Mast & Tower Safety Group

Guidance Note GN-011

Rooftop Access and Work



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MATS Group Guidance Note
Rooftop Access and Work

1 Purpose

The purpose of this guidance note is to provide safety guidance on safe access and work on flat roofs for the purpose of installation and maintenance of telecommunication and broadcast antennas and associated equipment. It also applies to other workers such as roof repairs technicians and those required to access these areas for associated tasks. The guidance aims to provide the minimum standards which should be included within your company procedures. It should be read in conjunction with the other related MATS guidance detailed in Section 11.

2 Scope

The guidance given within the document is restricted to flat roofs. It includes guidance on access to roof tops, use of fixed and portable ladders, safe work whilst on roof tops and rescue considerations.

This guidance does not cover access via stairwells, mobile elevated work platforms or other platforms eg scaffolds, material lifting and handling, rope access, equipment inspection or climbing of towers and structures on roof tops.

This guidance should be read in conjunction with GN 001 and does not overrule any site owner's / operator's rules.

3 Definitions

Fall arrest – personal fall protection system which limits the impact force on the body during a fall.

Work restraint – personal fall protection system which prevents an individual from reaching zones where there is a risk from a fall from height.

4 Site Providers

Site providers have a legal obligation to provide safe access and egress to roof tops and inform those accessing of any known hazards.

Many roof tops are not owned or managed by the telecommunication and broadcast companies but leased from hotels and residential housing groups. These non-industry landlords may not have a robust mechanism for providing information about the site to those accessing it. This should be considered when planning roof work.

5 Rooftop Hazards

There are a number of hazards associated with roof work which are either related to access and egress, work at height or the roof top itself. The following list includes some of the more common hazards associated with roof tops which you should consider:

- Members of the public that are verbally or physically abusive
- Fall from height from fixed or portable ladders
- Access through equipment rooms such as lift motor rooms can lead to contact with moving machinery
- Lone working
- Communication methods
- Fragile roof surface, eg sky lights
- Radio Frequency emitted from antennas
- Fall from height from the roof edge

- Falling tools and equipment from the roof as a result of maintenance or installation activities
- Creation of drop zones at appropriate ground level locations
- Tool tethering arrangements
- Biological disease from bird droppings and waste items such as sharps and needles
- Nesting birds that are aggressively protecting their roost
- Ducts and chimneys emitting toxic fumes
- Trip hazards from pipe work and uneven surfaces
- Weather exposure from wind and rain or sun and heat and lightning
- Asbestos containing materials in poor condition or if you are carrying out intrusive work
- A method statement and risk assessment should be in place for roof work which takes account of the hazards present and the identified control measures.

6 Training

As a minimum all personnel accessing and working on roof tops should have been trained on both; safe roof working and RF awareness as detailed in MATS Guidance Note GN-001 and refreshed every 3 years. The specific level of rooftop safety training should reflect the tasks being performed. If a surveyor is accessing rooftops for access and observation purposes only, then practical training may not be required, whereas engineers accessing rooftops to perform installation works would require practical and knowledge-based training and be assessed to ensure are competent.

There is no formal medical assessment recommended for roof top access and work. However, individuals should assess their own fitness before accessing a roof or undertaking a task.

7 Personal Protective Equipment

This section details the type of PPE that will be required for safe access and egress and work on the roof. You will also need to assess the task you plan to undertake to ensure you have any other specific PPE required.

As a minimum it is recommended to wear safety boots with ankle, toe and mid sole protection and a hard hat with chin strap.

Where access and egress is via a fixed ladder, use of a harness and twin lanyards with hooks and a specific fall arrest attachment to suit the installed fall arrest system may be required based upon risk assessment and the length and location of the ladder. If used, a full body harness with front attachment D ring should be utilised.

See Section 7 for further guidance regarding heights where you should be attached.

Once on the roof top the type of PPE required will depend on the collective measures in place to prevent a fall and the type of work that will be undertaken. Where collective measures, e.g. adequate fixed edge protection is in place, unless your task specific risk assessment states otherwise, generally additional PPE should not be required.

Section 8 provides details on other measures that you can use to prevent falls.

You should have an adequate number of RF personal monitors per roof top team. Considerations should be given to factors such as working within the exclusion zone of the antenna or if the RF hazards on the rooftop are unknown or not clearly demarcated with designated walkway and signage. An absolute minimum should be one RF monitor per team when they are working as a collective in one demarcated area.

8 Access and Egress

Two of the most common methods of accessing a roof apart from stairwells or lifts are via fixed or portable ladders.

When climbing fixed Ladders, it is recommended that you consider the use of a harness and twin lanyard on ladders where you may be at a height greater than 3m. The rationale is that at this height your twin lanyard will prevent you hitting the ground and arrest your fall reducing the severity of an injury, but you must assess these risks and make this judgement in line with your employers' procedures.

There may be situations where the ladder is relatively short but is already at height i.e. a ladder off a transitional platform or on the edge of a building which is itself located at height. You should be attached when climbing in these situations.

It is recommended when accessing fixed ladders and similar structures over 3m that the individual is trained as detailed in the MATS Guidance Note GN-001.

Hooped ladders are not regarded as providing fall arrest. If using a lift, it is recommended that you check with the landlord whether it is fit for use and has been inspected in accordance with LOLER.

When using portable ladders, we recommend that you follow the HSE guidance on the safe use of ladders.

Section 7
Should we really be recommending those accessing a flat roof with vertical ladder be trained as a climber as we currently don't. Our flat roof course teaches people to use harness and climbing hooks? Alternative is to add a statement to the fact that anyone using fixed ladders with harness and climbing hooks must have suitable training including both theoretical and practical assessments.

9 Preventing Falls from Roof Tops

9.1 Collective Measures

Collective protection measures should be given priority over personal protection measures. Collective control measures are those that protect more than one person at any one time and are usually passive i.e. require no action by the worker in order to work effectively. Examples on roof tops are parapet walls and fixed guard rails. You should always visually check the suitability of the collective measures to prevent a fall. If you have doubts you should plan and proceed as if the measures are not in place.

9.2 Demarcation of Work Areas

Where limited work is being carried out on sections of a large roof, and edge protection around the whole perimeter is not reasonably practicable, a simple form of continuous physical barrier some distance from the roof edge could identify the work area and any access route to it. The distance should be adequate to make sure that people working within the demarcated area cannot fall from the edge of the roof. Where this method is used on roofs with a slight slope, it may be necessary to prevent materials rolling away beyond the 'safe' area.

In most circumstances a distance of at least 2 m from the edge will be sufficient. type of barrier is only acceptable where there is a high level of supervision and discipline to make sure that people do not go beyond the demarcated area. There should be no unprotected holes, breaks or fragile material within the 'safe area'. If there are any, they should be protected with robust covers or continuous physical barriers.

All barriers should be durable and immediately obvious to all. Bunting, tape or markings at foot level, such as a painted line, are not sufficient

9.3 Work Restraints

A work-restraint system prevents the individual reaching a position where there is a risk of a fall. A simple system would consist of a harness and a lanyard, which is adjusted or set to a fixed length that physically prevents the person from getting to the work area where they could fall.

It is not necessary to have a fall arrest shock absorber fitted to the harness where there is no risk of a fall.

9.4 Work Positioning

A work positioning system should be used that allows the user to be in a partly or entirely supported position. The system should include a safety back-up system, in addition to the primary support in case operator error or failure of the primary support.

9.3 Fall Arrest

A personal fall-arrest system is a fall-protection system that uses a harness to EN 361 connected to a reliable anchor to EN 795 that will arrest and restrict a fall and prevent the individual hitting the ground. The system may also be in the form of a rigid or flexible horizontal rail or wire line. It is designed to limit the forces on the body by having an energy-absorbing device incorporated in the fall arrest device. Fall-arrest harnesses should only be used where other collective measures cannot be used. To minimise the distance a person falls, the anchor point should be positioned as high as possible above the feet of the user.

9.4 Anchor Points

Fall prevention and fall protection equipment is of little use unless it is safely secured to the structure by means of an appropriate anchor point. Anchor points shall comply with EN 795 and must be suitable and of sufficient strength and stability for the purpose of safely supporting the equipment and any person who is liable to fall. Certain anchor points will allow multiple users to be attached. Anchor points may be inherently safe structural elements or purpose-installed anchors.

Inherently safe structural anchors are those anchors that due to characteristics such as weight, installation standards, composition etc, are undeniably safe. Examples of such anchors may be an RSJ frame supporting a large equipment cabin or a rooftop stub-mast. **Freestanding handrails, cable trays and masonry mounted antenna steelwork are not suitable anchor points.**

Purpose-installed anchors may be surface mounted eyebolts or freestanding weighted anchors. Eyebolts may be chemically or mechanically anchored into rooftops or masonry and are usually designed to be used by a single person i.e. attaching a lanyard to the eye.

Temporary anchor points using a weight or tripod may also be an alternative if no fixed anchor points are available.

All anchor devices should be covered by a periodic examination scheme required at intervals of no more than 12 months for fall arrest and 6 months for rope access. For anchor devices used infrequently they may be used if they have been examined within the last 12 months.

10 Emergencies and Rescue Arrangements

10.1 An emergency plan should be developed that considers the following:

- Identifying an escape route
- Finding out if building alarms are audible on the rooftop
- Ensuring that safe egress from the rooftop is maintained i.e. plant room doors are not inadvertently locked etc
- If lone working, ensure someone else knows you are on the roof

10.2 Rescue Arrangements

Under the Work at Height Regulations 2005, emergency procedures must be considered for circumstances such as stuck access equipment and deployed fall arrest, so that a person or people

can be rescued. There must be a plan in place that outlines how someone would be recovered should they fall.
The method of rescue needs to be proportionate to the risk and you should not rely on the emergency services. The method of rescue may be simple, such as putting a ladder up to a net and allowing the fallen person to descend, or lowering a worker hanging on a deployed lanyard onto the surface below.

The rescue plan should include:

- details of the rescue equipment to be used
- configuration of the equipment for different types of rescue
- identification of anchor points where necessary
- limitations of the plan for adverse weather such as high winds
- the need for trained rescue personnel.

11 Accompaniment

Lone working should be considered very carefully and detailed within your own company procedures.

Lone working on rooftops may be acceptable where:

- there is adequate edge protection against falls; and
- access is via a staircase, fixed ladder less than 3m in length or a portable ladder less than 3m in length based on level ground, and
- there are no fragile roof surfaces on the roof(s) being accessed, and
- no work restraint systems or other fall arrest equipment needs to be used, and
- there is no history of verbal or physical intimidation at the site, and
- the employer has confirmed in writing that lone working is acceptable and unavoidable, and
- a suitable and sufficient risk assessment and method statement have been provided, and
- the health and fitness of the lone worker is considered good, and
- the work risks are low (e.g. no onerous manual handling, no electrical work, no lifting or lowering operations), and
- the worker is well trained, experienced and competent in the tasks to be carried out, and
- a lone working plan is in place, with frequent checking on the health and safety of the operative

11 Related MATS Documents

GN-001 – Work at Height Training

GN-006 – Principles for Access to Radio Sites

GN-007 – Lifting Equipment onto Rooftops

GN-009 – First Aid Guidance

12 Legislation

The Work at Height Regulations 2005

INDG455 HSE Guidance – Safe Use of Ladders and Stepladders

EN363 Personal Fall Protection Equipment

Work at Height Safety Association

EN 795 - Personal fall protection equipment. Anchor devices

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The information in this document does not absolve contractors or suppliers from their responsibility to identify and comply with all relevant legislation, regulations and legal standards nor does it take precedence over laws, regulations and external standards

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