
- The inspection should be carried out by a person who has been assessed as competent to carry out this task.
- The results of the weekly inspection should be recorded in a retrievable form.

Thorough Examination of MCWP
Clause 12

- Thorough Examination (including testing/visual inspection) of MCWPs should be carried out by a competent person:
  - After erection
  - Before being taken into service
  - After the occurrence of a dangerous incident
  - Every six months thereafter.

What are the ‘Golden Rules’ of using Mast Climbing Work Platforms
Golden Rules of MCWP Operation

1. Pre Use Check – Every time before using platform
2. Ensure there is a minimum of 2 people on the platform at all times.
3. Ensure that the Maximum Safe Working Load is not exceeded.
4. Check there are no obstacles in path of platform, when moving.

5. Check the Power Cable does not get caught or snagged, when moving.
6. During Manual Descent / Brake Release - Extreme care must be taken to lower the platform slowly.
7. If there is a concern with the platform or its operation report it to a competent person.

Any Questions?