



Mast and Tower Safety Group

promoting safety and best practice

Guidance Note

GN-011

Rooftop Access and Work



MATS Group Guidance Note

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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. The guidance aims to provide the minimum standards which should be included within the procedures developed for your own use. 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 the 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 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 providers such as 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.

4 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, you may need to create a drop zone at ground level
- 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 either wind and rain or sun and heat
- 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.

5 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.

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.

6 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 fall arrest attachment should be used for attachment. A full body harness should be used with front attachment D ring.

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, eg adequate fixed edge protection is in place, no further PPE will be required. Section 8 provides details on other measures that you can use to prevent falls.

You should also have an RF personal monitor per roof top team if you are 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.

7 Access and Egress

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

When climbing fixed Ladders it is recommended that you use a harness and twin lanyard on ladders 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.

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 over 3m that the individual is trained to the standard of climber as detailed in 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.

8 Preventing Falls from Roof Tops

8.1 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 check the suitability prior to relying on collective measures to prevent a fall; this information should be provided by the landlord. Unless this information is clearly provided at the time of arranging access then you should plan and proceed as if the measures are not in place.

8.2 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 place 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.

8.3 Work Positioning

A work-positioning system is a personal fall-protection system, which includes a harness connected to a reliable anchor to support the user in tension or suspension in such a way that a fall is prevented or restricted.

8.4 Fall Arrest

A personal fall-arrest system is a fall-protection system that uses a harness connected to a reliable anchor to arrest and restrict a fall and prevent the individual hitting the ground. It is designed to limit the forces on the body by having an energy-absorbing 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, as seen below.

8.5 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 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.

Anchor points for fall arrest should have a minimum strength of 1500Kg and for restraint 300Kg. 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 a 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 eyebolts or freestanding weighted anchors. Eyebolts may be chemically 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.

9 Emergencies

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 who else knows you are on the roof

10 Accompaniment

Lone working on rooftops may be acceptable where:

- There is adequate edge protection against falls; or
- The task does not require approach within 2m of an unprotected roof edge; 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.

Lone working should be avoided where:

- Work is undertaken within 2m of the edge of an unprotected roof;
- Work restraint systems or any fall arrest equipment is used
- Work is undertaken on or near fragile roof surfaces
- There is a history of verbal or physical intimidation at the site

11 Related MATS Documents

GN-001 – Work at Height Training

GN-007 – Lifting Equipment onto Rooftops

GN-009 – First Aid

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

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